AO 120 (Rev. 3/04)

| TO: | REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK |
|---|---|
| Mail Stop 8<br>Director of the U.S. Patent and Trademark Office<br>P.O. Box 1450<br>Alexandria, VA 22313-1450 | |

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court District of Massachusetts on the following ✓ Patents or Trademarks:

| DOCKET NO. | DATE FILED | U.S. DISTRICT COURT |
|---|---|---|
| | 5/25/2021 | District of Massachusetts |

| PLAINTIFF | DEFENDANT |
|---|---|
| MILLIMAN, INC., MILLIMAN SOLUTIONS, LLC, and VIGILYTICS LLC | GRADIENT A.I. CORP., STANFORD A. SMITH, and SAMUEL CHASE PETTUS |

| | PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
|---|---|---|---|
| 1 | SEE ATTACHED | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

| DATE INCLUDED | INCLUDED BY Amendment Answer Cross Bill Other Pleading | | |
|---|---|---|---|
| | PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

In the above—entitled case, the following decision has been rendered or judgement issued:

| DECISION/JUDGEMENT |
|---|
| |

| CLERK | (BY) DEPUTY CLERK | DATE |
|---|---|---|
| | | |

**Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director**
**Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy**

Datavant Exhibit 1002

**AO 120 - ATTACHMENT PAGE**

| | PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
|---|---|---|---|
| 1 | U.S. Patent No. 9,118,641 | Aug. 25, 2015 | Vigilytics LLC |
| 2 | U.S. Patent No. 9,323,892 | Apr. 26, 2016 | Vigilytics LLC |
| 3 | U.S. Patent No. 9,665,685 | May 30, 2017 | Vigilytics LLC |
| 4 | U.S. Patent No. 9,965,651 | May 8, 2018 | Vigilytics LLC |
| 5 | U.S. Patent No. 10,109,375 | Oct. 23, 2018 | Vigilytics LLC |
| 6 | U.S. Patent No. 10,886,012 | Jan. 5, 2021 | Vigilytics LLC |

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY.DOCKET NO./TITLE | REQUEST ID |
|---|---|---|---|---|
| 15/136,318 | 04/22/2016 | Vigilytics LLC | 25412-0003002 | 122325 |

## Acknowledgement of Loss of Entitlement to Entity Status Discount

The entity status change request below filed through Private PAIR on 10/01/2020 has been accepted.

## CERTIFICATIONS:

**Change of Entity Status:**

X Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be notification of loss of entitlement to small or micro entity status, as applicable.

**This portion must be completed by the signatory or signatories making the entity status change in accordance with 37 CFR 1.4(d)(4).**

| | |
|---|---|
| **Signature:** | / Jeffrey J. Barclay / |
| **Name:** | Jeffrey J. Barclay |
| **Registration Number:** | 48950 |

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | ISSUE DATE | PATENT NO. | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/136,318 | 05/30/2017 | 9665685 | 25412-0003002 | 7326 |

26161 7590 05/10/2017

FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

# ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Andrew L. Paris III, Victor, NY;
Vigilytics LLC, Victor, NY;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.



Datavant Exhibit 1002

# PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE**
**Commissioner for Patents**
**P.O. Box 1450**
**Alexandria, Virginia 22313-1450**
**or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

26161 7590 04/12/2017

FISH & RICHARDSON P.C.
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| |
|---|
| (Depositor's name) |
| (Signature) |
| (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/136,318 | 04/22/2016 | Andrew L. Paris III | 25412-0003002 | 7326 |

TITLE OF INVENTION: USING DE-IDENTIFIED HEALTHCARE DATA TO EVALUATE POST-HEALTHCARE FACILITY ENCOUNTER TREATMENT OUTCOMES

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | SMALL | $480 | $0 | $0 | $480 | 07/12/2017 |

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|---|---|---|
| ZHAO, DON GORDON | 2493 | 726-009000 |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

[ ] Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

[ ] "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

1 Fish & Richardson P.C.

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Vigilytics LLC

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Victor, NY

Please check the appropriate assignee category or categories (will not be printed on the patent): **[** ] Individual [X] Corporation or other private group entity [ ] Government

4a. The following fee(s) are submitted:

[X] Issue Fee

[ ] Publication Fee (No small entity discount permitted)

[ ] Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

[ ] A check in the amount of the fee(s) is enclosed.

[ ] Payment by credit card. Form PTO-2038 is attached.

[X] The Director is hereby authorized to charge the required fee(s), or credit any overpayment, to Deposit Account Number 06-1050

5. **Change in Entity Status** (from status indicated above)

[ ] Applicant certifying micro entity status. See 37 CFR 1.29 — **NOTE**: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

[ ] Applicant asserting small entity status. See 37 CFR 1.27. — **NOTE**: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

[ ] Applicant changing to regular undiscounted fee status. — **NOTE**: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above. NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature /Natalie K Galley/ Date 4/19/17

Typed or printed name Natalie K. Galley, Ph.D. Registration No. L1010

23641043.doc

Datavant Exhibit 1002

# Electronic Patent Application Fee Transmittal

| | |
|---|---|
| **Application Number:** | 15136318 |
| **Filing Date:** | 22-Apr-2016 |
| **Title of Invention:** | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes |
| **First Named Inventor/Applicant Name:** | Andrew L. Paris |
| **Filer:** | Natalie K. Galley/Cathy O'Brien |
| **Attorney Docket Number:** | 25412-0003002 |

Filed as Small Entity

**Filing Fees for Utility under 35 USC 111(a)**

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| **Pages:** | | | | |
| **Claims:** | | | | |
| **Miscellaneous-Filing:** | | | | |
| **Petition:** | | | | |
| **Patent-Appeals-and-Interference:** | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | |
| UTILITY APPL ISSUE FEE | 2501 | 1 | 480 | 480 |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Extension-of-Time:** | | | | |
| **Miscellaneous:** | | | | |
| | | | **Total in USD ($)** | **480** |

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 28967552 |
| **Application Number:** | 15136318 |
| **International Application Number:** | |
| **Confirmation Number:** | 7326 |
| **Title of Invention:** | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes |
| **First Named Inventor/Applicant Name:** | Andrew L. Paris |
| **Customer Number:** | 26161 |
| **Filer:** | Natalie K. Galley/Rachel Guidarelli |
| **Filer Authorized By:** | Natalie K. Galley |
| **Attorney Docket Number:** | 25412-0003002 |
| **Receipt Date:** | 19-APR-2017 |
| **Filing Date:** | 22-APR-2016 |
| **Time Stamp:** | 14:10:12 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | DA |
| Payment was successfully received in RAM | $480 |
| RAM confirmation Number | 042017INTEFSW00000528061050 |
| Deposit Account | |
| Authorized User | |

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Datavant Exhibit 1002

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | | Reply.pdf | 134725<br>220df6426ceeb6c94c249960e9efe76f3298bbce | yes | 3 |
| | **Multipart Description/PDF files in .zip description** | | | | |
| | **Document Description** | | **Start** | **End** | |
| | Miscellaneous Incoming Letter | | 1 | 2 | |
| | Issue Fee Payment (PTO-85B) | | 3 | 3 | |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Fee Worksheet (SB06) | fee-info.pdf | 30677<br>e8a236238dc4001b16b36f038b75fe5575ee89a1 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 165402 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | | | |
|---|---|---|---|---|---|
| First Named Inventor | : | Andrew L. Paris III | Art Unit | : | 2493 |
| Serial No. | : | 15/136,318 | Examiner | : | Don Gordon Zhao |
| Filed | : | April 22, 2016 | Confirmation No. | : | 7326 |
| Title | : | USING DE-IDENTIFIED HEALTHCARE DATA TO EVALUATE POST-HEALTHCARE FACILITY ENCOUNTER TREATMENT OUTCOMES | | | |

**MAIL STOP ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY TO NOTICE OF ALLOWANCE

In response to the Notice of Allowance dated April 12, 2017, enclosed is a completed Part B - Fee(s) Transmittal.

The issue fee is being paid with this reply on the Electronic Filing System. Apply those fees and any other necessary charges or credits to Deposit Account 06 1050, referencing the above attorney docket number.

COMMENTS ON EXAMINER'S REASONS FOR ALLOWANCE

It is recognized that in accordance with M.P.E.P. § 1302.14, the Examiner's reasons for allowance need not set forth all of the details as to why the claims are allowed. In the above-referenced application, it is not conceded that the Examiner's stated reasons for allowance are the only reasons for which the claims are allowable. The Examiner's reasons for allowance indicate that particular claim elements are not disclosed or suggested by the prior art of record, yet the claims may be patentable for other reasons as well, including the inventive combination of all of the recited claim elements. It is not conceded that the specific limitations identified by the Examiner are necessary to distinguish the art of record or to satisfy the requirements of 35 U.S.C. § 112. Moreover, the Examiner does not assert, and it would not be conceded, that the Examiner's reasons have any bearing on the patentability of claims in any other applications directed to the disclosed subject matter.

In addition, each dependent claim stands on its own and may be allowable on its own merits. In particular, each dependent claim may be allowable on the basis of a combination of

some of the features recited in the dependent claim and its base claim(s), which combination of features may not include all of the limitations identified in the Examiner's reasons for allowance.

Respectfully submitted,

Date: 4/19/17

/Natalie K Galley/

Natalie K. Galley, Ph.D.
Reg. No. L1010

Customer Number 26161
Fish & Richardson P.C.
Telephone: (617) 956-5911
Facsimile: (877) 769-7945

23641041.doc

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

# NOTICE OF ALLOWANCE AND FEE(S) DUE

26161 7590 04/12/2017
FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

| EXAMINER |
|---|
| ZHAO, DON GORDON |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2493 | |

DATE MAILED: 04/12/2017

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/136,318 | 04/22/2016 | Andrew L. Paris III | 25412-0003002 | 7326 |

TITLE OF INVENTION: Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | SMALL | $480 | $0 | $0 | $480 | 07/12/2017 |

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

**HOW TO REPLY TO THIS NOTICE:**

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**





Datavant Exhibit 1002

# PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail** **Mail Stop ISSUE FEE**
**Commissioner for Patents**
**P.O. Box 1450**
**Alexandria, Virginia 22313-1450**
**or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

26161 7590 04/12/2017
FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| |
|---|
| (Depositor's name) |
| (Signature) |
| (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/136,318 | 04/22/2016 | Andrew L. Paris III | 25412-0003002 | 7326 |

TITLE OF INVENTION: Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | SMALL | $480 | $0 | $0 | $480 | 07/12/2017 |

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|---|---|---|
| ZHAO, DON GORDON | 2493 | 726-009000 |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29 — NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27 — NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status. — NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



Datavant Exhibit 1002

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/136,318 | 04/22/2016 | Andrew L. Paris III | 25412-0003002 | 7326 |

26161 7590 04/12/2017

FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

| EXAMINER | |
|---|---|
| ZHAO, DON GORDON | |
| ART UNIT | PAPER NUMBER |
| 2493 | |

DATE MAILED: 04/12/2017

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.





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## OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

## Privacy Act Statement

**The Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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| Notice of Allowability | Application No. 15/136,318 | Applicant(s) PARIS, ANDREW L. | |
|---|---|---|---|
| | Examiner Don Zhao | Art Unit 2493 | AIA (First Inventor to File) Status No |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--***

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *communications on 02/16/2017*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1-20*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   **Certified copies:**

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/Don Zhao/
Primary Examiner, Art Unit 2493



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## DETAILED ACTION

This is a response to the communications filed on 02/16/2017, in which claims 1-20 are presented for examination. Claims 1, 7, and 14 are in independent form. Applicant's submission filed on 02/16/2017 has been entered. The present application is being examined under the pre-AIA first to invent provisions.

### *Examiner's Note on Double Patenting*

The Applicant's amendment has overcome the double patenting rejection in reference to claims 1-26 of U.S. Patent No. US 9323892 B1. Therefore, the previous double patenting rejection is withdrawn.

### *Allowable Subject Matter*

Claims 1-20 are allowed.

All previous rejections and objections are withdrawn.

This communication warrants no examiner's reason for allowance, as applicant's reply makes evident the reason for allowance, satisfying the record as whole as required by rule 37 CFR 1.104 (e). In this case, the substance of applicant's remarks in the Amendment/Remarks filed on 02/16/2017 point out the reason claims are patentable and non-obvious over the prior art of record. Thus, the reason for allowance is in all probability evident from the record and no statement for examiner's reason for allowance is necessary (see MPEP 1302.14).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DON ZHAO whose telephone number is (571)272-9953. The examiner can normally be reached on Monday ~ Friday, 7:30 A.M ~ 5:00 P.M EST ALT FRIDAY.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl G. Colin can be reached on (571) 272-3862. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Don Zhao/
Primary Examiner, Art Unit 2493
04/07/2017

Google producing medical information to report the characteristics of a group of membe Sign in

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### Features | VirtualCallboard
www.virtualcallboard.com/features/
Features ... Send notes to individuals or groups of users at the same time. ... Create open calls that crew members can sign up; Printer-friendly calendar views ... Need different fields on your production reports than on your rehearsal reports ... phone numbers, relationships, and pertinent medical information such as a list of ...

### Clinical practice guideline development manual: A quality-driven ...
https://www.ncbi.nlm.nih.gov › NCBI › Literature › PubMed Central (PMC)
by RM Rosenfeld - 2009 - Cited by 173 - Related articles
Characteristics of a quality clinical practice guideline ... The clinical practice guideline was produced under the auspices of medical ... Guidelines differ from systematic reviews and evidence reports that identify ... The staff lead should compile a grid of contact information for all working group members and organizational ...

### Tools and Strategies for Quality Improvement and Patient Safety ...
https://www.ncbi.nlm.nih.gov › NCBI › Literature › Bookshelf
by RG Hughes - 2008 - Cited by 81 - Related articles
According to the Institute of Medicine (IOM) report, To Err Is Human, the majority ... valid and reliable measures of quality and patient safety to improve health care. .... will produce generalizable results, quality improvement projects can include small ..... Team members needed to learn how to work with a group and deal with ...

### The Value, Importance, and Oversight of Health Research - Beyond ...
https://www.ncbi.nlm.nih.gov › NCBI › Literature › Bookshelf
by SJ Nass - 2009 - Cited by 2 - Related articles
Many other examples of findings from medical records research have ... This requires registries of patient characteristics, outcomes, and adverse events. .... racial and ethnic minority groups are due to their strong distrust of the medical research ..... However, no written report from this meeting was produced and no general ...

### Leadership Lesson: Tools for Effective Team Meetings - How I ... - AAMC
https://www.aamc.org/members/gfa/faculty_vitae/148582/team_meetings.html
by Y Pigeon - Cited by 2 - Related articles
Association of American Medical Colleges ... How does the group make decisions? Are team members accountable for their contributions to the team? .. the next meeting agenda or assigned to sub-committees to report at the next meeting. .... Effective health care teams: A model of six characteristics developed from shared ...

### Essentials of Managed Health Care - Page 251 - Google Books Result
https://books.google.com/books?isbn=1449604641
Peter R. Kongstvedt - 2012 - Medical
Health plans: All levels (provider relations, medical directors, etc.). ... Health plans are beginning to use this information in their feedback loop to hospitals. ... in producing reports on hospitals, taking into account severity adjustments, for years. ... practitioners or members of small medical groups; they are members of large ...

### Nominal group technique - Wikipedia

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https://en.wikipedia.org/wiki/Nominal_group_technique ▾
The nominal group technique (NGT) is a group process involving problem identification, ... First, every member of the group gives their view of the solution, with a short ... the number of ideas produced by "nominal groups" (whose members were actually ... He records each idea on a flip chart using the words spoken by the ...

[PDF] Communicating Risks and Benefits: An Evidence-Based User's Guide
www2.econ.iastate.edu/tesfatsi/CommunicatingRisksBenefits.FischhoffEtAl2011.pdf
(Chapter 4, figure 2 and Chapter 8, figure 1), Nature Publishing Group ... Contributors to this compilation are past or current members or consultants of the FDA's .... useful information about the risks and benefits of their products, policies, and ... must deal with the benefits that risk decisions can produce (e.g., profits from.

Technical Bulletin - Issue 1855 - Page 3 - Google Books Result
https://books.google.com/books?id=y8JDAQAAMAAJ
1997 - Agricultural extension work
Kenkel (1990) modeled the role of health information in the demand for ... The CSFII gathers dietary intake data for members of a sample of US. households. ... This report uses the 1989-91 CSFII-DHKS data and focuses on three dietary ... characteristics (nutrients and medical services) necessary for the production of some ...

Methods for De-identification of PHI | HHS.gov
https://www.hhs.gov/hipaa/for-professionals/privacy/special.../de-identification/ ▾
The Privacy Rule calls this information protected health information (PHI). ... a health plan report that only noted the average age of health plan members was 45 ..... For instance, patient demographics could be classified as high-risk features. ... To produce a de-identified data set utilizing the safe harbor method, all records ...

## Searches related to producing medical information to report the characteristics of a group of members

**ahrq**

**evidence based practice**

**google scholar**

**pubmed**



Chantilly, Virginia - From your search history - Use precise location - Learn more

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| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 15136318 | PARIS, ANDREW L. |
| | Examiner | Art Unit |
| | DON ZHAO | 2493 |

| CPC- SEARCHED | | |
|---|---|---|
| Symbol | Date | Examiner |
| G06F19/322,G06F19/366,G06Q50/22,G06F21/6245 | 8/7/2016 | DZ |
| G06F19/324, G06F19/322, G06F19/366, G06Q50/22, G06F21/6245, G06F19/328. H04L63/10H04L63/0428 | 4/7/2017 | DZ |

| CPC COMBINATION SETS - SEARCHED | | |
|---|---|---|
| Symbol | Date | Examiner |
| | | |

| US CLASSIFICATION SEARCHED | | | |
|---|---|---|---|
| Class | Subclass | Date | Examiner |
| | | | |

| SEARCH NOTES | | |
|---|---|---|
| Search Notes | Date | Examiner |
| EAST Searches include CPC, KWIC, keyword searches incombination with CPC,and inventor searches. The double patenting is identified with US 9323892 B1. | 8/7/2016 | DZ |
| NPL searches using GOOGLE.See attached search note printout(s). | 8/9/2016 | DZ |
| Updated EAST Searches include CPC, KWIC, keyword searches incombination with CPC,and inventor searches. No double patenting found. | 4/7/2017 | DZ |
| EAST Interference Searches of CPC and inventor names with text Search. No double patenting found. | 4/7/2017 | DZ |
| NPL searches using GOOGLE.See attached search note printout(s). | 4/7/2017 | DZ |

| INTERFERENCE SEARCH | | | |
|---|---|---|---|
| US Class/ CPC Symbol | US Subclass / CPC Group | Date | Examiner |
| G06Q | 50/22 | 4/7/2017 | DZ |

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|---|---|
| | /DON ZHAO/<br>Primary Examiner.Art Unit 2493 |

| INTERFERENCE SEARCH | | | |
|---|---|---|---|
| **US Class/ CPC Symbol** | **US Subclass / CPC Group** | **Date** | **Examiner** |
| G06F | 19/324, 19/322, 19/366, 21/6245, 19/328 | 4/7/2017 | DZ |
| H04L | 63/10, 63/0428 | 4/7/2017 | DZ |

| | |
|---|---|
| | /DON ZHAO/<br>Primary Examiner.Art Unit 2493 |

## CONSORT 2010 statement: updated guidelines for **reporting** parallel **group** randomised trials

KF Schulz, DG Altman, D Moher - BMC **medicine**, 2010 - bmcmedicine.biomedcentral.com

... With CONSORT 2010, we again intentionally declined to **produce** a rigid structure ... United Kingdom National Institute for Health Research and the **Medical** Research Council ... Ottawa Hospital Research Institute, Department of Epidemiology and Community **Medicine**, University of ...

Cited by 7641 Related articles All 95 versions Cite Save More

## Developing a quality criteria framework for **patient** decision aids: online international Delphi consensus process

..., A Coulter, R Thomson, A Barratt, M Barry, S Bernstein... - Bmj, 2006 - bmj.com

... More than 500 now exist, **produced** largely by a mix of not for profit ... **Producing** quality criteria—We subjected the quality criteria to iterative consultation about comprehensiveness and ... empirical evidence about the different components and processes required to **produce** a ...

Cited by 867 Related articles All 32 versions Cite Save

## ... **report** of the American College of Cardiology Foundation Quality Strategic Directions Committee Appropriateness Criteria Working **Group**, American Society of ...

PS Douglas, B Khandheria, RF Stainback... - Journal of the American ..., 2007 - Elsevier

... the American College of Chest Physicians and the Society of Critical Care **Medicine**. ... intermediate level of appropriateness should be labeled "uncertain," as critical **patient** or research ... In addition, care was taken in providing objective, nonbiased **information**, including guidelines ...

Cited by 279 Related articles All 16 versions Cite Save

## ... (SPECT MPI): a **report** of the American College of Cardiology Foundation Quality Strategic Directions Committee Appropriateness Criteria Working **Group** and ...

RG Brindis, PS Douglas, RC Hendel... - Journal of the American ..., 2005 - Elsevier

... appropriate may be a correct decision in light of unique **patient** and clinical ... cardiology and others with impeccable credentials in general cardiovascular **medicine**, echocardiography, and health ... health services researchers, and a payer representative (chief **medical** officer) (see ...

Cited by 318 Related articles All 17 versions Cite Save

## Cochrane handbook for systematic reviews of interventions

JPT Higgins, S Green - 2011 - books.google.com

... Issuein the measurement ofpatientreported outcomes 17.5 Locating and selecting studies with **patient** reported outcomes ... Centre, University of Sydney, Camperdown, Australia Becker, Lorne A DepartmentofFamily **Medicine**, SUNY Upstate **Medical** University, Syracuse ...

Cited by 22582 Related articles All 18 versions Cite Save More

## **Reporting** recommendations for tumor marker prognostic studies (REMARK)

, ... of the NCI-EORTC Working **Group** on ... - Journal of the ..., 2005 - jnci.oxfordjournals.org

... or inappropriately analyzed studies can attract undeserved attention when they **produce** very dramatic but ... designed and analyzed studies have been overlooked because they **produced** less dramatic ... Diagnostics are: Douglas G. Altman, DSc (Co-chair), **Medical** Statistics **Group** ...

Cited by 1197 Related articles All 17 versions Cite Save

## Towards quality management of **medical information** on the internet: evaluation, labelling, and filtering of informationHallmarks for quality of informationQuality on the ...

G Eysenbach, JAM Gray, M Bonati, S Arunachalam... - Bmj, 1998 - bmj.com

... If quality control at the time of **production** is not possible or not desirable,14 it could be decentralised and consist of selecting the products complying to the quality ... Eysenbach G,; Diepgen TL. .Responses to unsolicited **patient** e-mail requests for **medical** advice on the world ...

Cited by 616 Related articles All 20 versions Cite Save

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Disparities and distrust: the implications of psychological processes for understanding racial disparities in health and health care

JF Dovidio, LA Penner, TL Albrecht, WE Norton... - ... science & **medicine**, 2008 - Elsevier

**...** Automatically activated attitudes and stereotypes are particularly likely to **produce** discriminatory actions **...** United States is particularly problematic with respect to **producing** and perpetuating **...** involvement in the interactions and **patient** recall of **medical information** (Stewart, 1995 **...**

Cited by 215 Related articles All 17 versions Cite Save

Interventions used in disease management programmes for patients with chronic illnesswhich ones work? Meta-analysis of published **reports**

SR Weingarten, JM Henning, E Badamgarav, K Knight... - Bmj, 2002 - bmj.com

**...** using education, feedback, or reminders for healthcare providers **produced** significant improvements **...** The search used the following **medical** subject heading (MeSH) terms: **patient ...** algorithms, quality improvement programmes, care plans, and standardised **patient** and provider **...**

Cited by 803 Related articles All 18 versions Cite Save

... resonance imaging: A **report** of the american college of cardiology foundation quality strategic directions committee appropriateness criteria working **group**, ...

RC Hendel, MR Patel, CM Kramer, M Poon... - Journal of the American ..., 2006 - Elsevier

Please refer to this blog post for more **information**. **...** Criteria for Cardiac Computed Tomography and Cardiac Magnetic Resonance Imaging * : A **Report** of the **...** Robert C. Hendel, MD, FACC (ACCF Appropriateness Criteria Working **Group**),; Pamela **S**. Douglas, MD, MACC (ACCF **...**

Cited by 945 Related articles All 25 versions Cite Save

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**EAST Search History**

**EAST Search History (Prior Art)**

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| L1 | 0 | 15/136318.APP. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L2 | 1 | 14/082433.app. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L3 | 1 | 14/082433.app. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L4 | 27354 | (G06F19/322 G06F19/366 G06Q50/22 G06F21/6245).CPC. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L5 | 2252 | L4 AND ( (report$3) near11 (encounter characteristics group)) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L6 | 2141 | L5 AND ( (report$3) near11 (encounter characteristics group)) AND (Medical health healthcare) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L7 | 16 | L6 AND compar$3 with token | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L8 | 1 | L6 AND compar$3 with token and de$1identified | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L9 | 1 | L5 AND compar$3 with token and de$1identified | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L10 | 41 | ( (encounter with characteristics with group)) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L11 | 1 | ( (encounter with characteristics with group)) and (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L12 | 2 | ( (characteristics with group)) and (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L13 | 6 | ( (characteristics with (class segment or section or partition batch set subset))) | US-PGPUB; USPAT; | OR | ON | 2017/04/07 06:06 |

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|---|---|---|---|---|---|---|
| | | and (compar$3 with token and de$1identified) | USOCR | | | |
| L14 | 6 | ( (characteristics with (class segment or section or partition batch set subset))) and (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L15 | 46 | ("20040143403" \| "20050234739" \| "20050261941" \| "20060004772" \| "20060020611" \| "20060184524" \| "20060229919" \| "20070043594" \| "20070219824" \| "20080010254" \| "20080120296" \| "20080133273" \| "20080147554" \| "20090024416" \| "20090070146" \| "20090287502" \| "20100162355" \| "20110184748" \| "20110225007" \| "20110258000").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L16 | 0 | L15 AND ( (encounter group)) and (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L17 | 0 | L15 AND (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L18 | 8 | L15 AND (compar$3 and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L19 | 4 | L15 AND (compar$3 same de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L20 | 6694 | (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 Andrew).INV. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L21 | 30 | L20 AND ( (report$3) near11 (encounter characteristics group)) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L22 | 1 | 14/082433.app. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L23 | 27354 | (G06F19/322 G06F19/366 G06Q50/22 G06F21/6245).CPC. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L24 | 2252 | L4 AND ( (report$3) near11 (encounter characteristics group)) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L25 | 1 | L5 AND ((non?identifiable de$1identified) near4 (medical healthcare)) same token | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L26 | 1 | L5 AND ((non?identifiable de$1identified) near2 (medical healthcare)) same token | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L27 | 1 | L5 AND ((non?identifiable | US-PGPUB; | OR | ON | 2017/04/07 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | de$1identified) adj2 (data information) with (medical healthcare)) same token | USPAT; USOCR | | | 06:06 |
| L28 | 2141 | L5 AND ( (report$3) near11 (encounter characteristics group)) AND (Medical health healthcare) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L29 | 1 | L5 and (non$1identified de$1identified) and authorization near3 absent | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L30 | 27354 | (G06F19/322 G06F19/366 G06Q50/22 G06F21/6245).CPC. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L31 | 6694 | (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 Andrew).INV. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L32 | 15 | L30 AND L20 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L33 | 14602 | 726/2,7,9,17,19.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L34 | 4 | 726/2,7,9,17,19.ccls. AND L20 | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L35 | 0 | L30 AND (MEDICAL with (report) same (medical adj provider adj identifier)) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L36 | 2252 | L30 AND ( (report$3) near11 (encounter characteristics group)) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L37 | 7 | L20 AND ( (report$3) near11 (encounter characteristics group)) AND (Medical health healthcare) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L38 | 2 | (MEDICAL with (information report) same (medical adj provider adj identifier)) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L39 | 19 | (MEDICAL with (information report) same (medical adj3 provider adj3 identifier)) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L40 | 1 | 14/082433.app. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L41 | 10 | ((Andrew) near2 (Paris)).INV. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L42 | 6694 | (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 | US-PGPUB; USPAT; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | Andrew).INV. | USOCR; FPRS; EPO; JPO; IBM_TDB | | | |
| L43 | 1 | 12/827745.APP. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L44 | 710 | group near3 (private individual patients) with medical near3 (information record encounter$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L45 | 10 | L42 and L44 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L46 | 9 | L45 and @ad<"20121121" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L47 | 6 | L45 and @pd<"20121121" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L48 | 50 | INGENIX.AS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L49 | 7 | L44 AND INGENIX.AS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L50 | 229 | L44 and @PD<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L51 | 183 | L50 and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L52 | 179 | L50 and (group near5 (patients or health near3 members)) WITH (medical near5 (information record)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L53 | 2 | (encrypted with ( provider adj identifier$1)) same match$3 and | US-PGPUB; USPAT; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | database | USOCR | | | |
| L54 | 89 | ("20030097358" \| "20040199781" \| "20050256740" \| "20050256741" \| "20050268094" \| "3752904" \| "5471382" \| "5652842" \| "5664109" \| "5704044" \| "5724575" \| "5754938" \| "5793969" \| "5890129" \| "6012051" \| "6079021" \| "6249768" \| "6302844" \| "7376677" \| "20050065912" \| "20050256742" \| "20060026156" \| "5301105" \| "5606610" \| "5666492" \| "5799086" \| "5799308" \| "5821871" \| "5823948" \| "5926810" \| "6085322" \| "6449621" \| "6732113" \| "6915265" \| "20020198473" \| "20050165623" \| "20080147554" \| "20100217973" \| "5758085" \| "5832449" \| "5915240" \| "5961593" \| "5991731" \| "5995939" \| "6266675" \| "7184947" \| "3896266" \| "4979832" \| "4993068" \| "5003539" \| "5825906" \| "5956716" \| "6496931" \| "7386526" \| "5005200" \| "5070452" \| "5299121" \| "5758095" \| "5867821" \| "5970462" \| "6014631" \| "7200578" \| "20050027564" \| "20050234740" \| "20050236474" \| "20100114607" \| "5214702" \| "5371797" \| "5644778" \| "6317700" \| "6397224" \| "6421650" \| "6654724" \| "20040215981" \| "5502764" \| "5581749" \| "5787186" \| "5876926" \| "5907677" \| "5918208" \| "5920854" \| "6018713" \| "20080091474" \| "6003006" \| "6024287" \| "6341267" \| "6734886" \| "7309001" \| "20020143434").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L55 | 657 | database and (APK ANONYMOUS$2 adj Practitioner adj identifier) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L56 | 562 | (associat$3 cross?reference$1) same de?identified | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L57 | 160 | de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L58 | 32 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US- | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | 8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$).did. | | | | |
| L59 | 161 | (random adj3 sequence) and frame with block and portion with key | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L60 | 2 | 12/684748.APP. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L61 | 1 | L60 and (unencrypted near3 (medical adj provider adj identifier)) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L62 | 1 | L61 | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L63 | 183 | L50 and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L64 | 140395 | G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L65 | 424 | L44 AND G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L66 | 1 | L43 AND G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L67 | 111 | L42 AND G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L68 | 19083 | G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L69 | 3747 | G06F19/366.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L70 | 66 | G06F19/322.CPC. AND (de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or | US-PGPUB; USPAT; USOCR; | OR | ON | 2017/04/07 06:06 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | certificate or passport descriptor) ) | FPRS; EPO; JPO; IBM_TDB | | | |
| L71 | 0 | L69 AND L70 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L72 | 0 | G06F19/366.CPC. AND de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L73 | 23 | G06F19/366.CPC. AND de?identif$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L74 | 0 | L70 AND L73 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L75 | 6 | L70 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L76 | 7 | L73 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L77 | 2 | G06F19/322.CPC. and (encrypted near3 (medical adj provider adj identifier)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L78 | 46 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L79 | 20 | L78 AND G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L80 | 10 | L79 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L81 | 5 | L75 AND L80 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L82 | 1 | 726/09 | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L83 | 2597 | 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L84 | 3 | L83 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L85 | 1 | L42 and 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L86 | 0 | L44 and 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L87 | 26 | L44 and "726".clas. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L88 | 6 | L87 AND G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L89 | 1 | L88 and @PD<"20090701" | US-PGPUB; | OR | ON | 2017/04/07 |

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|---|---|---|---|---|---|---|
| | | | USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | | | 06:06 |
| L90 | 1 | ("20060184524" \| "20110258000").PN. AND G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L91 | 8653 | 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L92 | 0 | L75 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L93 | 2 | L44 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L94 | 2 | L58 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L95 | 55 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2017/04/07 06:06 |
| L96 | 15 | L95 and pharmac$3 | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L97 | 8 | L95 and pharmac$3 and encrypt$3 with (id identifier token) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L98 | 4 | L97 and (id identifier token) near5 (compar$3 comparison match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L99 | 3 | L97 and (id identifier token) near5 (compar$3 comparison) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L100 | 3 | L97 and (id identifier token) near5 (match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L101 | 2 | L99 and L100 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L102 | 1 | L100 NOT L101 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L103 | 22 | L95 and PRODUC$3 near3 information | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L104 | 9 | L103 and (id identifier token) near5 (compar$3 comparison match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L105 | 2 | L101 and (id identifier token) near5 (compar$3 comparison match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L106 | 8 | L95 and (produce producing provid$3) adj3 medical adj3 information | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2017/04/07 06:06 |

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L107 | 2 | L98 and L106 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L108 | 2 | L107 and (pharmac$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L109 | 2 | L107 and (pharmac$3) and (visit$3 encounter$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L110 | 1 | L107 and (pharmac$3) and (visit$3 and encounter$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L111 | 1 | L107 and (pharmac$3) and (encounter$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L112 | 1 | L107 and (pharmac$3) and (encounter$3) and (medical center) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L113 | 1 | L107 and (pharmac$3) and (encounter$3) and (institution ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L114 | 4 | L98 and (unattain$4 attain$4 obtain$3 ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L115 | 1 | L98 and (unattain$4 attain$4 obtain$3 ) with pharmac$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L116 | 1 | L98 and health adj2 record | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L117 | 1 | L98 and de-identifi$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L118 | 14 | L95 and de-identifi$3 with record | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L119 | 5 | L95 and de-identifi$3 with record and pharmac$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L120 | 20 | L95 and de-identifi$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L121 | 2 | ("20080133273" "20090287502" ).pn. and request$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L122 | 1 | ("20080133273" "20090287502" ).pn. and (compar$3 match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L123 | 30415 | ("20080133273" "20090287502" ).pn. encrypt$3 WITH ID | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L124 | 2 | ("20080133273" "20090287502" ).pn. AND encrypt$3 WITH ID | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L125 | 1 | ("20080133273" ).pn. AND encrypt$3 WITH ID | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L126 | 1 | ("20080133273" "20090287502" ).pn. and minimum | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L127 | 55 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2017/04/07 06:06 |
| L128 | 5 | L127 and number with match | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L129 | 2 | ("20080133273" "20090287502" ).pn. AND portion | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L130 | 4 | ("20080133273" "20090287502" "20060020611" ).pn. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L131 | 2 | L130 AND number near6 (patients users individuals) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L132 | 2 | L130 AND group near6 (patients users | US-PGPUB; | OR | ON | 2017/04/07 |

Datavant Exhibit 1002

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| | | individuals) | USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | | | 06:06 |
| L133 | 1 | L130 AND group near6 (patients users individuals) with number | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L134 | 55 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2017/04/07 06:06 |
| L135 | 10 | L134 AND group near6 (patients users individuals) with number | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L136 | 2 | L134 AND group near6 number NEAR5 (patients users individuals) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L137 | 7 | L134 AND (LEAST MINIMUM) near3 number | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2017/04/07 06:06 |

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L138 | 588 | medical same de-identified | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L139 | 709 | medical same de-identifi$6 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L140 | 1049 | medical near4 (information database record) and de-identifi$6 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L141 | 12 | L140 AND (MINIMUM) adj2 number with group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L142 | 40 | L140 AND (MINIMUM) with group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L143 | 269 | (MINIMUM) near3 number near3 (individual users) with group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L144 | 62 | L143 and (medical healthcare) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L145 | 6 | L144 and @pd<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L146 | 16 | L144 and @ad<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L147 | 1 | ("20080133273" ).pn. | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L148 | 4 | "20080133273" "20090287502" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L149 | 1 | L148 and de?identif$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L150 | 2 | L148 and identif$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L151 | 1 | L148 and identif$3 and group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L152 | 1 | L148 and identif$3 same group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L153 | 57 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US- | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | 8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L154 | 4 | L153 and authorization with absent | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L155 | 6 | medical with authorization near3 absent | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L156 | 9 | (non$1identified de$1identified) and authorization near3 absent | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L157 | 9 | (non$1identified de$1identified) and authorization near3 absent and group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L158 | 10 | ((Andrew) near2 (Paris)).INV. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L159 | 6694 | (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 Andrew).INV. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L160 | 1 | 12/827745.APP. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L161 | 710 | group near3 (private individual patients) with medical near3 (information record encounter$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L162 | 10 | L159 and L161 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L163 | 6 | L162 and @pd<"20121121" | US-PGPUB; USPAT; USOCR; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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| | | | FPRS; EPO; JPO; IBM_TDB | | | |
| L164 | 50 | INGENIX.AS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L165 | 7 | L161 AND INGENIX.AS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L166 | 1 | L165 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L167 | 17 | L159 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L168 | 229 | L161 and @PD<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L169 | 183 | L168 and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L170 | 179 | L168 and (group near5 (patients or health near3 members)) WITH (medical near5 (information record)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L171 | 2 | (encrypted with ( provider adj identifier$1)) same match$3 and database | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L172 | 89 | ("20030097358" \| "20040199781" \| "20050256740" \| "20050256741" \| "20050268094" \| "3752904" \| "5471382" \| "5652842" \| "5664109" \| "5704044" \| "5724575" \| "5754938" \| "5793969" \| "5890129" \| "6012051" \| "6079021" \| "6249768" \| "6302844" \| "7376677" \| "20050065912" \| "20050256742" \| "20060026156" \| "5301105" \| "5606610" \| "5666492" \| "5799086" \| "5799308" \| "5821871" \| "5823948" \| "5926810" \| "6085322" \| "6449621" \| "6732113" \| "6915265" \| "20020198473" \| "20050165623" \| "20080147554" \| "20100217973" \| "5758085" \| "5832449" \| "5915240" \| "5961593" \| "5991731" \| "5995939" \| "6266675" \| "7184947" \| "3896266" \| "4979832" \| "4993068" \| "5003539" \| | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | "5825906" \| "5956716" \| "6496931" \| "7386526" \| "5005200" \| "5070452" \| "5299121" \| "5758095" \| "5867821" \| "5970462" \| "6014631" \| "7200578" \| "20050027564" \| "20050234740" \| "20050236474" \| "20100114607" \| "5214702" \| "5371797" \| "5644778" \| "6317700" \| "6397224" \| "6421650" \| "6654724" \| "20040215981" \| "5502764" \| "5581749" \| "5787186" \| "5876926" \| "5907677" \| "5918208" \| "5920854" \| "6018713" \| "20080091474" \| "6003006" \| "6024287" \| "6341267" \| "6734886" \| "7309001" \| "20020143434").PN. | | | | |
| L173 | 657 | database and (APK ANONYMOUS$2 adj Practitioner adj identifier) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L174 | 562 | (associat$3 cross?reference$1) same de?identified | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L175 | 160 | de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L176 | 32 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$).did. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L177 | 161 | (random adj3 sequence) and frame with block and portion with key | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L178 | 2 | 12/684748.APP. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L179 | 183 | L168 and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L180 | 140395 | G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L181 | 424 | L161 AND G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L182 | 111 | L159 AND G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L183 | 66 | G06F19/322.CPC. AND (de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L184 | 23 | G06F19/366.CPC. AND de?identif$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L185 | 0 | L183 AND L184 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L186 | 66 | G06F19/322.CPC. AND (de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L187 | 6 | L183 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L188 | 1 | 726/09 | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L189 | 2597 | 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L190 | 3 | L189 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L191 | 1 | L159 and 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L192 | 0 | L161 and 726/9.ccls. | US-PGPUB; | OR | ON | 2017/04/07 |

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|---|---|---|---|---|---|---|
| | | | USPAT; USOCR | | | 06:06 |
| L193 | 26 | L161 and "726".clas. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L194 | 6 | L193 AND G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L195 | 1 | L194 and @PD<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L196 | 1 | ("20060184524" \| "20110258000").PN. AND G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L197 | 8653 | 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L198 | 0 | L187 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L199 | 2 | L161 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L200 | 2 | L176 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L201 | 55 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$).did. or (US-5721777-$ or US- | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | 8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L202 | 15 | L201 and pharmac$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L203 | 8 | L201 and pharmac$3 and encrypt$3 with (id identifier token) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L204 | 4 | L203 and (id identifier token) near5 (compar$3 comparison match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L205 | 0 | L203 and (id identifier token) near5 (compar$3 comparison match$3) same group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L206 | 0 | L203 and (id identifier token) near5 (compar$3 comparison match$3) same set | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L207 | 3 | L203 and (id identifier token) near5 (compar$3 comparison) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L208 | 3 | L203 and (id identifier token) near5 (match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L209 | 2 | L207 and L208 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L210 | 12981 | L188 L189 L190 "s661" "s662" L191 L192 L193 "s666" L194 L195 L196 L197 L198 L199 "s673" L200 L201 L202 L203 L204 L205 L206 L207 L208 L209 | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L211 | 10053 | 726/7,9,17,19.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L212 | 1 | L211 and @PD<"20090701" and (group near5 (patients or health near3 members)) and (authorization authenticaton) near3 (absent without) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L213 | 10053 | 726/7,9,17,19.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L214 | 3 | L213 and @PD<"20090701" and (group near5 (patients or health near3 members)) and (authorization authenticaton) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L215 | 59 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$ or US-20070157297-$ or US-20020188869-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2017/04/07 06:06 |
| L216 | 9 | L215 and report$3 same authorization | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; DERWENT; IBM_TDB | | | |
| L217 | 0 | "20060004772".pn. and (weaken$3 groups sufficiently large) with ( individual near3 identif$3) and (track$3) with individule | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L218 | 18 | ("5220501" \| "5517405" \| "5592553" \| "5696824" \| "5754938" \| "5768382" \| "5790668" \| "5815665" \| "5857021" \| "5875302" \| "5890129" \| "5915001" \| "5996076" \| "6006333" \| "6016480" \| "6038315" \| "6052730" \| "6317834").PN. OR ("8296341").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L219 | 18 | ("5220501" \| "5517405" \| "5592553" \| "5696824" \| "5754938" \| "5768382" \| "5790668" \| "5815665" \| "5857021" \| "5875302" \| "5890129" \| "5915001" \| "5996076" \| "6006333" \| "6016480" \| "6038315" \| "6052730" \| "6317834").PN. OR ("8296341").URPN. and (without absent) near5 authorization | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L220 | 18 | ("5220501" \| "5517405" \| "5592553" \| "5696824" \| "5754938" \| "5768382" \| "5790668" \| "5815665" \| "5857021" \| "5875302" \| "5890129" \| "5915001" \| "5996076" \| "6006333" \| "6016480" \| "6038315" \| "6052730" \| "6317834").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L221 | 2 | L220 and (without absent) near5 authorization | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L222 | 13 | report$3 with group SAME (without absent) near5 authorization | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L223 | 1 | "8078625".PN. and (response respond$3) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L224 | 5 | "20110184748." "pn." and (report$3 characteristic) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L225 | 60 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$ or US-20070157297-$ or US-20020188869-$ or US-20110184748-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L226 | 20 | L225 and hipaa | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L227 | 60 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$ or US-20070157297-$ or US-20020188869-$ or US-20110184748-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US- | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2017/04/07 06:06 |

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|---|---|---|---|---|---|---|
| | | 5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L228 | 32 | ("20060004772" \| "20060229919" \| "20110258000" \| "20060020611" \| "20080133273" \| "20090070146" \| "20040143403" \| "20090287502" \| "20080147554" \| "20110184748" \| "20060184524" \| "20100162355" \| "20070043594" \| "20110225007").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L229 | 23 | L227 NOT "32" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L230 | 10 | L229 and medical same report | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L231 | 7 | L230 and @ad<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L232 | 60 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$ or US-20070157297-$ or US-20020188869-$ or US-20110184748-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US- | US-PGPUB; USPAT; FPRS; EPO | OR | OFF | 2017/04/07 06:06 |

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|---|---|---|---|---|---|---|
| | | 7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L233 | 39 | ("20060004772" \| "20060229919" \| "20070219824" \| "20080010254" \| "20110258000" \| "20060020611" \| "20080133273" \| "20090070146" \| "20040143403" \| "20090287502" \| "20080147554" \| "20110184748" \| "20080120296" \| "20060184524" \| "20100162355" \| "20070043594" \| "20110225007").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/04/07 06:06 |
| L234 | 47 | L232 NOT L233 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/04/07 06:06 |
| L235 | 37 | L234 AND @AD<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/04/07 06:06 |
| L236 | 8 | L235 AND TOKEN | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/04/07 06:06 |
| L237 | 29 | L235 NOT L236 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/04/07 06:06 |
| L238 | 7 | ( (characteristics with ((patients users individuals)))) and (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2017/04/07 06:06 |
| L251 | 4 | ("20080010254" "20150046192" ).pn. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L252 | 46 | ("20040143403" \| "20050234739" \| "20050261941" \| "20060004772" \| "20060020611" \| "20060184524" \| "20060229919" \| "20070043594" \| "20070219824" \| "20080010254" \| "20080120296" \| "20080133273" \| "20080147554" \| "20090024416" \| "20090070146" \| "20090287502" \| | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |

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|---|---|---|---|---|---|---|
| | | "20100162355" \| "20110184748" \| "20110225007" \| "20110258000").PN. | | | | |
| L253 | 62 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$ or US-20070157297-$ or US-20020188869-$ or US-20110184748-$ or US-20110258000-$ or US-20150046192-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2017/04/07 06:06 |
| L254 | 94 | L252 or L253 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L255 | 26 | L254 and (minimum) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L258 | 0 | "14082433".pn. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:06 |
| L261 | 11584 | hippa compar$3 with token | US-PGPUB; | OR | ON | 2017/04/07 |

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| | | | USPAT; USOCR | | | 06:06 |
| L263 | 137276 | ( G06F19/324 G06F19/322 G06F19/366 G06Q50/22 G06F21/6245 G06F19/328 H04L63/10 H04L63/0428).CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:22 |
| L264 | 44 | 253 AND 263 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/04/07 06:23 |
| L265 | 4 | 264 AND (non$1identified de$1identified) and authorization near3 absent and group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:23 |
| L266 | 1 | 264 AND (identif$4 identification) with (member) NEAR3 (group cooperation organization company) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:26 |
| L267 | 1 | 264 AND (identif$4 identification) with (member employee ) NEAR3 (group cooperation organization company) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2017/04/07 06:26 |

**EAST Search History (Interference)**

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| L239 | 0 | 15/"Term Removed" | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L240 | 0 | "Term Removed" | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L241 | 1 | 14/"Term Removed" | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L242 | 27347 | (G06F19/322 G06F19/366 G06Q50/22 G06F21/6245).CPC. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L243 | 401 | L242 AND (( (report$3) near11 (encounter characteristics group)) ).CLM. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L244 | 1 | L243 AND (((non?identifiable de$1identified) near4 (medical healthcare)) same token).CLM. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L245 | 2194 | (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 | US-PGPUB; | OR | ON | 2017/04/07 06:06 |

Datavant Exhibit 1002

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Andrew).INV. | USPAT | | | |
| L246 | 2 | L245 AND (((non?identifiable de$1identified) near4 (medical healthcare)) same token).CLM. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L247 | 2 | Vigilytics.AS. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L248 | 2 | L247 AND (( (report$3) near11 (encounter characteristics group)) ).CLM. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L249 | 2 | L247 AND (((non?identifiable de$1identified) near4 (medical healthcare)) same token).CLM. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L250 | 1 | L242 AND L247 | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:06 |
| L268 | 53552 | ( G06F19/324 G06F19/322 G06F19/366 G06Q50/22 G06F21/6245 G06F19/328 H04L63/10 H04L63/0428).CPC. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:28 |
| L269 | 18 | 268 and (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 Andrew).INV. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:28 |
| L271 | 0 | L269 AND (( (report$3) with (member employee) near11 (encounter characteristics group)) ).CLM. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:36 |
| L272 | 917 | 268 AND (identif$4 identification) with (member employee ) NEAR3 (group cooperation organization company) | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:37 |
| L275 | 0 | L272 AND (((non?identifiable de$1identified) near4 (medical healthcare)) same token with (compar$3 match$3)).CLM. | US-PGPUB; USPAT | OR | ON | 2017/04/07 06:39 |

**4/7/2017 6:39:56 AM**
**C:\Users\dzhao\Documents\EAST\Workspaces\15-136318 CON De-ID Report Med Info.wsp**

| Issue Classification | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 15136318 | PARIS, ANDREW L. |
| | **Examiner** | **Art Unit** |
| | DON ZHAO | 2493 |

| CPC | | | | | | |
|---|---|---|---|---|---|---|
| **Symbol** | | | | | **Type** | **Version** |
| G06F | | 19 | / | 324 | F | 2013-01-01 |
| H04L | | 63 | / | 10 | I | 2013-01-01 |
| H04L | | 63 | / | 0428 | I | 2013-01-01 |
| G06F | | 19 | / | 328 | I | 2013-01-01 |
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| CPC Combination Sets | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Symbol** | | | | | **Type** | **Set** | **Ranking** | **Version** |
| | | | / | | | | | |
| | | | / | | | | | |

| NONE | | **Total Claims Allowed:** | |
|---|---|---|---|
| (Assistant Examiner) | (Date) | 20 | |
| /DON ZHAO/<br>Primary Examiner.Art Unit 2493 | 04/07/2017 | O.G. Print Claim(s) | O.G. Print Figure |
| (Primary Examiner) | (Date) | 7 | FIG. 2 |



Datavant Exhibit 1002

| Issue Classification | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 15136318 | PARIS, ANDREW L. |
| | **Examiner** | **Art Unit** |
| | DON ZHAO | 2493 |

| US ORIGINAL CLASSIFICATION | | INTERNATIONAL CLASSIFICATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLASS | SUBCLASS | CLAIMED | | | | | NON-CLAIMED | | | | | |
| | | G | 0 | 6 | F | 21 / 00 (2013.01.01) | | | | | | |
| CROSS REFERENCE(S) | | | | | | | | | | | | |
| CLASS | SUBCLASS (ONE SUBCLASS PER BLOCK) | | | | | | | | | | | |
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| NONE | | Total Claims Allowed: | |
|---|---|---|---|
| (Assistant Examiner) | (Date) | 20 | |
| /DON ZHAO/<br>Primary Examiner.Art Unit 2493 | 04/07/2017 | O.G. Print Claim(s) | O.G. Print Figure |
| (Primary Examiner) | (Date) | 7 | FIG. 2 |

| Issue Classification | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 15136318 | PARIS, ANDREW L. |
| | **Examiner** | **Art Unit** |
| | DON ZHAO | 2493 |

☒ **Claims renumbered in the same order as presented by applicant** ☐ **CPA** ☐ **T.D.** ☐ **R.1.47**

| Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original |
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| | | | |
|---|---|---|---|
| NONE<br><br>(Assistant Examiner) | (Date) | **Total Claims Allowed:**<br>20 | |
| /DON ZHAO/<br>Primary Examiner.Art Unit 2493<br><br>(Primary Examiner) | 04/07/2017<br><br>(Date) | O.G. Print Claim(s)<br>7 | O.G. Print Figure<br>FIG. 2 |

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| PATENT APPLICATION FEE DETERMINATION RECORD<br>Substitute for Form PTO-875 | Application or Docket Number<br>15/136,318 | Filing Date<br>04/22/2016 | ☐ To be Mailed |
|---|---|---|---|

**ENTITY:** ☐ LARGE ☒ SMALL ☐ MICRO

## APPLICATION AS FILED – PART I

| FOR | (Column 1) NUMBER FILED | (Column 2) NUMBER EXTRA | RATE ($) | FEE ($) |
|---|---|---|---|---|
| ☐ BASIC FEE (37 CFR 1.16(a), (b), or (c)) | N/A | N/A | N/A | |
| ☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m)) | N/A | N/A | N/A | |
| ☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q)) | N/A | N/A | N/A | |
| TOTAL CLAIMS (37 CFR 1.16(i)) | minus 20 = | * | X $ = | |
| INDEPENDENT CLAIMS (37 CFR 1.16(h)) | minus 3 = | * | X $ = | |
| ☐ APPLICATION SIZE FEE (37 CFR 1.16(s)) | If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). | | | |
| ☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j)) | | | | |
| * If the difference in column 1 is less than zero, enter "0" in column 2. | | | TOTAL | |

## APPLICATION AS AMENDED – PART II

AMENDMENT **02/16/2017**

| | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | RATE ($) | ADDITIONAL FEE ($) |
|---|---|---|---|---|---|---|
| Total (37 CFR 1.16(i)) | * 20 | Minus | ** 20 | = 0 | X $40 = | 0 |
| Independent (37 CFR 1.16(h)) | * 3 | Minus | ***3 | = 0 | X $210 = | 0 |
| ☐ Application Size Fee (37 CFR 1.16(s)) | | | | | | |
| ☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | |
| | | | | | TOTAL ADD'L FEE | 0 |

AMENDMENT

| | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | RATE ($) | ADDITIONAL FEE ($) |
|---|---|---|---|---|---|---|
| Total (37 CFR 1.16(i)) | * | Minus | ** | = | X $ = | |
| Independent (37 CFR 1.16(h)) | * | Minus | *** | = | X $ = | |
| ☐ Application Size Fee (37 CFR 1.16(s)) | | | | | | |
| ☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | |
| | | | | | TOTAL ADD'L FEE | |

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
MARGARET BYARS

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Datavant Exhibit 1002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | | | |
|---|---|---|---|---|---|
| First Named Inventor | : | Andrew L. Paris III | Art Unit | : | 2493 |
| Serial No. | : | 15/136,318 | Examiner | : | Don Gordon Zhao |
| Filed | : | April 22, 2016 | Conf. No. | : | 7326 |
| Title | : | USING DE-IDENTIFIED HEALTHCARE DATA TO EVALUATE POST-HEALTHCARE FACILITY ENCOUNTER TREATMENT OUTCOMES | | | |

**Mail Stop Amendment**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY TO ACTION OF AUGUST 16, 2016

Please consider the following reply.

# Electronic Patent Application Fee Transmittal

| | |
|---|---|
| **Application Number:** | 15136318 |
| **Filing Date:** | 22-Apr-2016 |
| **Title of Invention:** | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes |
| **First Named Inventor/Applicant Name:** | Andrew L. Paris |
| **Filer:** | Natalie K. Galley/Alissa Tizzano |
| **Attorney Docket Number:** | 25412-0003002 |

Filed as Small Entity

**Filing Fees for Utility under 35 USC 111(a)**

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| **Pages:** | | | | |
| **Claims:** | | | | |
| **Miscellaneous-Filing:** | | | | |
| **Petition:** | | | | |
| **Patent-Appeals-and-Interference:** | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | |
| **Extension-of-Time:** | | | | |

Datavant Exhibit 1002

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| Extension - 3 months with $0 paid | 2253 | 1 | 700 | 700 |
| **Miscellaneous:** | | | | |
| | | | **Total in USD ($)** | **700** |

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 28377104 |
| **Application Number:** | 15136318 |
| **International Application Number:** | |
| **Confirmation Number:** | 7326 |
| **Title of Invention:** | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes |
| **First Named Inventor/Applicant Name:** | Andrew L. Paris |
| **Customer Number:** | 26161 |
| **Filer:** | Natalie K. Galley/Alissa Tizzano |
| **Filer Authorized By:** | Natalie K. Galley |
| **Attorney Docket Number:** | 25412-0003002 |
| **Receipt Date:** | 16-FEB-2017 |
| **Filing Date:** | 22-APR-2016 |
| **Time Stamp:** | 13:40:32 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | DA |
| Payment was successfully received in RAM | $700 |
| RAM confirmation Number | 021617INTEFSW00015254061050 |
| Deposit Account | |
| Authorized User | |

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Datavant Exhibit 1002

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | | response.pdf | 127796<br>6664f182c3c37185e5da9c45aba9d92698db9b6c | yes | 9 |
| | **Multipart Description/PDF files in .zip description** | | | | |
| | **Document Description** | | **Start** | **End** | |
| | Applicant Arguments/Remarks Made in an Amendment | | 6 | 9 | |
| | Claims | | 2 | 5 | |
| | Amendment/Req. Reconsideration-After Non-Final Reject | | 1 | 1 | |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Fee Worksheet (SB06) | fee-info.pdf | 30559<br>e937e8672a18efbda0ad112ab85b9f1b4f75c1a9 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 158355 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

## REMARKS

The Applicant appreciates and would like to thank Examiner Don Zhao for taking time out of his schedule to discuss the subject application on February 10, 2017 with the Applicant's representative, Mr. Jeffrey J. Barclay (Reg. No. 48,950), and Natalie Galley. Along with discussing the current action, the pending claims and art references cited in the action were also discussed. The content of this response reflects this discussion with the Examiner. The Applicant also thanks the Examiner for his expressed willingness to follow up with the representatives upon receiving this response and his interest in expediting prosecution.

Claims 1-20 are pending in this application, with claims 1, 7, and 14 being independent. Support can be found in the specification at least at paragraph [022]. No new matter has been added. Favorable reconsideration and further examination of the action is respectfully requested in view of the foregoing amendments and following comments of the Applicant, which are preceded by related comments of the Examiner in small bold type:

***Double Patenting***

**Claims 1-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. U.S. Patent No. 9,323,892.**

Applicant respectfully requests withdrawal of the rejection in view of the amendments to the claims.

***Claim Rejections – 35 USC § 112***

**Claims 1-20 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.**

Applicant respectfully requests withdrawal of the rejection in view of the amendments to the claims.

***Claim Rejections – 35 USC § 103***

**Claims 1-11 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Settimi (U.S. Publication No. 2008/0010254) in view of Raduchel (U.S. Publication No. 2015/0046192).**

Independent claim 1 is directed to a computer-implemented method comprising receiving a request from a user device for medical information that characterizes a group composed of

multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals, wherein the request contains identifying data for each member in the group of multiple individuals. The method also includes producing, by a hardware processor, a request token for each individual included in the group of individuals, comparing the request tokens to tokens associated with the de-identified medical data to find matching token, producing the requested medical information, the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group, and providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals identified in the request containing identifying data.

Settimi is understood to describe a system for clinical study notification that includes accessing a pool of potential study participants (please see abstract). Settimi describes that a user can use different criteria for search, such as "patients over the age of 55, with a history of acute myocardial infarction within the last 2 years, and certain enzyme levels, who live in the Midwest" (see paragraph [0067]). Settimi's searches are for cohort with general criteria, not for individuals with identifying data. Settimi certainly does not describe receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals, wherein the request contains identifying data for each member in the group of multiple individuals, or providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals identified in the request containing identifying data, as required by claim 1.

Raduchel is understood to describe an electronic device for aggregating electronic records, aggregating medical records from multiple repositories and displaying them as a single set of records when a user's electronic device is authenticated as a valid device that can access the record (please see abstract). The Action states that Raduchel produces a request token for each individual included in the group of individuals (see p. 7). However, Raduchel states that:

> "The first request may include information sufficient for the storage system 140 to identify a user, identify the requested electronic records for the user, and the

> authentication token.... the storage system 140 may *compare the hardware specific machine token* with a *known token associated with the user* 120 associated with the first request and authenticate the first request based on the comparison. Because the hardware specific machine token is specific to the user electronic device 130, the storage system 140 may be configured to only authenticate requests received from the user electronic device 130." (Paragraphs [0080] and [0081], emphasis added).

The token used by Raduchel's system is used to authenticate a request, and is associated with a specific machine to authenticate a request. Raduchel therefore does not teach producing, by a hardware processor, a request token for each individual included in the group of individuals, or comparing the request tokens to tokens associated with the de-identified medical data to find matching tokens, as required by these claims. Raduchel also does not describe receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals, wherein the request contains identifying data for each member in the group of multiple individuals, or providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals identified in the request containing identifying data, as required by claim 1

> **Claims 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Settimi in view of Radu, and further in view of Anderson (U.S. Publication No. 2010/0287190).**

Anderson is not understood to remedy the foregoing deficiencies of Settimi and Raduchel.

For at least these reasons, independent claim 1 is believed to be patentable over the combinations of Settimi, Raduchel and Anderson. Similarly, independent claims 7 and 14 are also believed to be allowable for at least the same reasons noted above. The dependent claims respectively partake of the novelty of their parent independent claim and, as such, have not been addressed specifically herein.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be

exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

In view of the foregoing remarks, the entire application is now believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience. Applicants' attorney can be reached at the address shown below. Telephone calls regarding this application should be directed to 617-368-2191.

The fees for extension of time are being paid with this reply on the Electronic Filing System. Apply those fees and any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: 2/16/17

/Natalie K Galley/

Natalie K. Galley, Ph.D.
Reg. No. L1010

Customer Number 26161
Fish & Richardson P.C.
Telephone: (617) 956-5911
Facsimile: (877) 769-7945

23557280.doc

List of claims (replacing prior versions).

1. (Currently Amended) A computer-implemented method comprising:

receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals, wherein the request contains identifying data for each member in the group of multiple individuals;

producing, by a hardware processor, a request token for each individual included in the group of individuals;

comparing the request tokens to tokens associated with the de-identified medical data to find matching tokens;

producing the requested medical information, the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group; and

providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals identified in the request containing identifying data.

2. (Original) The computer-implemented method of claim 1, wherein the provided medical information is in conformity with the Health Insurance Portability and Accountability Act (HIPAA).

3. (Original) The computer-implemented method of claim 1, wherein receiving the request for medical information that characterizes the group of individuals includes receiving personally identifiable information associated with the individuals of the group.

4. (Original) The computer-implemented method of claim 1, in which producing the requested medical information includes encrypting respective data that identifies each individual.

5. (Original) The computer-implemented method of claim 1, in which the tokens associated with medical data and the request tokens are similarly encrypted.

6. (Original) The computer-implemented method of claim 1, in which the medical data represents medical-related information associated with the individuals of the group.

7. (Currently Amended) A system comprising:

a computing device comprising:

a memory configured to store instructions; and

a processor to execute the instructions to perform operations comprising:

receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals, wherein the request contains identifying data for each member in the group of multiple individuals;

producing a request token for each individual included in the group of individuals;

comparing the request tokens to tokens associated with the de-identified medical data to find matching tokens;

producing the requested medical information with the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group; and

providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals identified in the request containing identifying data.

8. (Original) The system of claim 7, wherein the provided medical information is in conformity with the Health Insurance Portability and Accountability Act (HIPAA).

9. (Original) The system of claim 7, wherein the request for medical information that characterizes a group of individuals includes personally identifiable information associated with the individuals of the group.

10. (Original) The system of claim 7, in which the data that identifies each individual is encrypted.

11. (Original) The system of claim 7, in which the tokens associated with the medical data and the request tokens are similarly encrypted.

12. (Original) The system of claim 7, in which the data server provides the requested medical information if the group includes at least a minimum number of individuals.

13. (Original) The system of claim 7, in which the medical data represents medical-related information associated with the individuals of the group.

14. (Currently Amended) One or more computer readable storage devices storing instructions that are executable by a processing device, and upon such execution cause the processing device to perform operations comprising:

receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals, wherein the request contains identifying data for each member in the group of multiple individuals;

producing, by a hardware processor, a request token for each individual included in the group of individuals;

comparing the request tokens to tokens associated with the de-identified medical data to find matching tokens;

producing the requested medical information with the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group; and

providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals identified in the request containing identifying data.

15. (Original) The computer readable storage devices of claim 14, wherein the provided medical information is in conformity with the Health Insurance Portability and Accountability Act (HIPAA).

16. (Original) The computer readable storage devices of claim 14, wherein receiving the request for medical information that characterizes the group of individuals includes receiving personally identifiable information associated with the individuals of the group.

17. (Original) The computer readable storage devices of claim 14, in which producing the requested medical information includes encrypting respective data that identifies each individual.

18. (Original) The computer readable storage devices of claim 14, in which the tokens associated with the medical data and the request tokens are similarly encrypted.

19. (Original) The computer readable storage devices of claim 14, in which the medical data represents medical-related information associated with the individuals of the group.

20. (Original) The computer readable storage devices of claim 14, in which producing the requested medical information includes determining if the group includes at least a minimum number of individuals.

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United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/136,318 | 04/22/2016 | Andrew L. Paris III | 25412-0003002 | 7326 |

26161 7590 02/15/2017
FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

| EXAMINER | |
|---|---|
| ZHAO, DON GORDON | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2493 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 02/15/2017 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com



Datavant Exhibit 1002

| *Applicant-Initiated Interview Summary* | Application No. 15/136,318 | Applicant(s) PARIS, ANDREW L. | | |
|---|---|---|---|---|
| | Examiner Don Zhao | Art Unit 2493 | AIA (First Inventor to File) Status No | Page 1 of 2 |

All participants (applicant, applicant's representative, PTO personnel):

1. Don Zhao (Primary Examiner); Telephonic
2. Jeffery Barclay (Attorney); Telephonic
3. Natalie Galley, Ph.D. (Patent Agent); Telephonic

**Date of Interview:** 10 February 2017

**Claim(s) discussed:** 1-20

**Identification of prior art discussed: Settimi** (US 20080010254 A1)

**Amendment Proposed:** a new aspect of the invention to deviate from the parent case, for example, "Receiving a request from a user device including both grouping information and medical information that defines a group of individuals that may be retrieved from one or more databases containing a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals." Regarding the 103 rejection, the added grouping information in the request will differentiate the reporting mechanism of the current application from the prior art.

## Issues Discussed:

**Double Patenting:**
Applicant's representative discussed the concept of invention in view of the parent application, now U.S. Patent #9323892. The issue of double patenting (labelled as 101 in Agenda) was discussed. The Applicant proposed a new aspect of the invention to deviate from the parent case to overcome double patenting rejection, for example, "Receiving a request from a user device including both grouping information and medical information that defines a group of individuals that may be retrieved from one or more databases containing a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals."

**Item(s) under 35 U.S.C. 112:**
The applicant agreed to further amend the limitation "the medical data" in the comparing step to resolve the 112b issue.

**Item(s) under 35 U.S.C. 103:**
Regarding the 103 rejection, the added grouping information in the request appears to differentiate the reporting mechanism of the current application from the prior art.

**Attachment(s):** EMAILS and Agenda

| /Don Zhao/<br>Primary Examiner, Art Unit 2493 | |
|---|---|

**Applicant recordation instructions:** The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable time limit of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

**Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicant's responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04**

Please further see:

**MPEP 713.04**
**Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)**
**37 CFR § 1.2 Business to be transacted in writing**



Datavant Exhibit 1002

## Zhao, Don

**From:** Zhao, Don
**Sent:** Thursday, February 09, 2017 3:21 PM
**To:** 'Natalie Galley'
**Subject:** RE: Application No.: 15/136,318; Attorney Docket No.: 25412-0003002; Interview Agenda

Natalie,

That's OK. I can manage to do it 11:00 A.M. Eastern Time.

Don

Don Zhao
Primary Examiner of AU2493

U.S. Patent & Trademark Office
Technology Center, AU 2493
500 Dulany St, Jefferson Bldg.
Alexandra, VA 22314
Tel: (571)272-9953 / Fax: (571)273-9953

---

**From:** Natalie Galley [mailto:galley@fr.com]
**Sent:** Thursday, February 09, 2017 2:29 PM
**To:** Zhao, Don <Don.Zhao@USPTO.GOV>
**Subject:** RE: Application No.: 15/136,318; Attorney Docket No.: 25412-0003002; Interview Agenda

Many apologies, but I forgot about a doctor appointment I have tomorrow at that time. Would any time in the morning, say 11:00, or 4:00 be possible instead?

**Natalie Galley, Ph.D.** :: Technology Specialist, Patent Agent :: Fish & Richardson P.C.
One Marina Park Drive, Boston, MA 02210-1878
617 956 5911 direct :: 617 542 5070 main :: 617 542 8906 fax

---

**From:** Zhao, Don [mailto:Don.Zhao@USPTO.GOV]
**Sent:** Thursday, February 09, 2017 2:04 PM
**To:** Natalie Galley <galley@fr.com>
**Subject:** RE: Application No.: 15/136,318; Attorney Docket No.: 25412-0003002; Interview Agenda

Hi Natalie Galley,

Tomorrow the same time is fine.

Looking forward to talking to you and/or Jeffrey Barclay.

Thanks,



Datavant Exhibit 1002

Don

Don Zhao
Primary Examiner of AU2493

U.S. Patent & Trademark Office
Technology Center, AU 2493
500 Dulany St, Jefferson Bldg.
Alexandra, VA 22314
Tel: (571)272-9953 / Fax: (571)273-9953

**From:** Natalie Galley [mailto:galley@fr.com]
**Sent:** Thursday, February 09, 2017 9:48 AM
**To:** Zhao, Don <Don.Zhao@USPTO.GOV>
**Subject:** RE: Application No.: 15/136,318; Attorney Docket No.: 25412-0003002; Interview Agenda

Examiner, due to the snow storm our office is closed today. Are you available at any time tomorrow, Friday, instead? Apologies.

---

From: Natalie Galley
Sent: Wednesday, February 8, 2017 4:39 PM
To: Zhao, Don; Jeffrey Barclay
Cc: APS Outgoing
Subject: Application No.: 15/136,318; Attorney Docket No.: 25412-0003002; Interview Agenda

Examiner Zhao,

Attached please find an agenda for the interview on February 9th at 1:30 for application 15/136,318. Thank you for your consideration, and we will call you at 571-272-9953 at the appointed time.

If due to the inclement weather expected tomorrow the call is not possible, we are available for a call on Friday the 10th at whatever time is convenient for you.

Best regards,

Natalie Galley, Ph.D. :: Technology Specialist, Patent Agent :: Fish & Richardson P.C.
One Marina Park Drive, Boston, MA 02210-1878
617 956 5911 direct :: 617 542 5070 main :: 617 542 8906 fax

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Datavant Exhibit 1002

PTOL-413A (08-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

# Applicant Initiated Interview Request Form

Application No.: 15/136,318 First Named Applicant: Vigilytics LLC

Examiner: Don Gordon Zhao Art Unit: 2493 Status of Application: Pending

**Tentative Participants:**

**(1)** Don Zhao **(2)** Natalie Galley

**(3)** Jeff Barclay **(4)** _____

**Proposed Date of Interview:** 2/9/17 **Proposed Time:** 1:30 **AM/PM**

**Type of Interview Requested:**

**(1)** [☒] **Telephonic** **(2)** [☐] **Personal** **(3)** [☐] **Video Conference**

**Exhibit To Be Shown or Demonstrated:** [☐] **YES** [☐] **NO**

**If yes, provide brief description:** _____

## Issues To Be Discussed

| Issues (Rej., Obj., etc) | Claims/Fig. #s | Prior Art | Discussed | Agreed | Not Agreed |
|---|---|---|---|---|---|
| (1) 101, 103 | _____ | _____ | [☐] | [☐] | [☐] |
| (2) _____ | _____ | _____ | [☐] | [☐] | [☐] |
| (3) _____ | _____ | _____ | [☐] | [☐] | [☐] |
| (4) _____ | _____ | _____ | [☐] | [☐] | [☐] |

[☐] Continuation Sheet Attached [☐] Proposed Amendment or Arguments Attached

**Brief Description of Arguments to be Presented:**

Representatives wish to discuss the combination of Settimi and Raduchel, and also discuss potentional amendments and the double patenting rejection.

**An interview was conducted on the above-identified application on** _____

**NOTE:** **This form should be completed and filed by applicant in advance of the interview (see MPEP § 713.01). If this form is signed by a registered practitioner not of record, the Office will accept this as an indication that he or she is authorized to conduct an interview on behalf of the principal (37 CFR 1.32(a)(3)) pursuant to 37 CFR 1.34. This is not a power of attorney to any above named practitioner. See the Instruction Sheet for this form, which is incorporated by reference. By signing this form, applicant or practitioner is certifying that he or she has read the Instruction Sheet. After the interview is conducted, applicant is advised to tile a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible. This application will not be delayed from issue because of applicant's failure to submit a written record of this interview.**

/Natalie K Galley/ _____

Applicant/Applicant's Representative Signature Examiner/SPE Signature

Natalie K. Galley, Ph.D.

Typed/Printed Name of Applicant or Representative

L1010

Registration Number, if applicable

**This collection of information is required by 37 CFR 1.133. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 24 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

## Zhao, Don

**From:** Natalie Galley <galley@fr.com>
**Sent:** Wednesday, February 08, 2017 4:39 PM
**To:** Zhao, Don; Jeffrey Barclay
**Cc:** APS Outgoing
**Subject:** Application No.: 15/136,318; Attorney Docket No.: 25412-0003002; Interview Agenda
**Attachments:** 25412-0003002 agenda.doc

Examiner Zhao,

Attached please find an agenda for the interview on February 9th at 1:30 for application 15/136,318. Thank you for your consideration, and we will call you at 571-272-9953 at the appointed time.

If due to the inclement weather expected tomorrow the call is not possible, we are available for a call on Friday the 10th at whatever time is convenient for you.

Best regards,

**Natalie Galley, Ph.D.** :: Technology Specialist, Patent Agent :: Fish & Richardson P.C.
One Marina Park Drive, Boston, MA 02210-1878
617 956 5911 direct :: 617 542 5070 main :: 617 542 8906 fax

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Datavant Exhibit 1002

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/136,318 | 04/22/2016 | Andrew L. Paris III | 25412-0003002 | 7326 |

26161 7590 08/16/2016
FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

| EXAMINER | |
|---|---|
| ZHAO, DON GORDON | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2493 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 08/16/2016 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com



Datavant Exhibit 1002

| Office Action Summary | Application No. 15/136,318 | Applicant(s) PARIS, ANDREW L. | |
|---|---|---|---|
| | Examiner Don Zhao | Art Unit 2493 | AIA (First Inventor to File) Status No |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *04/22/2016*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims***

5)☒ Claim(s) *1-20* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-20* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

**Application Papers**

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *04/22/2016* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date *04/22/2016*.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.



Datavant Exhibit 1002

## DETAILED ACTION

Claims 1-20 are presented for examination on merits. The present application is being examined under the pre-AIA first to invent provisions.

### *Information Disclosure Statement*

The information disclosure statement(s) (IDS) submitted on 04/22/2016 is/are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement(s) is/are being considered by the examiner.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**Claims 1-20** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-26 of U.S. Patent No. US 9323892 B1 (hereinafter "US'892").** Although the conflicting claims are not identical, they are not patentably distinct from each other because they both refer to.

**Regarding intendent claim** 1, US'892 discloses a computer-implemented method (**US'892, claim 1**: A computer-implemented method) comprising:

receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals (**US'892, claim 1**: receiving);

producing, by a hardware processor, a request token for each individual included in the group of individuals (**US'892, claim 1**: producing… tokens);

comparing the request tokens to tokens associated with the medical data to find matching tokens ((**US'892, claim 3**: comparing);

producing the requested medical information, the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group (**US'892, claim 1**: producing the requested medical information that characterizes the group of individuals; and

providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals (**US'892, claim 1**: providing…).

**Regarding independent claims 7 and 14**, they recite similar language and limitations to claim 1. Therefore, they are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable for the same reasons as indicated above for claim 1.

**Dependent claims 2-6, 8-13, and 15-20** are rejected as being dependent upon a rejected base claims 1, 7, and 14, respectively, and also because they claim features that are found in the US'892, claims 1-26.

***Claim Rejections - 35 USC § 112***

The following is a quotation of 35 U.S.C. 112(b):

(B) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-20** are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

The rejection(s) under 35 U.S.C. 112(b) is/are determined by the following reasons:

Claim 1 recites the limitation "the medical data" in the comparing step. However, this limitation is unclear because the medical data appears to be either plain text medical data or de-identified medical data that is encrypted. The limitation is not described as de-identified medical data nor encrypted medical data. Therefore, this limitation is indefinite in the claim.

Claim 7 and 14 similarly recites the limitation "the medical data" in the comparing step. Therefore, they contain the same limitation as claim 1 causing indefinite in the claims, respectively.

Dependent claims 2-6, 8-13, and 15-20 are rejected under 35 U.S.C. 112(b) as they being dependent upon a rejected base claims 1, 7, and 14, respectively.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-11 and 13-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Settimi** (US 20080010254 A1; also an IDS reference) in view of **Raduchel** (US 20150046192 A1; hereinafter "**Radu**." NOTE: the date of reference reaching back to 2007-09-25 of us-provisional-application US 60974997; and 2007-07-03 us-provisional-application US 60947809).

**As per claim** 1, **Settimi** teaches a computer-implemented method comprising:

receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals (**Settimi** par. 0036: make a request to … access particular records stored in the data warehouse (e.g., to create a cohort report); see par. 0042-0043 for patient cohort reports generated a set of de-identified medical data representing characteristics of the individuals. Here **Settimi** particularly discloses using the unique identifier indicates an anonymous or abstract patient having certain **characteristics** but does not provide personal direct identifying information such as name, social security number, street address, etc., i.e., the medical data de-identified);

producing the requested medical information, the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group (**Settimi** par. 0033: Cohort reports are generated by queries on a group basis. **Settimi** discloses a cohort repot as a result of producing the requested medical information. Furthermore, the report data is de-identified, but traceable without individual authorization for production because the report is

generated by computer system from a search query; par. 0043. See details of data aggregation and cleansing to produce medical information for clinical study from de-identified patient data at par. 0041-0051 and 0067); and

providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals (**Settimi** par. 0042-0043: Patient cohort reports 212 are generated by application software; An exemplary patient cohort report 212 includes all patients with a particular disease that were treated with a particular medication. Here the cohort report 212 that includes all patients with a particular disease is the characteristics of the group of individuals. The software executing a canned query on a periodic basis means reporting absent authorization from the individuals in the group of individuals).

While **Settimi** discloses executing a search request for getting medical information from a pool of patients (par. 0067), **Settimi** does not explicitly disclose producing a request token for each individual and comparing the request tokens to tokens associated with the medical data to find matching tokens. This aspect of the claim is identified as a difference.

In a related art, **Radu** teaches,

producing, by a hardware processor, a request token for each individual included in the group of individuals (**Radu** par. 0080-0081: the first request based on the hardware specific machine token; par. 0142-0146: the machine token is labeled as Token: 89965, which is used to include an individual John Smith with record, R6: Heart Attack 11/11/04. **Radu** groups the aggregated electronic medical record data from individuals (par. 0164) shared with a Patient Safety Organization (PSO); par. 0220 and FIG. 13: steps 1360-1370);

comparing the request tokens to tokens associated with the medical data to find matching tokens (**Radu**, par. 0081-0082: comparing. **Radu** discloses tokens in the process of requesting for medical information, and thus discloses comparing request/authentication token with a known token in the system where a token matching function is performed);

**Settimi** and **Radu** are analogous art to the invention because they are from a similar field of endeavor in gathering information for improving medical or clinical studies. Thus, it would have been obvious to a person having ordinary skills of art, at the time of invention, to combine their teachings and to use **Radu's** token comparing techniques to track the individual patient(s) without revealing his/her/their identities. This modification simply adds a token comparing technique to the **Settimi**'s medical information retrieval and reporting system. The modification would have produced predictable results with reasonable expectation of success using database technology. For this combination, the motivation would have been to improve the level of privacy protection while providing feasible ways for users to research medical information.

**As per claim** 2, the references as combined above teach the computer-implemented method of claim 1, wherein the provided medical information is in conformity with the Health Insurance Portability and Accountability Act (HIPAA) (**Settimi** par. 0009 and 0014: the federal Health Insurance Portability and Accountability Act ( HIPAA) regulations; see also par. 0033 and 0045-0046).

**As per claim** 3, the references as combined above teach the computer-implemented method of claim 1, wherein receiving the request for medical information that characterizes the

group of individuals includes receiving personally identifiable information associated with the individuals of the group (**Settimi** par. 0005 and 00054-0056: patient identification data/information).

**As per claim** 4, the references as combined above teach the computer-implemented method of claim 1, in which producing the requested medical information includes encrypting respective data that identifies each individual (**Settimi** par. 0054-0056: the encrypted system may host patient-level information that's HIPAA compliant and provide features that are useful from an encrypted point of view; par. 0035: encrypting a patient identifier).

**As per claim** 5, the references as combined above teach the computer-implemented method of claim 1, in which the tokens associated with medical data and the request tokens are similarly encrypted (**Radu** par. 0056-0058: the electronic medical record may be encrypted…by public key; par. 0075-0076: token... encrypted using a public key. **Radu** discloses both the tokens associated with medical data and the request tokens are similarly encrypted using a public key). Radu is combined with **Settimi** herein for similar obviousness reasons and motivation as stated for claim 1.

**As per claim** 6, the references as combined above teach the computer-implemented method of claim 1, in which the medical data represents medical-related information associated with the individuals of the group (**Settimi** par. 0042-0043: Patient cohort reports 212 are generated by application software; An exemplary patient cohort report 212 includes all patients

with a particular disease that were treated with a particular medication. Here the cohort report 212 that includes all patients with a particular disease is the characteristics of the group of individuals).

**As per claim** 7, **Settimi** teaches a system comprising:

a computing device (**Settimi** par. 0035-0040) comprising:

a memory configured to store instructions (**Settimi** par. 0018: memory; a set of instructions); and

a processor to execute the instructions to perform operations (**Settimi** par. 0035-0040) comprising:

receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals (**Settimi** par. 0036: make a request to … access particular records stored in the data warehouse (e.g., to create a cohort report); see par. 0042-0043 for patient cohort reports.);

producing the requested medical information with the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group (**Settimi** par. 0033: Cohort reports are generated by queries on a group basis. **Settimi** discloses a cohort repot as a result of producing the requested medical information. Furthermore, the report data is de-identified, but traceable without individual authorization for production because the report is generated by computer system from a search query; par. 0043. See details of data aggregation

and cleansing to produce medical information for clinical study from de-identified patient data at par. 0041-0051 and 0067); and

providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals (**Settimi** par. 0042-0043: Patient cohort reports 212 are generated by application software; An exemplary patient cohort report 212 includes all patients with a particular disease that were treated with a particular medication. Here the cohort report 212 that includes all patients with a particular disease is the characteristics of the group of individuals. The software executing a canned query on a periodic basis means reporting absent authorization from the individuals in the group of individuals).

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In a related art, **Radu** teaches,

producing a request token for each individual included in the group of individuals (**Radu** par. 0080-0081: the first request based on the hardware specific machine token; par. 0142-0146: the machine token is labeled as Token: 89965, which is used to include an individual John Smith with record, R6: Heart Attack 11/11/04. **Radu** groups the aggregated electronic medical record data from individuals (par. 0164) shared with a Patient Safety Organization (PSO); par. 0220 and FIG. 13: steps 1360-1370);

comparing the request tokens to tokens associated with the medical data to find matching tokens (**Radu**, par. 0081-0082: comparing. **Radu** discloses tokens in the process of requesting for medical information, and thus discloses comparing request/authentication token with a known token in the system where a token matching function is performed);

**Settimi** and **Radu** are analogous art to the invention because they are from a similar field of endeavor in gathering information for improving medical or clinical studies. Thus, it would have been obvious to a person having ordinary skills of art, at the time of invention, to combine their teachings and to use **Radu's** token comparing techniques to track the individual patient(s) without revealing his/her/their identities. This modification simply adds a token comparing technique to the **Settimi**'s medical information retrieval and reporting system. The modification would have produced predictable results with reasonable expectation of success using database technology. For this combination, the motivation would have been to improve the level of privacy protection while providing feasible ways for users to research medical information.

**As per claim** 8, the references as combined above teach the system of claim 7, wherein the provided medical information is in conformity with the Health Insurance Portability and Accountability Act (HIPAA) (**Settimi** par. 0009 and 0014: the federal Health Insurance Portability and Accountability Act ( HIPAA) regulations; see also par. 0033 and 0045-0046).

**As per claim** 9, the references as combined above teach the system of claim 7, wherein the request for medical information that characterizes a group of individuals includes personally

identifiable information associated with the individuals of the group (**Settimi** par. 0005 and 00054-0056: patient identification data/information).

**As per claim** 10, the references as combined above teach the system of claim 7, in which the data that identifies each individual is encrypted (**Settimi** par. 0054-0056: the encrypted system … provide features that are useful from an encrypted point of view; see also par. 0035: encrypting a patient identifier).

**As per claim** 11, the references as combined above teach the system of claim 7, in which the tokens associated with the medical data and the request tokens are similarly encrypted (**Radu** par. 0056-0058: the electronic medical record may be encrypted…by public key; par. 0075-0076: token... encrypted using a public key. **Radu** discloses both the tokens associated with medical data and the request tokens are similarly encrypted using a public key). Radu is combined with **Settimi** herein for similar obviousness reasons and motivation as stated for claim 7.

**As per claim** 13, the references as combined above teach the system of claim 7, in which the medical data represents medical-related information associated with the individuals of the group (**Settimi** par. 0042-0043: Patient cohort reports 212 are generated by application software; An exemplary patient cohort report 212 includes all patients with a particular disease that were treated with a particular medication. Here the cohort report 212 that includes all patients with a particular disease is the characteristics of the group of individuals).

**As per claim** 14, **Settimi** teaches one or more computer readable storage devices storing instructions that are executable by a processing device (**Settimi** par. 0018: a computer-readable medium having a set of instructions; par. 0035-0040), and upon such execution cause the processing device to perform operations comprising:

receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals (**Settimi** par. 0036: make a request to … access particular records stored in the data warehouse (e.g., to create a cohort report); see par. 0042-0043 for patient cohort reports generated a set of de-identified medical data representing characteristics of the individuals);

producing the requested medical information with the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group (**Settimi** par. 0033: Cohort reports are generated by queries on a group basis. **Settimi** discloses a cohort repot as a result of producing the requested medical information. Furthermore, the report data is de-identified, but traceable without individual authorization for production because the report is generated by computer system from a search query; par. 0043. See details of data aggregation and cleansing to produce medical information for clinical study from de-identified patient data at par. 0041-0051 and 0067); and

providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals (**Settimi** par. 0042-0043: Patient cohort reports 212 are generated by application software; An exemplary

patient cohort report 212 includes all patients with a particular disease that were treated with a particular medication. Here the cohort report 212 that includes all patients with a particular disease is the characteristics of the group of individuals. The software executing a canned query on a periodic basis means reporting absent authorization from the individuals in the group of individuals).

While **Settimi** discloses executing a search request for getting medical information from a pool of patients (par. 0067), **Settimi** does not explicitly disclose producing a request token for each individual and comparing the request tokens to tokens associated with the medical data to find matching tokens. This aspect of the claim is identified as a difference.

In a related art, **Radu** teaches,

producing, by a hardware processor, a request token for each individual included in the group of individuals (**Radu** par. 0080-0081: the first request based on the hardware specific machine token; par. 0142-0146: the machine token is labeled as Token: 89965, which is used to include an individual John Smith with record, R6: Heart Attack 11/11/04. **Radu** groups the aggregated electronic medical record data from individuals (par. 0164) shared with a Patient Safety Organization (PSO); par. 0220 and FIG. 13: steps 1360-1370);

comparing the request tokens to tokens associated with the medical data to find matching tokens (**Radu**, par. 0081-0082: comparing. **Radu** discloses tokens in the process of requesting for medical information, and thus discloses comparing request/authentication token with a known token in the system where a token matching function is performed);

**Settimi** and **Radu** are analogous art to the invention because they are from a similar field of endeavor in gathering information for improving medical or clinical studies. Thus, it would

have been obvious to a person having ordinary skills of art, at the time of invention, to combine their teachings and to use **Radu's** token comparing techniques to track the individual patient(s) without revealing his/her/their identities. This modification simply adds a token comparing technique to the **Settimi**'s medical information retrieval and reporting system. The modification would have produced predictable results with reasonable expectation of success using database technology. For this combination, the motivation would have been to improve the level of privacy protection while providing feasible ways for users to research medical information.

**As per claim** 15, the references as combined above teach the computer readable storage devices of claim 14, wherein the provided medical information is in conformity with the Health Insurance Portability and Accountability Act (HIPAA) (**Settimi** par. 0009 and 0014: the federal Health Insurance Portability and Accountability Act ( HIPAA) regulations; see also par. 0033 and 0045-0046).

**As per claim** 16, the references as combined above teach the computer readable storage devices of claim 14, wherein receiving the request for medical information that characterizes the group of individuals includes receiving personally identifiable information associated with the individuals of the group (**Settimi** par. 0005 and 00054-0056: patient identification data/information).

**As per claim** 17, the references as combined above teach the computer readable storage devices of claim 14, in which producing the requested medical information includes encrypting

respective data that identifies each individual (**Settimi** par. 0054-0056: the encrypted system … provide features that are useful from an encrypted point of view; see also par. 0035: encrypting a patient identifier).

**As per claim** 18, the references as combined above teach the computer readable storage devices of claim 14, in which the tokens associated with the medical data and the request tokens are similarly encrypted (**Radu** par. 0056-0058: the electronic medical record may be encrypted…by public key; par. 0075-0076: token... encrypted using a public key. **Radu** discloses both the tokens associated with medical data and the request tokens are similarly encrypted using a public key). Radu is combined with **Settimi** herein for similar obviousness reasons and motivation as stated for claim 14.

**As per claim** 19, the references as combined above teach the computer readable storage devices of claim 14, in which the medical data represents medical-related information associated with the individuals of the group (**Settimi** par. 0042-0043: Patient cohort reports 212 are generated by application software; An exemplary patient cohort report 212 includes all patients with a particular disease that were treated with a particular medication. Here the cohort report 212 that includes all patients with a particular disease is the characteristics of the group of individuals).

**Claims 12 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Settimi** in view of **Radu**, and further in view of **Anderson** (US 20100287190 A1).

**As per claim** 12, the references of **Settimi** and **Radu** as combined above teach the system of claim 7, but do not explicitly disclose using a minimum number of individuals as a limiting criterion for providing the requested medical information. This is identified as a further difference.

In a related art, Anderson teaches,

in which the data server provides the requested medical information if the group includes at least a minimum number of individuals (**Anderson** par. 0097-0100: group of records which include… Limiting criteria such as time, minimum number of records; par. 0100. See also FIG. 8, Step 804 limiting criterion).

**Anderson is** an analogous art to the invention in a similar field of endeavor in improving techniques of generating groups of records for medical information analysis and diagnosis. Thus, it would have been obvious to a person having ordinary skills of art, at the time of the invention, to combine their teachings and to use **Anderson's limiting criteria** for improve data reporting processes. For this combination, the motivation would have been to improve the level of accuracy and usability of the medical data that are generated for diagnosis or medical research.

**As per claim** 20, the references of **Settimi** and **Radu** as combined above teach the computer readable storage devices of claim 14, , but do not explicitly disclose using a minimum

number of individuals as a limiting criterion for providing the requested medical information. This is identified as a further difference.

In a related art, Anderson teaches,

in which producing the requested medical information includes determining if the group includes at least a minimum number of individuals (**Anderson** par. 0097-0100: group of records which include… Limiting criteria such as time, minimum number of records; par. 0100. See also FIG. 8, Step 804 limiting criterion).

**Anderson is** an analogous art to the invention in a similar field of endeavor in improving techniques of generating groups of records for medical information analysis and diagnosis. Thus, it would have been obvious to a person having ordinary skills of art, at the time of the invention, to combine their teachings and to use **Anderson's limiting criteria** for improve data reporting processes. For this combination, the motivation would have been to improve the level of accuracy and usability of the medical data that are generated for diagnosis or medical research.

## *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as the prior art additionally discloses certain parts of the claim features (See "PTO-892 Notice of Reference Cited").

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DON ZHAO whose telephone number is (571)272-9953. The examiner can normally be reached on Monday ~ Friday, 7:30 A.M ~ 5:00 P.M EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl G. Colin can be reached on (571) 272-3862. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Don Zhao/
Primary Examiner, Art Unit 2493
08/11/2016

| Notice of References Cited | Application/Control No. 15/136,318 | Applicant(s)/Patent Under Reexamination PARIS, ANDREW L. | |
|---|---|---|---|
| | Examiner Don Zhao | Art Unit 2493 | Page 1 of 1 |

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| | M | US- | | | | |

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**NON-PATENT DOCUMENTS**

| * | | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
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| | W | |
| | X | |

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



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| Substitute Disclosure Form / U.S. Department of Commerce Patent and Trademark Office | Attorney Docket No. 25412-0003002 | Application No. |
|---|---|---|
| **Information Disclosure Statement by Applicant** (Use several sheets if necessary) (37 CFR §1.98(b)) | Applicant Vigilytics LLC | |
| | Filing Date | Group Art Unit |

## U.S. Patent Documents

| Examiner Initial | Desig. ID | Document Number | Publication Date | Patentee | Class | Subclass | Filing Date If Appropriate |
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| Examiner Initial | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation Yes | Translation No |
|---|---|---|---|---|---|---|---|---|

## Other Documents (include Author, Title, Date, and Place of Publication)

| Examiner Initial | Desig. ID | Document |
|---|---|---|

| Examiner Signature | Date Considered |
|---|---|
| /DON G ZHAO/ | 08/07/2016 |

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute Disclosure Form

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.G.Z/

| Substitute Disclosure Form / U.S. Department of Commerce Patent and Trademark Office | Attorney Docket No. 25412-0003002 | Application No. |
|---|---|---|
| **Information Disclosure Statement by Applicant** (Use several sheets if necessary) (37 CFR §1.98(b)) | Applicant Vigilytics LLC | |
| | Filing Date | Group Art Unit |

| Other Documents (include Author, Title, Date, and Place of Publication) | | |
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| Examiner Initial | Desig. ID | Document |
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| Examiner Signature | Date Considered |
|---|---|
| /DON G ZHAO/ | 08/07/2016 |

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.G.Z/

| Index of Claims | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 15136318 | PARIS, ANDREW L. |
| | **Examiner** | **Art Unit** |
| | DON ZHAO | 2493 |

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|---|---|---|---|---|---|---|---|
| ✓ | Rejected | - | Cancelled | N | Non-Elected | A | Appeal |
| = | Allowed | ÷ | Restricted | I | Interference | O | Objected |

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

| CLAIM | | DATE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Final | Original | 08/11/2016 | | | | | | | | |
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| | 18 | ✓ | | | | | | | | |
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| | 20 | ✓ | | | | | | | | |



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# BIB DATA SHEET

**CONFIRMATION NO. 7326**

| SERIAL NUMBER | FILING or 371(c) DATE<br>RULE | CLASS | GROUP ART UNIT | ATTORNEY DOCKET NO. |
|---|---|---|---|---|
| 15/136,318 | 04/22/2016 | 726 | 2493 | 25412-0003002 |

**APPLICANTS**
Vigilytics LLC, Victor, NY;

**INVENTORS**
Andrew L. Paris III, Victor, NY;

**** CONTINUING DATA ***************************
This application is a CON of 14/082,433 11/18/2013 PAT 9323892
which is a CIP of 12/827,745 06/30/2010 PAT 9118641
which claims benefit of 61/222,428 07/01/2009
and said 14/082,433 11/18/2013
claims benefit of 61/729,207 11/21/2012

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
05/06/2016

| Foreign Priority claimed | ☐ Yes ☑ No | ☐ Met after Allowance | STATE OR COUNTRY | SHEETS DRAWINGS | TOTAL CLAIMS | INDEPENDENT CLAIMS |
|---|---|---|---|---|---|---|
| 35 USC 119(a-d) conditions met | ☐ Yes ☑ No | | | | | |
| Verified and Acknowledged | /DON ZHAO/ Examiner's Signature | Initials | NY | 7 | 20 | 3 |

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MINNEAPOLIS, MN 55440-1022
UNITED STATES

**TITLE**
Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes

| FILING FEE RECEIVED | | |
|---|---|---|
| 730 | FEES: Authority has been given in Paper<br>No._____ to charge/credit DEPOSIT ACCOUNT<br>No._____ for following: | ☐ All Fees<br>☐ 1.16 Fees (Filing)<br>☐ 1.17 Fees (Processing Ext. of time)<br>☐ 1.18 Fees (Issue)<br>☐ Other _____<br>☐ Credit |



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**EAST Search History**

**EAST Search History (Prior Art)**

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| L1 | 0 | 15/136318.APP. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 06:46 |
| L4 | 0 | "15136318".APNR. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 06:47 |
| L5 | 1 | 14/082433.app. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 06:47 |
| L7 | 1 | 14/082433.app. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 06:47 |
| L8 | 25210 | (G06F19/322 G06F19/366 G06Q50/22 G06F21/6245).CPC. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 06:50 |
| L9 | 2107 | L8 AND ( (report$3) near11 (encounter characteristics group)) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 06:50 |
| L10 | 2018 | L9 AND ( (report$3) near11 (encounter characteristics group)) AND (Medical health healthcare) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 06:50 |
| L11 | 17 | 10 AND compar$3 with token | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 06:51 |
| L12 | 2 | 10 AND compar$3 with token and de$1identified | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 06:52 |
| L13 | 2 | 9 AND compar$3 with token and de$1identified | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 06:55 |
| L14 | 41 | ( (encounter with characteristics with group)) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 06:56 |
| L15 | 1 | ( (encounter with characteristics with group)) and (compar$3 with token and | US-PGPUB; USPAT; | OR | ON | 2016/08/07 06:56 |

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|---|---|---|---|---|---|---|
| | | de$1identified) | USOCR | | | |
| L16 | 2 | ( (characteristics with group)) and (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 06:58 |
| L17 | 4 | ( (characteristics with (class segment or section or partition batch set subset))) and (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:02 |
| L18 | 4 | ( (characteristics with (class segment or section or partition batch set subset))) and (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 07:02 |
| L19 | 46 | ("20040143403" \| "20050234739" \| "20050261941" \| "20060004772" \| "20060020611" \| "20060184524" \| "20060229919" \| "20070043594" \| "20070219824" \| "20080010254" \| "20080120296" \| "20080133273" \| "20080147554" \| "20090024416" \| "20090070146" \| "20090287502" \| "20100162355" \| "20110184748" \| "20110225007" \| "20110258000").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 07:04 |
| L20 | 0 | 19 AND ( (encounter group)) and (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:05 |
| L21 | 0 | 19 AND (compar$3 with token and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:06 |
| L22 | 8 | 19 AND (compar$3 and de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:06 |
| L23 | 4 | 19 AND (compar$3 same de$1identified) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:06 |
| L24 | 6399 | (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 Andrew).INV. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L25 | 30 | L24 AND ( (report$3) near11 (encounter characteristics group)) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L26 | 1 | 14/082433.app. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L27 | 25210 | (G06F19/322 G06F19/366 G06Q50/22 G06F21/6245).CPC. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L28 | 2107 | L8 AND ( (report$3) near11 (encounter characteristics group)) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L29 | 2 | L9 AND ((non?identifiable | US-PGPUB; | OR | ON | 2016/08/07 |

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|---|---|---|---|---|---|---|
| | | de$1identified) near4 (medical healthcare)) same token | USPAT; USOCR | | | 07:14 |
| L30 | 2 | L9 AND ((non?identifiable de$1identified) near2 (medical healthcare)) same token | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L31 | 2 | L9 AND ((non?identifiable de$1identified) adj2 (data information) with (medical healthcare)) same token | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L32 | 2018 | L9 AND ( (report$3) near11 (encounter characteristics group)) AND (Medical health healthcare) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L33 | 2 | L9 and (non$1identified de$1identified) and authorization near3 absent | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L34 | 25210 | (G06F19/322 G06F19/366 G06Q50/22 G06F21/6245).CPC. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L35 | 6399 | (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 Andrew).INV. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L36 | 16 | L34 AND L24 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L37 | 14589 | 726/2,7,9,17,19.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L38 | 4 | 726/2,7,9,17,19.ccls. AND L24 | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L39 | 0 | L34 AND (MEDICAL with (report) same (medical adj provider adj identifier)) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L40 | 2107 | L34 AND ( (report$3) near11 (encounter characteristics group)) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L41 | 7 | L24 AND ( (report$3) near11 (encounter characteristics group)) AND (Medical health healthcare) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L42 | 2 | (MEDICAL with (information report) same (medical adj provider adj identifier)) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L43 | 17 | (MEDICAL with (information report) same (medical adj3 provider adj3 identifier)) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L44 | 1 | 14/082433.app. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | ON | 2016/08/07 07:14 |

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|---|---|---|---|---|---|---|
| | | | IBM_TDB | | | |
| L45 | 10 | ((Andrew) near2 (Paris)).INV. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L46 | 6399 | (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 Andrew).INV. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L47 | 1 | 12/827745.APP. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L48 | 662 | group near3 (private individual patients) with medical near3 (information record encounter$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L49 | 9 | L46 and L48 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L50 | 8 | L49 and @ad<"20121121" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L51 | 6 | L49 and @pd<"20121121" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L52 | 50 | INGENIX.AS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L53 | 7 | L48 AND INGENIX.AS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L54 | 225 | L48 and @PD<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L55 | 180 | L54 and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L56 | 176 | L54 and (group near5 (patients or health near3 members)) WITH (medical | US-PGPUB; USPAT; | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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| | | near5 (information record)) | USOCR; FPRS; EPO; JPO; IBM_TDB | | | |
| L57 | 2 | (encrypted with ( provider adj identifier$1)) same match$3 and database | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L58 | 89 | ("20030097358" \| "20040199781" \| "20050256740" \| "20050256741" \| "20050268094" \| "3752904" \| "5471382" \| "5652842" \| "5664109" \| "5704044" \| "5724575" \| "5754938" \| "5793969" \| "5890129" \| "6012051" \| "6079021" \| "6249768" \| "6302844" \| "7376677" \| "20050065912" \| "20050256742" \| "20060026156" \| "5301105" \| "5606610" \| "5666492" \| "5799086" \| "5799308" \| "5821871" \| "5823948" \| "5926810" \| "6085322" \| "6449621" \| "6732113" \| "6915265" \| "20020198473" \| "20050165623" \| "20080147554" \| "20100217973" \| "5758085" \| "5832449" \| "5915240" \| "5961593" \| "5991731" \| "5995939" \| "6266675" \| "7184947" \| "3896266" \| "4979832" \| "4993068" \| "5003539" \| "5825906" \| "5956716" \| "6496931" \| "7386526" \| "5005200" \| "5070452" \| "5299121" \| "5758095" \| "5867821" \| "5970462" \| "6014631" \| "7200578" \| "20050027564" \| "20050234740" \| "20050236474" \| "20100114607" \| "5214702" \| "5371797" \| "5644778" \| "6317700" \| "6397224" \| "6421650" \| "6654724" \| "20040215981" \| "5502764" \| "5581749" \| "5787186" \| "5876926" \| "5907677" \| "5918208" \| "5920854" \| "6018713" \| "20080091474" \| "6003006" \| "6024287" \| "6341267" \| "6734886" \| "7309001" \| "20020143434").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L59 | 542 | database and (APK ANONYMOUS$2 adj Practitioner adj identifier) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L60 | 454 | (associat$3 cross?reference$1) same de?identified | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L61 | 137 | de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L62 | 32 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US- | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | 20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$).did. | | | | |
| L63 | 159 | (random adj3 sequence) and frame with block and portion with key | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L64 | 2 | 12/684748.APP. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L65 | 1 | L64 and (unencrypted near3 (medical adj provider adj identifier)) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L66 | 1 | L65 | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L67 | 180 | L54 and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L68 | 116729 | G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L69 | 395 | L48 AND G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L70 | 1 | L47 AND G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L71 | 94 | L46 AND G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L72 | 15925 | G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L73 | 3111 | G06F19/366.CPC. | US-PGPUB; USPAT; USOCR; | OR | ON | 2016/08/07 07:14 |

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| | | | FPRS; EPO; JPO; IBM_TDB | | | |
| L74 | 53 | G06F19/322.CPC. AND (de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L75 | 0 | L73 AND L74 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L76 | 0 | G06F19/366.CPC. AND de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L77 | 23 | G06F19/366.CPC. AND de?identif$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L78 | 0 | L74 AND L77 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L79 | 6 | L74 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L80 | 7 | L77 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L81 | 2 | G06F19/322.CPC. and (encrypted near3 (medical adj provider adj identifier)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L82 | 46 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2016/08/07 07:14 |

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|---|---|---|---|---|---|---|
| | | or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L83 | 20 | L82 AND G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L84 | 10 | L83 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L85 | 5 | L79 AND L84 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L86 | 1 | 726/09 | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L87 | 2596 | 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L88 | 3 | L87 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L89 | 1 | L46 and 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L90 | 0 | L48 and 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L91 | 26 | L48 and "726".clas. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L92 | 6 | L91 AND G06F19/322.CPC. | US-PGPUB; | OR | ON | 2016/08/07 |

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|---|---|---|---|---|---|---|
| | | | USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | | | 07:14 |
| L93 | 1 | L92 and @PD<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L94 | 1 | ("20060184524" \| "20110258000").PN. AND G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L95 | 8651 | 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L96 | 0 | L79 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L97 | 2 | L48 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L98 | 2 | L62 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L99 | 55 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L100 | 15 | L99 and pharmac$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L101 | 8 | L99 and pharmac$3 and encrypt$3 with (id identifier token) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L102 | 4 | L101 and (id identifier token) near5 (compar$3 comparison match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L103 | 3 | L101 and (id identifier token) near5 (compar$3 comparison) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L104 | 3 | L101 and (id identifier token) near5 (match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L105 | 2 | L103 and L104 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L106 | 1 | L104 NOT L105 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L107 | 22 | L99 and PRODUC$3 near3 information | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L108 | 9 | L107 and (id identifier token) near5 (compar$3 comparison match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L109 | 2 | L105 and (id identifier token) near5 (compar$3 comparison match$3) | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L110 | 8 | L99 and (produce producing provid$3) adj3 medical adj3 information | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L111 | 2 | L102 and L110 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L112 | 2 | L111 and (pharmac$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L113 | 2 | L111 and (pharmac$3) and (visit$3 encounter$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L114 | 1 | L111 and (pharmac$3) and (visit$3 and encounter$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L115 | 1 | L111 and (pharmac$3) and (encounter$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L116 | 1 | L111 and (pharmac$3) and (encounter$3) and (medical center) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L117 | 1 | L111 and (pharmac$3) and (encounter$3) and (institution ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L118 | 4 | L102 and (unattain$4 attain$4 obtain$3 ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L119 | 1 | L102 and (unattain$4 attain$4 obtain$3 ) with pharmac$3 | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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| | | | EPO; JPO; IBM_TDB | | | |
| L120 | 1 | L102 and health adj2 record | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L121 | 1 | L102 and de-identifi$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L122 | 14 | L99 and de-identifi$3 with record | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L123 | 5 | L99 and de-identifi$3 with record and pharmac$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L124 | 20 | L99 and de-identifi$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L125 | 2 | ("20080133273" "20090287502" ).pn. and request$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L126 | 1 | ("20080133273" "20090287502" ).pn. and (compar$3 match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L127 | 28416 | ("20080133273" "20090287502" ).pn. encrypt$3 WITH ID | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L128 | 2 | ("20080133273" "20090287502" ).pn. AND encrypt$3 WITH ID | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L129 | 1 | ("20080133273" ).pn. AND encrypt$3 WITH ID | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L130 | 1 | ("20080133273" "20090287502" ).pn. and minimum | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L131 | 55 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2016/08/07 07:14 |
| L132 | 5 | L131 and number with match | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L133 | 2 | ("20080133273" "20090287502" ).pn. AND portion | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L134 | 4 | ("20080133273" "20090287502" "20060020611" ).pn. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L135 | 2 | L134 AND number near6 (patients users | US-PGPUB; | OR | ON | 2016/08/07 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | individuals) | USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | | | 07:14 |
| L136 | 2 | L134 AND group near6 (patients users individuals) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L137 | 1 | L134 AND group near6 (patients users individuals) with number | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L138 | 55 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2016/08/07 07:14 |
| L139 | 10 | L138 AND group near6 (patients users individuals) with number | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L140 | 2 | L138 AND group near6 number NEAR5 (patients users individuals) | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L141 | 7 | L138 AND (LEAST MINIMUM) near3 number | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L142 | 526 | medical same de-identified | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L143 | 631 | medical same de-identifi$6 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L144 | 936 | medical near4 (information database record) and de-identifi$6 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L145 | 12 | L144 AND (MINIMUM) adj2 number with group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L146 | 39 | L144 AND (MINIMUM) with group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L147 | 251 | (MINIMUM) near3 number near3 (individual users) with group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L148 | 59 | L147 and (medical healthcare) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L149 | 6 | L148 and @pd<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L150 | 16 | L148 and @ad<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L151 | 1 | ("20080133273" ).pn. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L152 | 4 | "20080133273" "20090287502" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L153 | 1 | L152 and de?identif$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L154 | 2 | L152 and identif$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L155 | 1 | L152 and identif$3 and group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L156 | 1 | L152 and identif$3 same group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L157 | 57 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US- | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | 20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L158 | 4 | L157 and authorization with absent | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L159 | 6 | medical with authorization near3 absent | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L160 | 9 | (non$1identified de$1identified) and authorization near3 absent | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L161 | 9 | (non$1identified de$1identified) and authorization near3 absent and group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L162 | 10 | ((Andrew) near2 (Paris)).INV. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L163 | 6399 | (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 Andrew).INV. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L164 | 1 | 12/827745.APP. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L165 | 662 | group near3 (private individual patients) with medical near3 (information record encounter$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L166 | 9 | L163 and L165 | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2016/08/07 07:14 |

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L167 | 6 | L166 and @pd<"20121121" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L168 | 50 | INGENIX.AS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L169 | 7 | L165 AND INGENIX.AS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L170 | 1 | L169 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L171 | 17 | L163 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L172 | 225 | L165 and @PD<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L173 | 180 | L172 and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L174 | 176 | L172 and (group near5 (patients or health near3 members)) WITH (medical near5 (information record)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L175 | 2 | (encrypted with ( provider adj identifier$1)) same match$3 and database | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L176 | 89 | ("20030097358" \| "20040199781" \| "20050256740" \| "20050256741" \| "20050268094" \| "3752904" \| "5471382" \| "5652842" \| "5664109" \| "5704044" \| "5724575" \| "5754938" \| "5793969" \| "5890129" \| "6012051" \| "6079021" \| "6249768" \| "6302844" \| "7376677" \| "20050065912" \| "20050256742" \| "20060026156" \| "5301105" \| "5606610" \| "5666492" \| "5799086" \| "5799308" \| "5821871" \| "5823948" \| "5926810" \| "6085322" \| "6449621" \| "6732113" \| "6915265" \| | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | "20020198473" \| "20050165623" \| "20080147554" \| "20100217973" \| "5758085" \| "5832449" \| "5915240" \| "5961593" \| "5991731" \| "5995939" \| "6266675" \| "7184947" \| "3896266" \| "4979832" \| "4993068" \| "5003539" \| "5825906" \| "5956716" \| "6496931" \| "7386526" \| "5005200" \| "5070452" \| "5299121" \| "5758095" \| "5867821" \| "5970462" \| "6014631" \| "7200578" \| "20050027564" \| "20050234740" \| "20050236474" \| "20100114607" \| "5214702" \| "5371797" \| "5644778" \| "6317700" \| "6397224" \| "6421650" \| "6654724" \| "20040215981" \| "5502764" \| "5581749" \| "5787186" \| "5876926" \| "5907677" \| "5918208" \| "5920854" \| "6018713" \| "20080091474" \| "6003006" \| "6024287" \| "6341267" \| "6734886" \| "7309001" \| "20020143434").PN. | | | | |
| L177 | 542 | database and (APK ANONYMOUS$2 adj Practitioner adj identifier) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L178 | 454 | (associat$3 cross?reference$1) same de?identified | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L179 | 137 | de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L180 | 32 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$).did. | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |
| L181 | 159 | (random adj3 sequence) and frame with block and portion with key | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L182 | 2 | 12/684748.APP. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L183 | 180 | L172 and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | IBM_TDB | | | |
| L184 | 116729 | G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L185 | 395 | L165 AND G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L186 | 94 | L163 AND G06F19$.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L187 | 53 | G06F19/322.CPC. AND (de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L188 | 23 | G06F19/366.CPC. AND de?identif$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L189 | 0 | L187 AND L188 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L190 | 53 | G06F19/322.CPC. AND (de?identif$3 and provider near2 (credential or identification$1 or identifier$1 or ID or certificate or passport descriptor) ) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L191 | 6 | L187 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L192 | 1 | 726/09 | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L193 | 2596 | 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L194 | 3 | L193 and @PD<"20090701" and (group near5 (patients or health near3 members)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | IBM_TDB | | | |
| L195 | 1 | L163 and 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L196 | 0 | L165 and 726/9.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L197 | 26 | L165 and "726".clas. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L198 | 6 | L197 AND G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L199 | 1 | L198 and @PD<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L200 | 1 | ("20060184524" \| "20110258000").PN. AND G06F19/322.CPC. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L201 | 8651 | 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L202 | 0 | L191 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L203 | 2 | L165 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L204 | 2 | L180 AND 726/26.CCLS. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L205 | 55 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US- | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | 20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L206 | 15 | L205 and pharmac$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L207 | 8 | L205 and pharmac$3 and encrypt$3 with (id identifier token) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L208 | 4 | L207 and (id identifier token) near5 (compar$3 comparison match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L209 | 0 | L207 and (id identifier token) near5 (compar$3 comparison match$3) same group | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L210 | 0 | L207 and (id identifier token) near5 (compar$3 comparison match$3) same set | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L211 | 3 | L207 and (id identifier token) near5 (compar$3 comparison) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L212 | 3 | L207 and (id identifier token) near5 (match$3) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L213 | 2 | L211 and L212 | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

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|---|---|---|---|---|---|---|
| | | | EPO; JPO; IBM_TDB | | | |
| L214 | 12865 | L192 L193 L194 "s661" "s662" L195 L196 L197 "s666" L198 L199 L200 L201 L202 L203 "s673" L204 L205 L206 L207 L208 L209 L210 L211 L212 L213 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L215 | 10040 | 726/7,9,17,19.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L216 | 1 | L215 and @PD<"20090701" and (group near5 (patients or health near3 members)) and (authorization authenticaton) near3 (absent without) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L217 | 10040 | 726/7,9,17,19.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L218 | 3 | L217 and @PD<"20090701" and (group near5 (patients or health near3 members)) and (authorization authenticaton) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L219 | 59 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$ or US-20070157297-$ or US-20020188869-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2016/08/07 07:14 |

Datavant Exhibit 1002

| | | | | | | |
|---|---|---|---|---|---|---|
| | | WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L220 | 9 | L219 and report$3 same authorization | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L221 | 0 | "20060004772".pn. and (weaken$3 groups sufficiently large) with ( individual near3 identif$3) and (track$3) with individule | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L222 | 18 | ("5220501" \| "5517405" \| "5592553" \| "5696824" \| "5754938" \| "5768382" \| "5790668" \| "5815665" \| "5857021" \| "5875302" \| "5890129" \| "5915001" \| "5996076" \| "6006333" \| "6016480" \| "6038315" \| "6052730" \| "6317834").PN. OR ("8296341").URPN. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L223 | 18 | ("5220501" \| "5517405" \| "5592553" \| "5696824" \| "5754938" \| "5768382" \| "5790668" \| "5815665" \| "5857021" \| "5875302" \| "5890129" \| "5915001" \| "5996076" \| "6006333" \| "6016480" \| "6038315" \| "6052730" \| "6317834").PN. OR ("8296341").URPN. and (without absent) near5 authorization | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L224 | 18 | ("5220501" \| "5517405" \| "5592553" \| "5696824" \| "5754938" \| "5768382" \| "5790668" \| "5815665" \| "5857021" \| "5875302" \| "5890129" \| "5915001" \| "5996076" \| "6006333" \| "6016480" \| "6038315" \| "6052730" \| "6317834").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L225 | 2 | L224 and (without absent) near5 authorization | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L226 | 12 | report$3 with group SAME (without absent) near5 authorization | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L227 | 1 | "8078625".PN. and (response respond$3) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L228 | 5 | "20110184748." "pn." and (report$3 characteristic) | US-PGPUB; USPAT; USOCR | OR | ON | 2016/08/07 07:14 |
| L229 | 60 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US- | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2016/08/07 07:14 |

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|---|---|---|---|---|---|---|
| | | 20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$ or US-20070157297-$ or US-20020188869-$ or US-20110184748-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L230 | 20 | L229 and hipaa | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L231 | 60 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US-20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$ or US-20070157297-$ or US-20020188869-$ or US- | US-PGPUB; USPAT; FPRS; EPO | OR | ON | 2016/08/07 07:14 |

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| | | 20110184748-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L232 | 32 | ("20060004772" \| "20060229919" \| "20110258000" \| "20060020611" \| "20080133273" \| "20090070146" \| "20040143403" \| "20090287502" \| "20080147554" \| "20110184748" \| "20060184524" \| "20100162355" \| "20070043594" \| "20110225007").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L233 | 23 | L231 NOT "32" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L234 | 10 | L233 and medical same report | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L235 | 7 | L234 and @ad<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/08/07 07:14 |
| L245 | 60 | (US-20080147554-$ or US-20020016923-$ or US-20070130465-$ or US-20080306872-$ or US-20080304663-$ or US-20080133273-$ or US-20080040151-$ or US-20050267782-$ or US-20050119941-$ or US-20060020611-$ or US-20070185737-$ or US-20060004772-$ or US-20080120296-$ or US-20080010254-$ or US-20040078236-$ or US-20090287502-$ or US-20080281631-$ or US-20080137848-$ or US-20110255690-$ or US-20070033419-$ or US-20120246661-$ or US-20090257586-$ or US-20100325148-$ or US-20100287190-$ or US-20080306952-$ or US-20070219824-$).did. or (US-20070106753-$ or US-20070106752-$ or US-20060089857-$ or US-20070192140-$ or US-20050177050-$ or US-20100217973-$ or US-20070043594-$ or US-20030154405-$ or US-20080071577-$ or US- | US-PGPUB; USPAT; FPRS; EPO | OR | OFF | 2016/08/07 07:14 |

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| | | 20100162355-$ or US-20060184524-$ or US-20110231422-$ or US-20040143403-$ or US-20070157297-$ or US-20020188869-$ or US-20110184748-$).did. or (US-5721777-$ or US-8296341-$ or US-6302844-$ or US-6874085-$ or US-8037052-$ or US-7716487-$ or US-6947561-$ or US-8131646-$ or US-8055910-$ or US-8108355-$ or US-7900245-$ or US-8229742-$ or US-7650628-$ or US-5956400-$).did. or (WO-2010129653-$ or CA-2760773-$ or WO-2007108814-$).did. or (WO-2010129653-$).did. | | | | |
| L246 | 39 | ("20060004772" \| "20060229919" \| "20070219824" \| "20080010254" \| "20110258000" \| "20060020611" \| "20080133273" \| "20090070146" \| "20040143403" \| "20090287502" \| "20080147554" \| "20110184748" \| "20080120296" \| "20060184524" \| "20100162355" \| "20070043594" \| "20110225007").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/07 07:14 |
| L247 | 47 | L245 NOT L246 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/07 07:14 |
| L248 | 37 | L247 AND @AD<"20090701" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/07 07:14 |
| L249 | 8 | L248 AND TOKEN | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/07 07:14 |
| L250 | 29 | L248 NOT L249 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/08/07 07:14 |

**EAST Search History (Interference)**

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| L2 | 0 | 15/"Term Removed" | US-PGPUB; USPAT | OR | ON | 2016/08/07 06:46 |
| L3 | 0 | "Term Removed" | US-PGPUB; | OR | ON | 2016/08/07 06:47 |

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| | | | USPAT | | | |
| L6 | 1 | 14/"Term Removed" | US-PGPUB; USPAT | OR | ON | 2016/08/07 06:47 |
| L236 | 25203 | (G06F19/322 G06F19/366 G06Q50/22 G06F21/6245).CPC. | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |
| L237 | 375 | L236 AND (( (report$3) near11 (encounter characteristics group)) ).CLM. | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |
| L238 | 2 | L237 AND (((non?identifiable de$1identified) near4 (medical healthcare)) same token).CLM. | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |
| L239 | 2131 | (Rawlings NEAR3 Jean Anderson NEAR3 David Kraus NEAR3 Carl Paris NEAR3 Andrew).INV. | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |
| L240 | 2 | L239 AND (((non?identifiable de$1identified) near4 (medical healthcare)) same token).CLM. | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |
| L241 | 2 | Vigilytics.AS. | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |
| L242 | 2 | L241 AND (( (report$3) near11 (encounter characteristics group)) ).CLM. | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |
| L243 | 2 | L241 AND (((non?identifiable de$1identified) near4 (medical healthcare)) same token).CLM. | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |
| L244 | 2 | L236 AND L241 | US-PGPUB; USPAT | OR | ON | 2016/08/07 07:14 |

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| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 15136318 | PARIS, ANDREW L. |
| | Examiner | Art Unit |
| | DON ZHAO | 2493 |

| CPC- SEARCHED | | |
|---|---|---|
| Symbol | Date | Examiner |
| G06F19/322,G06F19/366,G06Q50/22,G06F21/6245 | 8/7/2016 | DZ |

| CPC COMBINATION SETS - SEARCHED | | |
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| Symbol | Date | Examiner |
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| US CLASSIFICATION SEARCHED | | | |
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| Class | Subclass | Date | Examiner |
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| SEARCH NOTES | | |
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| Search Notes | Date | Examiner |
| EAST Searches include CPC, KWIC, keyword searches incombination with CPC,and inventor searches. The double patenting is identified with US 9323892 B1. | 8/7/2016 | DZ |
| NPL searches using GOOGLE.See attached search note printout(s). | 8/9/2016 | DZ |

| INTERFERENCE SEARCH | | | |
|---|---|---|---|
| US Class/ CPC Symbol | US Subclass / CPC Group | Date | Examiner |
| | | | |

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| | /DON ZHAO/<br>Primary Examiner.Art Unit 2493 |



Datavant Exhibit 1002

**WHAT IS DISCLOSED HEREIN IS:**

1. A method of aggregating medical records for a user comprising:

initiating a process of aggregating electronic medical records associated with a patient, the process being initiated in response to the patient providing user input to an electronic device associated with the patient;

transmitting, from the electronic device to a first communication device, a first request for one or more electronic medical records associated with the patient and stored in electronic storage accessible by the first communication device, the first request including an authentication token stored on the electronic device;

transmitting, from the electronic device to a second communication device different than the first communication device, a second request for one or more electronic medical records associated with the patient and stored in electronic storage accessible by the second communication device, the second request including the authentication token stored on the electronic device;

receiving, at the electronic device from the first communication device, the one or more electronic medical records included in the first request, the one or more electronic medical records included in the first request being sent from the first communication device in response to the first communication device receiving the first request and authenticating the first request based on the authentication token;

receiving, at the electronic device from the second communication device, the one or more electronic medical records included in the second request, the one or more electronic medical records included in the second request being sent from the second communication device in response to the second communication device receiving the second request and authenticating the second request based on the authentication token; and

enabling display, to a medical service provider providing a service to the patient, of information related to the one or more electronic medical records received from the first communication device and the one or more electronic medical records received from the second communication device.

2. The method of claim 1 wherein the electronic device associated with the patient is a first electronic device, further comprising:

establishing a secure connection between the first electronic device associated with the patient and a second electronic device associated with the medical service provider, the second electronic device being different than the first electronic device; and

transmitting, from the first electronic device to the second electronic device over the secure connection, the one or more electronic medical records received at the first electronic device from the first communication device and the one or more electronic medical records received at the first electronic device from the second communication device..

3. The method of claim 2 wherein the first communication device and the second communication device are configured to deny requests, from the second electronic device, for electronic medical records associated with the patient because the second electronic device is unable to include the authentication token in requests for records.

4. The method of claim 1 further comprising:

accessing, from local storage associated with the electronic device, one or more electronic medical records associated with the patient,

wherein enabling display, to the medical service provider providing a service to the patient, of information related to the one or more electronic medical records includes enabling display of the one or more electronic medical records accessed from local storage.

5. The method of claim 1 further comprising:

accessing filter criteria associated with the service being provided to the patient by the medical service provider, and

wherein:

transmitting, from the electronic device to the first communication device, the first request includes transmitting the filter criteria,

transmitting, from the electronic device to the second communication device different than the first communication device, a second request includes transmitting the filter criteria,

receiving, at the electronic device from the first communication device, the one or more electronic medical records includes receiving one or more electronic medical records that meet the filter criteria, and

receiving, at the electronic device from the second communication device, the one or more electronic medical records includes receiving one or more electronic medical records that meet the filter criteria.

6. The method of claim 1 wherein enabling display, to the medical service provider providing the service to the patient, of information related to the one or more electronic medical records received from the first communication device and the one or more electronic medical records received from the second communication device includes:

rendering, on a display device associated with the electronic device, a display of the information related to the one or more electronic medical records received from the first communication device and the one or more electronic medical records received from the second communication device such that the medical service provider is able to perceive the electronic medical records.

7. The method of claim 1 wherein:

the electronic device associated with the patient is a first electronic device, and

enabling display, to the medical service provider providing the service to the patient, of information related to the one or more electronic medical records received from the first communication device and the one or more electronic medical records received from the second communication device includes:

transmitting, from the first electronic device to a second electronic device associated with the medical service provider, the one or more electronic medical records received at the first electronic device from the first communication device and the one or more electronic medical records received at the first electronic device from the second communication device to enable display of the one or more electronic medical records received from the first communication device and the one or more electronic medical records received from the second communication device on a display device associated with the second device.



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**WHAT IS CLAIMED IS:**

1. The features identified and disclosed in the paragraphs above.



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providing the produced medical information to report the characteristics of the gr

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### 09323892

www.uspto.gov/.../US09323892-20160426... United States Patent and Trademark Office

producing the requested medical information that characterizes the group of individuals by ... **providing the produced medical information to report the characteristics of the group of individuals absent authorization** from the individuals in the ...

### HIPAA, the Privacy Rule, and Its Application to Health Research - NCBI

www.ncbi.nlm.nih.gov › ... › Bookshelf National Center for Biotechnology Information

by SJ Nass - 2009 - Related articles

This chapter provides an overview of the development of the Health Insurance ... The portability provisions of HIPAA aimed to prevent individuals from losing health care ... standards for the protection of personally identifiable medical information. .... Under the Privacy Rule, **authorizations** for the use or disclosure of PHI must ...

### Research on Decedents' Protected Health Information - HIPAA Privacy ...

https://privacyruleandresearch.nih.gov/pr_08.asp National Institutes of Health

How Can Covered Entities Use and Disclose Protected Health Information for Research and ... PHI may be used and disclosed for research without an **Authorization** in limited ... All elements of dates (except year) for dates directly related to an individual, ... Any other unique identifying number, characteristic, or code, unless ...

### Test-Title Flashcards | Quizlet

https://quizlet.com/2024086/test-title-flash-cards/ Quizlet

A physician licensed to practice in osteopathy (a system of medical practice that ... An individual who promotes and supports ethical behavior ... term is used in order to produce consistency in information derived from the data .... a leave of **absence** and is not present in the skilled nursing facility at midnight ..... **Authorization**.

### Methods for De-identification of PHI | HHS.gov

www.hhs.gov › ... › Special Topics U.S. Department of Health and Human Services

This page provides guidance about methods and approaches to achieve ... 3.5 What constitutes "any other unique identifying number, characteristic, or code" with ... For example, a medical record, laboratory report, or hospital bill would be PHI ... Health information that does not identify an individual and with respect to ...

### Standards for Privacy of Individually Identifiable Health Information ...

https://aspe.hhs.gov/...**report**/standards-privacy-**individual**ly-identifiable-health-**infor**... ▾
Jul 6, 2001 - **Providing information** to patients about their privacy rights and how their .... Patient consent is required before a covered health care provider that has a ..... for a particular purpose, given the **characteristics** of their business and ..... party's own business purposes, absent **authorization** from the **individuals**.

[PDF] chapter 1 marketing authorisation - Europa.eu
ec.europa.eu/health/files/eudralex/vol-2/a/vol2a_chap1_2013-06_en.pdf ▾ Europa ▾
The Notice to Applicants Volume 2A Procedures for marketing **authorisation** ..... Article 6(1) second subparagraph of Directive 2001/83/EC provides that when a ..... approve a draft assessment report, summary of product **characteristics** (SmPC), ..... analysed within the coordination **group** and, in absence of an agreement.

Fundamentals of the Legal Health Record and Designated Record Set
library.ahima.org/doc?oid... ▾ American Health Information Management Association ▾
Whether the EHR system is able to **provide** both readable electronic and paper copies ... The HIPAA privacy rule defines the designated record set as a **group** of ... While the legal health record is generally the **information** used by the patient care .... by ensuring they are released to or accessed by **authorized individuals** only.

Employment and Your Medical Privacy | Privacy Rights Clearinghouse
https://www.privacyrights.org/content/employment-and-your-**medical**-privacy ▾
HIPAA, unlike California law, treats a great deal of medical **information** as simply part ... outside insurer to **provide** employees with **group** health care coverage, the employer ... **information** in employee background checks without your **authorization**. ... An "in-house **report**" is not covered by the federal FCRA, but it is to some ...

OIG Audit Report
https://oig.justice.gov/**reports**/USMS/a0429/findings2.htm ▾
Ensure that **individuals** performing system administrator duties are properly trained in .... **Authorize** processing features and program modifications properly;; Test and ... of **information produced** by applications supported by the computer system. .... Additionally, without the USMS **providing** adequate controls over personnel ...

## Searches related to providing the produced medical information to report the characteristics of the group of individuals absent authorization

**18 hipaa patient identifiers**

**hipaa limited data set**

**hipaa 18 identifiers**

**under** the **federal hipaa regulations, state health privacy laws:**

**describe** the **principles that permit disclosure (roi)** of **phi without a patient's consent under hipaa.**

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the **minimum necessary standard**

**hipaa covered entity**

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## Genetic discrimination and health insurance: an urgent need for reform

KL Hudson, KH Rothenburg, LB Andrews... - Science, 1995 - search.proquest.com

... Genetic **information** is distinct from other types of **medical information** because it **provides information** about an ... In addition, genetic **information** can **provide** clues to the future health risks for an ... provider means an insurance company, employer, or any other entity **providing** a plan ...

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## Evidence-informed patient choice: practical issues of involving patients in decisions about health care technologies

VA Entwistle, TA Sheldon... - International journal of ..., 1998 - Cambridge Univ Press

... Alternative approaches might involve **providing information** about all possible options, while encouraging patients ... understand (purposely designed **information** packages might help with this); • **Provide** counseling that ... Morris, J., & Royle, GT **Offering** patients a choice of surgery ...

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## Insurgent multiculturalism: rethinking how and why we teach culture in **medical** education

D Wear - Academic **Medicine**, 2003 - journals.lww.com

... When **medical** students learn **characteristics** of these **groups**, they can **provide** better health care because ... other forms of dominance and neglect] in its various forms is **produced** historically, semiotically ... Most decisions about culture and how it is approached are **made** by insiders ...

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## Universal definition of myocardial infarction

K Thygesen, JS Alpert... - Journal of the American ..., 2007 - contwent.onlinejacc.org

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## Recommended guidelines for reviewing, **reporting**, and conducting research on in-hospital resuscitation: the in-hospital "Utstein style"

..., A Sanders, A Idris, S Cobbe, USW **Group** - ... of emergency **medicine**, 1997 - Elsevier

Please note that Internet Explorer version 8.x will not be supported as of January 1, 2016. Please refer to this blog post for more **information**. ... JavaScript is disabled on your browser. Please enable JavaScript to use all the **features** on this page. Annals of Emergency **Medicine**.

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## Weaving technology and policy together to maintain confidentiality

L Sweeney - The Journal of Law, **Medicine** & Ethics, 1997 - Wiley Online Library

... the smallest number of **individuals** matching the **characteristics**, is quite useful in **providing** a degree of ... Not only do they **provide** effective solutions, but they also help us under- stand ... The Scrub System **provides** a methodology for remov- ing personally identifymg **information** in ...

Cited by 259 Related articles All 10 versions Cite Save

## Validation of family history data in cancer family registries

A Ziogas, H Anton-Culver - American journal of preventive **medicine**, 2003 - Elsevier

... on the proportion of hereditary cancer because of susceptibility genes have been **made**. ... After the telephone interview, a verification **report** and pedigree were **produced** from GRIS ... allows for the correlation among responses within families, and **provides** appropriate confidence ...

Cited by 193 Related articles All 9 versions Cite Save

## ... *: A **Report** of the American College of Cardiology Foundation Quality Strategic Directions Committee Appropriateness Criteria Working **Group**, American ...

PS Douglas, B Khandheria... - Journal of the ..., 2007 - interventions.onlinejacc.org

1.

Cited by 266 Related articles All 26 versions Cite Save More

Integrated **group** insurance **information** processing and **reporting** system based upon an enterprise-wide data structure

JJ Bosco, DH Annis, KM Prouty - US Patent 5,191,522, 1993 - Google Patents

**...** each category of employees/members per coverage for the purpose of **providing** and differentiating **...** to more than one coverage, and a single coverage may **provide** producer compensation **...** This entity **provides** all commission rate (%) as they are broken down by commissionable **...**

Cited by 453 Related articles All 2 versions Cite Save

Health disparities among adults with developmental disabilities, adults with other disabilities, and adults not **reporting** disability in North Carolina.

SM Havercamp, D Scandlin, M Roth - Public health **reports**, 2004 - ncbi.nlm.nih.gov

**...** In his role as Surgeon General, David Satcher, MD, PhD, **released** a **report** titled **...** many primary care pro- viders are unprepared or otherwise reluctant to **provide** routine or **...** Developmental Disability **groups** were not directly compared, some observations can be **made** about the **...**

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**WHAT IS DISCLOSED HEREIN IS:**

1. A method of aggregating medical records for a user comprising:

initiating a process of aggregating electronic medical records associated with a patient, the process being initiated in response to the patient providing user input to an electronic device associated with the patient;

transmitting, from the electronic device to a first communication device, a first request for one or more electronic medical records associated with the patient and stored in electronic storage accessible by the first communication device, the first request including an authentication token stored on the electronic device;

transmitting, from the electronic device to a second communication device different than the first communication device, a second request for one or more electronic medical records associated with the patient and stored in electronic storage accessible by the second communication device, the second request including the authentication token stored on the electronic device;

receiving, at the electronic device from the first communication device, the one or more electronic medical records included in the first request, the one or more electronic medical records included in the first request being sent from the first communication device in response to the first communication device receiving the first request and authenticating the first request based on the authentication token;

receiving, at the electronic device from the second communication device, the one or more electronic medical records included in the second request, the one or more electronic medical records included in the second request being sent from the second communication device in response to the second communication device receiving the second request and authenticating the second request based on the authentication token; and

enabling display, to a medical service provider providing a service to the patient, of information related to the one or more electronic medical records received from the first communication device and the one or more electronic medical records received from the second communication device.

2. The method of claim 1 wherein the electronic device associated with the patient is a first electronic device, further comprising:



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establishing a secure connection between the first electronic device associated with the patient and a second electronic device associated with the medical service provider, the second electronic device being different than the first electronic device; and

transmitting, from the first electronic device to the second electronic device over the secure connection, the one or more electronic medical records received at the first electronic device from the first communication device and the one or more electronic medical records received at the first electronic device from the second communication device..

3. The method of claim 2 wherein the first communication device and the second communication device are configured to deny requests, from the second electronic device, for electronic medical records associated with the patient because the second electronic device is unable to include the authentication token in requests for records.

4. The method of claim 1 further comprising:

accessing, from local storage associated with the electronic device, one or more electronic medical records associated with the patient,

wherein enabling display, to the medical service provider providing a service to the patient, of information related to the one or more electronic medical records includes enabling display of the one or more electronic medical records accessed from local storage.

5. The method of claim 1 further comprising:

accessing filter criteria associated with the service being provided to the patient by the medical service provider, and

wherein:

transmitting, from the electronic device to the first communication device, the first request includes transmitting the filter criteria,

transmitting, from the electronic device to the second communication device different than the first communication device, a second request includes transmitting the filter criteria,

receiving, at the electronic device from the first communication device, the one or more electronic medical records includes receiving one or more electronic medical records that meet the filter criteria, and



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receiving, at the electronic device from the second communication device, the one or more electronic medical records includes receiving one or more electronic medical records that meet the filter criteria.

6. The method of claim 1 wherein enabling display, to the medical service provider providing the service to the patient, of information related to the one or more electronic medical records received from the first communication device and the one or more electronic medical records received from the second communication device includes:

rendering, on a display device associated with the electronic device, a display of the information related to the one or more electronic medical records received from the first communication device and the one or more electronic medical records received from the second communication device such that the medical service provider is able to perceive the electronic medical records.

7. The method of claim 1 wherein:

the electronic device associated with the patient is a first electronic device, and

enabling display, to the medical service provider providing the service to the patient, of information related to the one or more electronic medical records received from the first communication device and the one or more electronic medical records received from the second communication device includes:

transmitting, from the first electronic device to a second electronic device associated with the medical service provider, the one or more electronic medical records received at the first electronic device from the first communication device and the one or more electronic medical records received at the first electronic device from the second communication device to enable display of the one or more electronic medical records received from the first communication device and the one or more electronic medical records received from the second communication device on a display device associated with the second device.



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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 15/136,318 | 04/22/2016 | Andrew L. Paris III | 25412-0003002 |

**CONFIRMATION NO. 7326**

**POA ACCEPTANCE LETTER**

26161
FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

*OC000000083466569*

Date Mailed: 06/08/2016

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/26/2016.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/cnguyen/



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PTO/AIA/80 (07-12)
Approved for use through 11/30/2014. OMB 0651-0035
U.S. Patent and Trademark Office; U.S DEPARTMENT OF COMMERCE
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# POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

■ Practitioners associated with Customer Number: 26161

**OR**

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

| Name | Registration Number | Name | Registration Number |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

■ The address associated with Customer Number: 26161

**OR**

| | | | | |
|---|---|---|---|---|
| ☐ | Firm or Individual Name | | | |
| | Address | | | |
| | City | | State | Zip |
| | Country | | | |
| | Telephone | | Email | |

Assignee Name and Address: Vigilytics LLC
559 Fox Hunt Drive
Victor, New York 14564

**A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.**

**SIGNATURE of Assignee of Record**

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

| | | | |
|---|---|---|---|
| Signature | Andrew L Paris III | Date | 01/22/2014 |
| Name | Andrew L. Paris, III | Telephone | 585-924-1667 |
| Title | President | | |

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 25891217 |
| **Application Number:** | 15136318 |
| **International Application Number:** | |
| **Confirmation Number:** | 7326 |
| **Title of Invention:** | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes |
| **First Named Inventor/Applicant Name:** | Andrew L. Paris |
| **Customer Number:** | 26161 |
| **Filer:** | Natalie K. Galley/Alyssa Broderick |
| **Filer Authorized By:** | Natalie K. Galley |
| **Attorney Docket Number:** | 25412-0003002 |
| **Receipt Date:** | 26-MAY-2016 |
| **Filing Date:** | 22-APR-2016 |
| **Time Stamp:** | 10:07:36 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Assignee showing of ownership per 37 CFR 3.73 | 373.pdf | 96990<br>fea35fdeb684d9249e95a85fd739750a9c015131 | no | 2 |

| | |
|---|---|
| **Warnings:** | |
| **Information:** | |

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| | | | | | |
|---|---|---|---|---|---|
| 2 | Power of Attorney | POA.pdf | 74016<br>c16c6b0404c08ccd6c346838e6d53b199d3cefda | no | 1 |

| | |
|---|---|
| **Warnings:** | |
| **Information:** | |
| **Total Files Size (in bytes):** | 171006 |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

PTO/AIA/96 (08-12)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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# STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Vigilytics LLC

Application No./Patent No.: 15/136,318 Filed/Issue Date: April 22, 2016

Titled: USING DE-IDENTIFIED HEALTHCARE DATA TO EVALUATE POST-HEALTHCARE FACILITY ENCOUNTER TREATMENT OUTCOMES

Vigilytics LLC, a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of the option 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title and interest (check applicable box):

☐ The extent (by percentage) of its ownership interest is _____. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of the options A or B below):

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 038669, Frame 0971, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.



This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

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## STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

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5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy *(i.e.,* a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

| /Natalie K Galley/ | 5/25/16 |
|---|---|
| Signature | Date |
| Natalie K. Galley, Ph.D. | L1010 |
| Printed or Typed Name | Title or Registration Number |



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING or 371(c) DATE | GRP ART UNIT | FIL FEE REC'D | ATTY.DOCKET.NO | TOT CLAIMS | IND CLAIMS |
|---|---|---|---|---|---|---|
| 15/136,318 | 04/22/2016 | 2493 | 730 | 25412-0003002 | 20 | 3 |

**CONFIRMATION NO. 7326**

**CORRECTED FILING RECEIPT**

26161
FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

OC000000083011299

Date Mailed: 05/19/2016

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

**Inventor(s)**

Andrew L. Paris III, Victor, NY;

**Applicant(s)**

Vigilytics LLC, Victor, NY;

**Power of Attorney:** None

**Domestic Priority data as claimed by applicant**

This application is a CON of 14/082,433 11/18/2013 PAT 9323892
which is a CIP of 12/827,745 06/30/2010 PAT 9118641
which claims benefit of 61/222,428 07/01/2009
and said 14/082,433 11/18/2013
claims benefit of 61/729,207 11/21/2012

**Foreign Applications** for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
*Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.*

**Permission to Access Application via Priority Document Exchange:** Yes

**Permission to Access Search Results:** Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.



Datavant Exhibit 1002

**If Required, Foreign Filing License Granted:** 05/06/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/136,318**

**Projected Publication Date:** Request for Non-Publication Acknowledged

**Non-Publication Request:** Yes

**Early Publication Request:** No
**** SMALL ENTITY ****
**Title**

Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes

**Preliminary Class**

726

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:** No

## PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).



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## Title 35, United States Code, Section 184

## Title 37, Code of Federal Regulations, 5.11 & 5.15

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The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

---


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Datavant Exhibit 1002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | | | |
|---|---|---|---|---|---|
| First Named Inventor | : | Andrew L. Paris III | Art Unit | : | Unknown |
| Serial No. | : | 15/136,318 | Examiner | : | Unknown |
| Filed | : | April 22, 2016 | Conf. No. | : | 7326 |
| Title | : | USING DE-IDENTIFIED HEALTHCARE DATA TO EVALUATE POST-HEALTHCARE FACILITY ENCOUNTER TREATMENT OUTCOMES | | | |

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CORRECTED OFFICIAL FILING RECEIPT

Please correct the Filing Receipt for the above-referenced application to include the corrected priority statement in its entirety.

Please supply a corrected Filing Receipt to the undersigned with respect to this application. A supplemental Application Data Sheet showing the desired changes is attached for your convenience.

No fee is believed to be due. If, however, there are any necessary charges or credits, please apply them to Deposit Account No. 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: 5/9/16

/Natalie K Galley/
Natalie K. Galley, Ph.D.
Reg. No. L1010

Customer Number 26161
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

23522041.doc

| Application Data Sheet 37 CFR 1.76 | Attorney Docket Number | 25412-0003002 |
|---|---|---|
| | Application Number | 15/136,318 |

| Title of Invention | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes |
|---|---|

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.

## Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

| Prior Application Status | Patented | | | | |
|---|---|---|---|---|---|
| Application Number | Continuity Type | Prior Application Number | Filing Date (**MM/DD/YYYY**) | Patent Number | Issue Date (MM/DD/YYYY) |
| | Continuation of | 14/082,433 | 11/18/2013 | 9,323,892 | 04/26/2016 |

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

| Prior Application Status | Patented | | | | |
|---|---|---|---|---|---|
| Application Number | Continuity Type | Prior Application Number | Filing Date (**MM/DD/YYYY**) | Patent Number | Issue Date (MM/DD/YYYY) |
| 14/082,433 | Continuation in part of | 12/827,745 | 6/30/2010 | 9,118,641 | 08/25/2015 |

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

| Prior Application Status | Expired | | |
|---|---|---|---|
| Application Number | Continuity Type | Prior Application Number | Filing Date (**MM/DD/YYYY**) |
| 12/827,745 | Claims benefit of provisional | 61/222,428 | 7/1/2009 |

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

| **Application Data Sheet 37 CFR 1.76** | Attorney Docket Number | 25412-0003002 |
|---|---|---|
| | Application Number | 15/136,318 |
| Title of Invention | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes | |

When referring to the current application, please leave the "Application Number" field blank.

| Prior Application Status | Expired | | |
|---|---|---|---|
| Application Number | Continuity Type | Prior Application Number | Filing Date (**MM/DD/YYYY**) |
| 14/082,433 | Claims benefit of provisional | 61/729,207 | 11/21/2012 |

## Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

| Signature | /Natalie K Galley/ | | | Date (**MM/DD/YYYY**) | 5/9/2016 |
|---|---|---|---|---|---|
| First Name | Natalie | Last Name | Galley | Registration Number | L1010 |

23522035.doc

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 25743616 |
| **Application Number:** | 15136318 |
| **International Application Number:** | |
| **Confirmation Number:** | 7326 |
| **Title of Invention:** | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes |
| **First Named Inventor/Applicant Name:** | Andrew L. Paris |
| **Customer Number:** | 26161 |
| **Filer:** | Natalie K. Galley/Alyssa Broderick |
| **Filer Authorized By:** | Natalie K. Galley |
| **Attorney Docket Number:** | 25412-0003002 |
| **Receipt Date:** | 11-MAY-2016 |
| **Filing Date:** | 22-APR-2016 |
| **Time Stamp:** | 11:28:35 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | no |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Request for Corrected Filing Receipt | Request.pdf | 37746<br>23783cd5e39222415753ef946e9f048d3d3ae8d3 | no | 1 |

| | |
|---|---|
| **Warnings:** | |
| **Information:** | |

Datavant Exhibit 1002

| | | | | | |
|---|---|---|---|---|---|
| 2 | Application Data Sheet | SupplementalADS.pdf | 61088<br>e5929caad3cbacb92fbbb632315ed0ffcbea6db2 | no | 2 |

| | |
|---|---|
| **Warnings:** | |
| **Information:** | |
| This is not an USPTO supplied ADS fillable form | |
| **Total Files Size (in bytes):** | 98834 |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING or 371(c) DATE | GRP ART UNIT | FIL FEE REC'D | ATTY.DOCKET.NO | TOT CLAIMS | IND CLAIMS |
|---|---|---|---|---|---|---|
| 15/136,318 | 04/22/2016 | 3626 | 730 | 25412-0003002 | 20 | 3 |

**CONFIRMATION NO. 7326**

26161
FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

**FILING RECEIPT**




Date Mailed: 05/09/2016

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

**Inventor(s)**

Andrew L. Paris III, Victor, NY;

**Applicant(s)**

Vigilytics LLC, Victor, NY;

**Power of Attorney:** None

**Domestic Priority data as claimed by applicant**

This application is a CON of 14/082,433 11/18/2013 PAT 9323892
which is a CIP of 12/827,745 06/30/2010 PAT 9118641
which claims benefit of 61/222,428 07/01/2009

**Foreign Applications** for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
*Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.*

**Permission to Access Application via Priority Document Exchange:** Yes

**Permission to Access Search Results:** Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

**If Required, Foreign Filing License Granted:** 05/06/2016



Datavant Exhibit 1002

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/136,318**

**Projected Publication Date:** Request for Non-Publication Acknowledged

**Non-Publication Request:** Yes

**Early Publication Request:** No
** **SMALL ENTITY** **
**Title**

Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes

**Preliminary Class**

705

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:** No

## PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).



Datavant Exhibit 1002

## LICENSE FOR FOREIGN FILING UNDER

## Title 35, United States Code, Section 184

## Title 37, Code of Federal Regulations, 5.11 & 5.15

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.




Datavant Exhibit 1002

## PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 15/136,318

### APPLICATION AS FILED - PART I

| FOR | (Column 1) NUMBER FILED | (Column 2) NUMBER EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY FEE($) |
|---|---|---|---|---|---|---|---|
| BASIC FEE (37 CFR 1.16(a), (b), or (c)) | N/A | N/A | N/A | 70 | | N/A | |
| SEARCH FEE (37 CFR 1.16(k), (i), or (m)) | N/A | N/A | N/A | 300 | | N/A | |
| EXAMINATION FEE (37 CFR 1.16(o), (p), or (q)) | N/A | N/A | N/A | 360 | | N/A | |
| TOTAL CLAIMS (37 CFR 1.16(i)) | 20 minus 20 = | * | x 40 = | 0.00 | OR | | |
| INDEPENDENT CLAIMS (37 CFR 1.16(h)) | 3 minus 3 = | * | x 210 = | 0.00 | | | |
| APPLICATION SIZE FEE (37 CFR 1.16(s)) | If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). | | | 0.00 | | | |
| MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j)) | | | | 0.00 | | | |
| * If the difference in column 1 is less than zero, enter "0" in column 2. | | | TOTAL | 730 | | TOTAL | |

### APPLICATION AS AMENDED - PART II

| | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY ADDITIONAL FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY ADDITIONAL FEE($) |
|---|---|---|---|---|---|---|---|---|---|---|
| AMENDMENT A | Total (37 CFR 1.16(i)) | * | Minus | ** | = | x = | | OR | x = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | x = | | OR | x = | |
| | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L FEE | |

| | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | SMALL ENTITY RATE($) | SMALL ENTITY ADDITIONAL FEE($) | OR | OTHER THAN SMALL ENTITY RATE($) | OTHER THAN SMALL ENTITY ADDITIONAL FEE($) |
|---|---|---|---|---|---|---|---|---|---|---|
| AMENDMENT B | Total (37 CFR 1.16(i)) | * | Minus | ** | = | x = | | OR | x = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | x = | | OR | x = | |
| | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L FEE | |

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

Datavant Exhibit 1002

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 15/136,318 | 04/22/2016 | Andrew L. Paris III | 25412-0003002 |

**CONFIRMATION NO. 7326**

26161
FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

**IMPROPER CFR REQUEST**

*OC000000082752286*

Date Mailed: 05/09/2016

# RESPONSE TO REQUEST FOR CORRECTED FILING RECEIPT

***Continuity, Priority Claims, Petitions, and Non-Publication Requests***

In response to your request for a corrected Filing Receipt, the Office is unable to comply with your request because:

## Improper Benefit Claim(s) to Prior-Filed Provisional Application(s)

The benefit claim(s) to prior-filed provisional application(s) is improper because the instant application was not filed within twelve (12) months from the filing date of the provisional application, and there is no indication of an intermediate nonprovisional or international application designationg the United States that is directly claiming the benefit of the provisional application and filed within 12 months of the filing date of the provisional application. Applicant should review each benefit claim submitted and, if appropriate, provide the proper reference to the prior-filed applications (including an indication of any intermediate application that is directly claiming the benefit of the provisional application and filed with 12 months of the filing date of the provisional application) as required by 37 CFR 1.78.

Alternatively, if the instant application (or intermediate application) was filed within 14 months of the prior provisional application, applicant may file a petition (in the instant application or the intermediate application, as appropriate) to restore the benefit of the provisional application if the delay in filing the instant application (or intermediate application) within the 12 month time period was unintentional. See 37 CFR 1.78 for the requirements of a petition to restore the benefit of the provisional application.

For applications filed on or after September 16, 2012, applicant must submit a corrected application data sheet (ADS) to include a specific reference.

Timeliness: The required reference for each benefit claim must be filed during the pendency of the instant application and within the later of: (1) four months from the actual filing date of the instant application, or the national stage commencement date if the instant application is a national stage application under 35 U.S.C. 371; or (2) sixteen months from the filing date of the prior-filed application. Failure to timely file the required reference is considered a waiver of any benefit claim, unless a grantable petition to accept an unintentionally delayed claim under 37 CFR 1.78, the petition fee set forth in 37 CFR 1.17(m), and the required reference are filed.

Questions about the contents of this notice and the
requirements it sets forth should be directed to the Office



Datavant Exhibit 1002

of Data Management, Application Assistance Unit, at
**(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/tpnguyen/

| Substitute Disclosure Form | U.S. Department of Commerce Patent and Trademark Office | Attorney Docket No. 25412-0003002 | Application No. |
|---|---|---|---|
| **Information Disclosure Statement by Applicant** (Use several sheets if necessary) | | Applicant Vigilytics LLC | |
| (37 CFR §1.98(b)) | | Filing Date | Group Art Unit |

| U.S. Patent Documents | | | | | | | |
|---|---|---|---|---|---|---|---|
| Examiner Initial | Desig. ID | Document Number | Publication Date | Patentee | Class | Subclass | Filing Date If Appropriate |
| | 1. | 2004/0143403 | 07/2004 | Brandon et al. | | | |
| | 2. | 2005/0234739 | 10/2005 | Schoenberg | | | |
| | 3. | 2005/0261941 | 11/2005 | Scarlat | | | |
| | 4. | 2006/0004772 | 01/2006 | Hagan, et al. | | | |
| | 5. | 2006/0020611 | 01/2006 | Gilbert et al. | | | |
| | 6. | 2006/0184524 | 08/2006 | Pollanz | | | |
| | 7. | 2006/0229919 | 10/2006 | Pugh | | | |
| | 8. | 2007/0043594 | 02/2007 | Lavergne | | | |
| | 9. | 2007/0219824 | 09/2007 | Rawlings et al. | | | |
| | 10. | 2008/0010254 | 01/2008 | Settimi | | | |
| | 11. | 2008/0120296 | 05/2008 | Kariathungal et al. | | | |
| | 12. | 2008/0133273 | 06/2008 | Marshall | | | |
| | 13. | 2008/0147554 | 06/2008 | Stevens, et al. | | | |
| | 14. | 2009/0024416 | 01/2009 | McLaughlin et al. | | | |
| | 15. | 2009/0070146 | 03/12/2009 | Haider, et al. | | | |
| | 16. | 2009/0287502 | 11/2009 | Roberts et al. | | | |
| | 17. | 2010/0162355 | 06/2010 | Zimmerman, et al. | | | |
| | 18. | 2011/0184748 | 07/2011 | Fierro, et al. | | | |
| | 19. | 2011/0225007 | 09/15/2011 | Theis | | | |
| | 20. | 2011/0258000 | 10/2011 | Green et al. | | | |

| Foreign Patent Documents or Published Foreign Patent Applications | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Examiner Initial | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation Yes | Translation No |

| Other Documents (include Author, Title, Date, and Place of Publication) | | |
|---|---|---|
| Examiner Initial | Desig. ID | Document |

| Examiner Signature | Date Considered |
|---|---|
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | |

| Substitute Disclosure Form / U.S. Department of Commerce Patent and Trademark Office | Attorney Docket No. 25412-0003002 | Application No. |
|---|---|---|
| **Information Disclosure Statement by Applicant** (Use several sheets if necessary) (37 CFR §1.98(b)) | Applicant Vigilytics LLC | |
| | Filing Date | Group Art Unit |

| Other Documents (include Author, Title, Date, and Place of Publication) | | |
|---|---|---|
| Examiner Initial | Desig. ID | Document |
| | 21. | "Group," The American Heritage Dictionary, 2014 Houghton Mifflin Harcourt, Retrieved online: https://ahdictionary.com/word/search.html?q=group (accessed 10/23/2014), 3 pages. |
| | 22. | "Health Information Privacy: Business Associates," U.S. Department of Health and Human Services, April 3, 2003, Retrieved online: http://www.hhs.gov/ocr/privacy/hipaa/understanding/coveredentities/businessassociates.html, (accessed 10/09/2014), 2 pages. |

| Examiner Signature | Date Considered |
|---|---|
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | |



Datavant Exhibit 1002

PTO/AIA/01 (06-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

| | |
|---|---|
| **Title of Invention** | USING DE-IDENTIFIED HEALTHCARE DATA TO EVALUATE POST-HEALTHCARE FACILITY ENCOUNTER TREATMENT OUTCOMES |

As the below named inventor, I hereby declare that:

This declaration is directed to:

[ X ] The attached application, or

[ ] United States application or PCT international application number _____

filed on _____

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

## WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Andrew L. Paris III Date (Optional): 11/15/2013

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*



American LegalNet, Inc.
www.FormsWorkflow.com

Datavant Exhibit 1002

# Electronic Patent Application Fee Transmittal

| | |
|---|---|
| **Application Number:** | |
| **Filing Date:** | |
| **Title of Invention:** | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes |
| **First Named Inventor/Applicant Name:** | Andrew L. Paris III |
| **Filer:** | Jeffrey J. Barclay |
| **Attorney Docket Number:** | 25412-0003002 |

Filed as Small Entity

**Filing Fees for Utility under 35 USC 111(a)**

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| Utility filing Fee (Electronic filing) | 4011 | 1 | 70 | 70 |
| Utility Search Fee | 2111 | 1 | 300 | 300 |
| Utility Examination Fee | 2311 | 1 | 360 | 360 |
| **Pages:** | | | | |
| **Claims:** | | | | |
| **Miscellaneous-Filing:** | | | | |
| **Petition:** | | | | |
| **Patent-Appeals-and-Interference:** | | | | |

Datavant Exhibit 1002

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Post-Allowance-and-Post-Issuance:** | | | | |
| **Extension-of-Time:** | | | | |
| **Miscellaneous:** | | | | |
| | | | **Total in USD ($)** | **730** |

# Electronic Acknowledgement Receipt

| | |
|---|---|
| **EFS ID:** | 25574587 |
| **Application Number:** | 15136318 |
| **International Application Number:** | |
| **Confirmation Number:** | 7326 |
| **Title of Invention:** | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes |
| **First Named Inventor/Applicant Name:** | Andrew L. Paris III |
| **Customer Number:** | 26161 |
| **Filer:** | Jeffrey J. Barclay/Stacey Hill |
| **Filer Authorized By:** | Jeffrey J. Barclay |
| **Attorney Docket Number:** | 25412-0003002 |
| **Receipt Date:** | 22-APR-2016 |
| **Filing Date:** | |
| **Time Stamp:** | 16:09:27 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | Deposit Account |
| Payment was successfully received in RAM | $730 |
| RAM confirmation Number | 2775 |
| Deposit Account | 061050 |
| Authorized User | FISH & RICHARDSON P C |

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Transmittal of New Application | Transmittal.pdf | 86346<br>2c73e881232bd3253f146a23cff41c1addf97a81 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Application Data Sheet | ADS.pdf | 1822924<br>2b801b91a585586687b11e7101d68321f3add322 | no | 8 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | | Application.pdf | 176325<br>4f85204250cf0a6f14e390b2346f22649e95c0e0 | yes | 25 |

**Multipart Description/PDF files in .zip description**

| Document Description | Start | End |
|---|---|---|
| Specification | 1 | 20 |
| Claims | 21 | 24 |
| Abstract | 25 | 25 |

| | | | | | |
|---|---|---|---|---|---|
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Drawings-only black and white line drawings | Figures.pdf | 2438484<br>767d1dfcf0b5a89ef2ba1492faa89f9b7cc28658 | no | 7 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 5 | Nonpublication request from applicant | Nonpublication.pdf | 60163<br>e2d51c8bf8fe6e41f3b9c89466fd1e4668b20864 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 6 | | IDS.pdf | 134266<br>16e303b718daaed04e5301229bf159d90a62d2da | yes | 4 |

| | Multipart Description/PDF files in .zip description | | |
|---|---|---|---|
| | **Document Description** | **Start** | **End** |
| | Transmittal Letter | 1 | 2 |
| | Information Disclosure Statement (IDS) Form (SB08) | 3 | 4 |

| | | | | | |
|---|---|---|---|---|---|
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 7 | Oath or Declaration filed | Declaration.pdf | 2256826<br>e13f3f9b4d5dcff5544e4b83c59a396c55c5fc48 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 8 | Fee Worksheet (SB06) | fee-info.pdf | 34682<br>7ccc82603d6c9d0cc563b7bd4c76a67d4735d7c8 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 7010016 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

FISH.
FISH & RICHARDSON

Street Address
Fish & Richardson P.C.
One Marina Park Drive
Boston, MA 02210-1878

Mail Address
P.O. Box 1022
Minneapolis, MN 55440-1022

617 542 5070 main
877 769 7945 fax

April 22, 2016

Attorney Docket No.: 25412-0003002/

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Presented for filing is a new continuation patent application of:

Inventor(s): ANDREW L. PARIS III

Title: USING DE-IDENTIFIED HEALTHCARE DATA TO EVALUATE POST-HEALTHCARE FACILITY ENCOUNTER TREATMENT OUTCOMES

This is a continuation application and claims priority under 35 U.S.C. §120 to U.S. Application Serial No. 14/082,433, filed November 18, 2013 (which is to be issued as Patent No. 9,323,892 on April 26, 2016), which is a continuation-in-part application of U.S. Application Serial No. 12/827,745, filed June 30, 2010, now U.S. Patent No. 9,118,641, which claims priority under 35 U.S.C. §119(e) to U.S. provisional application No. 61/222,428, filed on July 1, 2009; this application also claims priority under 35 USC §119(e) to U.S. Patent Application Serial No. 61/729,207, filed on November 21, 2012; the entire contents of each are hereby incorporated by reference.

Enclosed are the following papers, including those required to receive a filing date under 37 C.F.R. § 1.53(b):

| | Pages |
|---|---|
| Specification | 20 |
| Claims | 4 |
| Abstract | 1 |
| Declaration | 1 |
| Drawing(s) | 7 |

Enclosures:

— Application Data Sheet, 8 pages.
— New disclosure information, including:
Information disclosure statement, 2 pages.
PTO-1449, 2 pages.
— Nonpublication Request, 1 page.

Applicant claims small entity status. See 37 CFR 1.27.

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Commissioner for Patents
April 22, 2016

| | | | |
|---|---|---|---|
| Basic Filing Fee | | | $70 |
| Search Fee | | | $300 |
| Examination Fee | | | $360 |
| Total Claims 20 | over 20 | **0 x $40** | $0 |
| Independent Claims 3 | over 3 | **0 x $210** | $0 |
| Fee for Multiple Dependent claims | | | $0 |
| Application size fee for each 50 pages over 100<br>Total Sheets: 32x .75 - 100/50 = 0x | | | $0 |
| Total Filing fee | | | $730 |

The filing fee is being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply all charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 25412-0003002.

If this application is found to be incomplete, or if a telephone conference would otherwise be helpful, please call the undersigned at (617) 956-5911.

Please direct all correspondence to the following:

26161
PTO Customer Number

Respectfully submitted,

/Jeffrey J. Barclay, Reg. No. 48,950/

Jeffrey J. Barclay

Reg. No. 48,950
Enclosures
NKG/akb
23512297.doc

PTO/AIA/14 (11-15)
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| Application Data Sheet 37 CFR 1.76 | Attorney Docket Number | 25412-0003002 |
|---|---|---|
| | Application Number | |
| Title of Invention | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes | |

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

## Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

## Inventor Information:

**Inventor** 1 — Remove

**Legal Name**

| Prefix | Given Name | Middle Name | Family Name | Suffix |
|---|---|---|---|---|
| | Andrew | L. | Paris | III |

**Residence Information (Select One)** ● US Residency  Non US Residency  Active US Military Service

| City | State/Province | Country of Residence |
|---|---|---|
| Victor | NY | US |

**Mailing Address of Inventor:**

| | |
|---|---|
| Address 1 | 559 Fox Hunt Drive |
| Address 2 | |

| City | State/Province | Postal Code | Country |
|---|---|---|---|
| Victor | NY | 14564 | US |

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. — Add

## Correspondence Information:

**Enter either Customer Number or complete the Correspondence Information section below.**
**For further information see 37 CFR 1.33(a).**

☐ **An Address is being provided for the correspondence Information of this application.**

| | | |
|---|---|---|
| Customer Number | 26161 | |
| Email Address | | Add Email / Remove Email |

## Application Information:

| | | | |
|---|---|---|---|
| Title of the Invention | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes | | |
| Attorney Docket Number | 25412-0003002 | Small Entity Status Claimed | ☒ |
| Application Type | Nonprovisional | | |
| Subject Matter | Utility | | |
| Total Number of Drawing Sheets (if any) | 7 | Suggested Figure for Publication (if any) | |

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| **Application Data Sheet 37 CFR 1.76** | Attorney Docket Number | 25412-0003002 |
|---|---|---|
| | Application Number | |
| Title of Invention | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes | |

## Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

| Application number of the previously filed application | Filing date (YYYY-MM-DD) | Intellectual Property Authority or Country |
|---|---|---|
| | | |

## Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

## Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

| Please Select One: | ● Customer Number | US Patent Practitioner | ○ Limited Recognition (37 CFR 11.9) |
|---|---|---|---|
| Customer Number | 26161 | | |

## Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

| Prior Application Status | Pending | | Remove |
|---|---|---|---|
| Application Number | Continuity Type | Prior Application Number | Filing or 371(c) Date (YYYY-MM-DD) |
| | Continuation of | 14082433 | 2013-11-18 |

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| **Application Data Sheet 37 CFR 1.76** | Attorney Docket Number | 25412-0003002 |
|---|---|---|
| | Application Number | |
| Title of Invention | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes | |

| Prior Application Status | Patented | | | | Remove |
|---|---|---|---|---|---|
| Application Number | Continuity Type | Prior Application Number | Filing Date (YYYY-MM-DD) | Patent Number | Issue Date (YYYY-MM-DD) |
| 14082433 | Continuation in part of | 12827745 | 2010-06-30 | 9118641 | 2015-08-25 |
| Prior Application Status | Expired | | | | Remove |
| Application Number | Continuity Type | Prior Application Number | Filing or 371(c) Date (YYYY-MM-DD) | | |
| 12827745 | Claims benefit of provisional | 61222428 | 2009-07-01 | | |
| Prior Application Status | Expired | | | | Remove |
| Application Number | Continuity Type | Prior Application Number | Filing or 371(c) Date (YYYY-MM-DD) | | |
| | Claims benefit of provisional | 61729207 | 2012-11-21 | | |
| Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. | | | | | Add |

## Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

| | | | Remove |
|---|---|---|---|
| Application Number | Country[i] | Filing Date (YYYY-MM-DD) | Access Code[i] (if applicable) |
| | | | |
| Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. | | | Add |

## Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

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| Application Data Sheet 37 CFR 1.76 | Attorney Docket Number | 25412-0003002 |
|---|---|---|
| | Application Number | |
| Title of Invention | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes | |

# Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

**NOTE**: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

**1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)**

**A. Priority Document Exchange (PDX)** - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

**B. Search Results from U.S. Application to EPO** - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

**2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)**

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

**NOTE:** Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

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| Application Data Sheet 37 CFR 1.76 | Attorney Docket Number | 25412-0003002 |
|---|---|---|
| | Application Number | |
| Title of Invention | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes | |

## Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

**Applicant** 1 — Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

| ● Assignee | Legal Representative under 35 U.S.C. 117 | Joint Inventor |
|---|---|---|
| Person to whom the inventor is obligated to assign. | Person who shows sufficient proprietary interest | |

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

| Organization Name | Vigilytics LLC | | |
|---|---|---|---|
| **Mailing Address Information For Applicant:** | | | |
| **Address 1** | 659 Fox Hunt Drive | | |
| Address 2 | | | |
| **City** | Victor | **State/Province** | NY |
| **Country** | US | Postal Code | 14564 |
| Phone Number | | Fax Number | |
| Email Address | | | |

Additional Applicant Data may be generated within this form by selecting the Add button. Add

## Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

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| **Application Data Sheet 37 CFR 1.76** | Attorney Docket Number | 25412-0003002 |
|---|---|---|
| | Application Number | |
| Title of Invention | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes | |

**Assignee 1**

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

| Prefix | **Given Name** | Middle Name | **Family Name** | Suffix |
|---|---|---|---|---|
| | | | | |

**Mailing Address Information For Assignee including Non-Applicant Assignee:**

| | | | |
|---|---|---|---|
| **Address 1** | | | |
| Address 2 | | | |
| **City** | | **State/Province** | |
| **Country** i | | Postal Code | |
| Phone Number | | Fax Number | |
| Email Address | | | |

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

## Signature:

Remove

**NOTE:** This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

| **Signature** | /Jeffrey J. Barclay, Reg. No. 48,950/ | | | Date (YYYY-MM-DD) | 2016-04-22 |
|---|---|---|---|---|---|
| First Name | Jeffrey J. | Last Name | Barclay | Registration Number | 48950 |

Additional Signature may be generated within this form by selecting the Add button. Add

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| **Application Data Sheet 37 CFR 1.76** | Attorney Docket Number | 25412-0003002 |
|---|---|---|
| | Application Number | |
| Title of Invention | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes | |

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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# Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Datavant Exhibit 1002

# Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes

## CLAIM OF PRIORITY

**[001]** This is a continuation application and claims priority under 35 U.S.C. §120 to U.S. Application Serial No. 14/082,433, filed November 18, 2013 (which is to be issued as Patent No. 9,323,892 on April 26, 2016), which is a continuation-in-part application of U.S. Application Serial No. 12/827,745, filed June 30, 2010, now U.S. Patent No. 9,118,641, which claims priority under 35 U.S.C. §119(e) to U.S. provisional application No. 61/222,428, filed on July 1, 2009; this application also claims priority under 35 USC §119(e) to U.S. Patent Application Serial No. 61/729,207, filed on November 21, 2012; the entire contents of each are hereby incorporated by reference.

## BACKGROUND

**[002]** The present disclosure relates to processing and transmitting personal data, the dissemination of which is restricted by federal law.

**[003]** Due to federal privacy laws and the inconsistency of electronic medical record deployments, healthcare facilities (e.g., hospitals, nursing homes, residential mental health facilities, prison medical wards) are often unable to obtain information about health care services patients receive before or after healthcare facility encounters. Having access to these data may allow healthcare facilities to better serve patients. Gaining an understanding of care that occurs in the outpatient setting is needed to evaluate potential for changes in the process of inpatient care. Not having this information may lead to unrecognized suboptimal care and ultimately to healthcare facility readmission for which the healthcare facility may be held accountable. Outpatient healthcare providers such as pharmacies and physicians generate private healthcare data about patients, including medical and prescription drug data, and administrative healthcare claims data. Data that associates patient identity with health information is known as protected health

information (PHI). Healthcare providers can store protected health information in electronic databases for future use in patient care and insurance claims processing. Healthcare facilities could identify changes in the process of care provided (e.g., patient and provider education, adherence follow-up) by having information on trends in health care utilization before and after health care facility encounters. Federal privacy laws, however, make obtaining this information a cumbersome process which would add considerable expense to operations.

## SUMMARY

**[004]** The systems and techniques described here relate to de-identifying patient identities from healthcare facility encounters and retrieving information from pre or post encounter activity.

**[005]** In one aspect, a computer-implemented method includes producing medical information from a set of private data representing pre or post-encounter characteristics of the individuals, where the individuals have had an encounter with a healthcare facility. The identity of the individuals is unattainable from the produced medical information. The method includes using the produced medical information to report the pre or post-encounter characteristics for the group.

**[006]** Implementations may include any of all of the following features. Producing medical information that characterizes the group of encounters may include producing a request token for each individual included in the group of encounters. Producing such a request token for each individual may include encrypting respective data that identifies each individual. Producing medical information that characterizes the group of encounters may include comparing the request tokens to tokens associated with the medical information to be produced. The tokens associated with the medical information to be produced and the request tokens may be similarly encrypted. Producing medical information that characterizes the group of encounters may include determining if the comparison provides at least a minimum number of matches. Producing medical information

that characterizes the group may include requesting a predefined portion of the medical information. Additionally, producing medical information that characterizes the group may include determining if the group includes at least a minimum number of individuals. The private data may represent medical information associated with pre or post-encounter medical activity for the individuals within the group. The private data may be obtained from pharmacies or other medical care providers.

**[007]** In another aspect a system includes an encryption server for producing a request token for each individual included in a group identified in a request for medical information that characterizes the group consisting of individuals who had an encounter with a healthcare facility. The system may also include a data server for producing the medical information that characterizes the group from a set of private data representing pre or post-encounter characteristics of the individuals. The identity of the individuals is unattainable from the produced medical information. The data server is also configured to provide the produced medical information to report the characteristics of the group of encounters.

**[008]** Implementations may include any of all of the following features. The data server may provide a request token for each individual included in the group of encounters to produce the medical information that characterizes the group of encounters. The request token for each individual may represent encrypted data that identifies the corresponding individual. The data server may be configured to compare the request tokens to tokens associated with the medical information to be produced. The tokens associated with the medical information to be produced and the request tokens may be similarly encrypted. The data server may be configured to determine if the comparison provides at least a minimum number of matches. The request may represent a predefined portion of information to use for producing the medical information that characterizes the group of encounters. The encryption server may be configured to determine if the group includes at least a minimum number of individuals. The private data may represent medical information

associated with pre or post-encounter medical activity of the individuals within the group. The private data may be obtained from pharmacies or other medical care providers.

**[009]** In another aspect, one or more computer readable media storing instructions that are executable by a processing device, and upon such execution cause the processing device to perform operations that include producing medical information that characterizes a group of individuals from a set of private data representing pre or post encounter characteristics of the individuals. The individuals have had an encounter with a healthcare facility. The identity of the individuals is unattainable from the produced medical information. The operations also include providing the produced medical information to report the characteristics of the group.

**[010]** Implementations may include any of all of the following features. Producing medical information that characterizes the group may include producing a request token for each individual included in the group. Producing such a request token for each individual may include encrypting respective data that identifies each individual. Producing medical information that characterizes the group of encounters may include comparing the request tokens to tokens associated with the medical information to be produced. The tokens associated with the medical information to be produced and the request tokens may be similarly encrypted. Producing medical information that characterizes the group may include determining if the comparison provides at least a minimum number of matches. Producing medical information that characterizes the group may include requesting a predefined portion of the information. Additionally, producing medical information that characterizes the group of encounters may include determining if the group includes at least a minimum number of individuals. The private data may represent medical information associated with pre or post-encounter medical activity of the individuals of the group of encounters. The private data may be obtained from pharmacies or other medical care providers.

**[011]** The details of one or more embodiments of the invention are set forth in the accompanying drawings and the description below. Other features, objects, and advantages of the invention will be apparent from the description and drawings, and from the claims.

## DESCRIPTION OF DRAWINGS

FIG. 1 illustrates exemplary circumstances in which protected health information is stored by healthcare providers, claims clearing houses, and other source sites, and requested by a hospital.

FIG. 2 illustrates an exemplary method and system that enables a hospital to obtain medical information about a group of people without violating the privacy of persons in the group.

FIG. 3 illustrates an exemplary system incorporating an encryption server and a de-identified data server to enable a user who is not permitted to obtain the private data of a group of individuals who have been discharged from a hospital to instead obtain a report that characterizes the group of discharges as a whole.

FIG. 4 illustrates an exemplary message requesting de-identified data about a group of discharges.

FIG. 5 is a flowchart that represents exemplary operations of a token generator.

FIG. 6 is a flowchart that represents exemplary operations of a token matcher.

FIG. 7 represents a computer system and related components.

Like reference symbols in the various drawings indicate like elements.

## DETAILED DESCRIPTION

**[012]** Referring to FIG. 1, when a doctor treats Jack 102 for high blood pressure, a surgeon removes Jack's gallstones, and a pharmacist fills Jack's prescription for

insulin, Jack leaves a trail of electronic records 104 with healthcare professionals (e.g., healthcare professional 106), in their offices (e.g., doctor's office, nurse's station, etc.), in healthcare facilities (e.g., a hospital 108, a pharmacy 110, a nursing home, etc.) and the like. The electronic records 104 contain medical data 112 about Jack, for example his illnesses 114 and treatments 116. Each piece of medical data 112 is associated with personally identifiable information 118 that identifies Jack and distinguishes him from all other patients, such as his first name 120, last name 122, date of birth 124, gender 126, and zip code 128. Together, the pieces of medical data 112 and the personally identifiable information 118 make up Jack's protected health information (PHI) 130.

**[013]** Each of Jack's healthcare providers may submit health insurance claims 105 containing PHI 130, as well as additional PHI 130, to a claims clearing house 137. The claims clearing house 137 may store the PHI 130 of many patients 134, including Jack, in a PHI database 136. A de-identifier 142 can process the PHI 130 to generate irreversibly de-identified data 140 by removing all personally identifiable information 118 or otherwise transforming the PHI 130 so that it cannot be associated with a particular person. A claims warehouse 139 stores de-identified data 140 about many patients 134. Claims clearing houses 137 and claims warehouses 139 are optimized for retrieving and providing PHI 136 and de-identified data 140 for use in further processing, but health care providers such as healthcare professionals 106 and pharmacies 110 may also serve as source sites 138 for de-identified data in a distributed system.

**[014]** By searching for Jack's personally identifiable information 118 in its electronic records 104, the pharmacy 110 is able to look up the various drugs in Jack's PHI 130 and, for example, check for bad interactions among them. Jack does not object to this use of his PHI 130 because it improves the quality of his healthcare. On the other hand, Jack would object to the pharmacy 110 giving his PHI 130 to third parties without his permission because that would disclose

personal, private information about him that Jack's potential employers, for example, might use to discriminate against him.

**[015]** Federal laws, such as the Health Insurance Portability and Accountability Act (HIPAA), protect Jack by prohibiting the source sites 138 possessing Jack's PHI 130 from releasing it to third parties without Jack's permission. Under HIPAA, the source sites 138 can release only irreversibly de-identified data 140 without Jack's permission.

**[016]** A healthcare facility, for example a hospital 150, may be interested in outpatient medical information contained in Jack's PHI 130 that occurs post-discharge. Since the hospital may not have access to post discharge medical information it may not have the knowledge to fully understand the potential risk of rehospitalizations or other medical events for a group 154. In that case, the hospital 150 would like to use the PHI 136 from the group 154 to assess the risk of rehospitalization or other medical events. The hospital can use this information to make adjustments to treatments and improve the quality of care. Unfortunately, the group 154 may also be too large for the hospital 150 to practically obtain permission from each person in the group, without which HIPAA prohibits the healthcare providers 138 from releasing the PHI 136 to the hospital 150 for care not related to the hospitalization. Practically speaking, even when hospitals have the authority to obtain the requested data they may not have a mechanism for doing so. The de-identified data 140, which the healthcare providers or other source sites 138 could release without permission, is not useful to the hospital 150 because the hospital has no way to know whether it corresponds to the people in the group 154. With no way to obtain pre and post hospitalization medical data for the group, the hospital 150 cannot determine post discharge medical events for the group.

**[017]** Referring to FIG. 2, to provide the hospital 150 with the pre and post hospitalization medical data necessary to generate the post discharge report for the group 154, without revealing the protected health information of persons in the

group 154, the exemplary system 200 associates unique tokens 202 with the irreversibly de-identified data 140. The tokens 202 correspond to persons treated by healthcare providers but do not reveal the identities of the treated individuals. The hospital 150 can send a data request 203 to a third party 205, who in turn can generate request tokens 204, one for each person in the group 154. The third party 205 can send the request tokens 204 to a data aggregator 206. The data aggregator 206 stores de-identified data 140 and associated tokens 202. By searching for the request tokens 204 among the stored tokens 202, the data aggregator 206 can process the de-identified data to generate requested de-identified data 208 that corresponds to the group 154. A data processor 210 can process the requested de-identified data 208 to generate a report 212 containing metrics such as medication utilization reports that are useful to the hospital 150 in assessing the overall post discharge health status of the group 154.

**[018]** By using the tokens 202 and request tokens 204, no parties other than the authorized source sites 138 can associate de-identified data 140 with the identity of any person in the group of patients 134 or discharges (e.g., the group 154). The hospital 150 requesting the report 212 can never receive data associated with individuals. Further, the information in the report 212 may be processed into metrics that characterize a large group and cannot be used to infer information about individuals. De-identified data records may be provided to the data processor 210 (e.g., a third party data processor), but that third party may not have access to any personally identifiable information 118 about the group 154. Nor may any party with access to the de-identified data 140, other than the healthcare providers 138, also have access to the de-identifier 142. These features of the system 200 maintain the privacy of the protected health information 130.

**[019]** While we describe a system in which a hospital 150 needs to estimate the post discharge health status of a group of discharges, the system 200 can work for applications in which information characterizing a group needs to be generated from the private data of group members. In one arrangement, the system may

implement Microsoft Windows-based computers in connection with internet-based components. However, other implementations may use other types of components that support the processing of pre and post hospitalization medical data from healthcare databases.

**[020]** While the hospital 150 is referred to as a location interested in the post discharge health status of a group of discharges, one or more other types of healthcare facilities may utilize the techniques and methodologies described herein. Such healthcare facilities may include dialysis centers, specialty clinics, retirement homes, rehabilitation centers, or other types of entities where post encounter follow up may be of interest.

**[021]** Referring to FIG. 3, in an exemplary system 300, a user 302 specifies a group of people using identifying data for each group member. Referring briefly to FIG. 4, an exemplary set of identifying data 404 is illustrated. Returning to FIG. 3, the user may obtain the personally identifiable information from a database 304 by retrieving it in the form of a group file 330. The user 302 generates a request message 306, which may be a computer file, which uniquely identifies each member of the group using the identifying data 304. Typically, the group contains at least a minimum number of unique members. A request message 306 may be generated at a remote computer operated by the user 302.

**[022]** The request message 306 contains a set of identifying data 404 (see FIG. 4) for each group member, as well as data that identifies a user 402 (see FIG. 4), such as the user's name, email address, phone number and facsimile number, and a batch number 406 that identifies the request. The group members' identifying data 404 (see FIG. 4) may include first name, last name, date of birth, gender, and zip code as well as other identifiers, such as social security number, that may be added to ensure that members are uniquely identified. In some examples, fewer identifiers may be used. The request message 306 may also include optional indications that the user 302 requests a particular type of report 212 or requests additional

processing to enhance the value of the report. The request message may also contain additional non-identified (not containing any personally identifiable information) data 405 to be used by a report generator 328. These additional non-identified data 405 will be encrypted upon submission allowing access to only a report generator 328. Alternatively, the additional data 405 may be passed directly to the report generator 328 as shown by dotted line 329. These non-identified data 405 may include service dates, diagnosis information, or other pre-encounter and/or post-encounter details.

**[023]** The request message 306 is sent over a communications network 310 (e.g., the Internet, a LAN, etc.) to an encryption server 312. If the request message 306 contains a minimum number of unique group members, the encryption server 312 creates a unique token, or identifier, for each person in the message 306. The encryption server creates each token by applying a token generator 314 that encrypts the personally identifiable information of each group member and passes the pre-encrypted non-identified data through the system to a report writer. The set of tokens corresponding to all the group members constitutes a batch of request tokens 204. The minimum number of group members, for example ten, is chosen to make it effectively impossible to associate individual group members with individual tokens in the batch of request tokens 204.

**[024]** The encryption server 312 provides the request tokens 204 to the de-identified data server 318. The de-identified data server 318 stores records of de-identified data and corresponding tokens 320 obtained from source sites 138 such as pharmacies, healthcare professionals, rehabilitation centers, and electronic claims clearing houses. Other sources of data can include prison records, arrest records, the national death index or other death records, medical laboratories, dialysis centers, nursing homes, radiology providers, potentially military records, employment records, financial records, or DMV records. Each token obtained from the source sites 138 may have been created using the same token generator

314 used by the encryption server 312, or using any other means that generates the identical token for the same personally identifiable information.

**[025]** For example, a pharmacy tracks the prescription histories of the patients being served. De-identified prescription histories and corresponding tokens are sent to the de-identified data server 318. At the request of a user 302, such as a hospital, the encryption server 312 generates tokens identical to the patients' tokens using the same personally identifiable information. A unique token corresponding to the same personally identifiable information permits the pharmacy and the hospital to refer to the same anonymous people without the hospital ever associating protected health information with a particular person. To produce tokens and request tokens, one or more encryption techniques may be utilized, for example, hash functions and other methodologies may be implemented.

**[026]** A token matcher 326, executed by the de-identified data server 318, performs a look-up in the de-identified database 320 to find all tokens in the database that match the tokens sent from the encryption server 312. All available data for matched tokens, the requested de-identified data 208, is retrieved for use in the report generator 328. The de-identified data may include, for example, prescription data, medical claims, and hospital claims. The de-identified data server 318 or the data processor 210 may use the report generator 328 to process the requested de-identified data 208 in a way that leaves it irreversibly de-identified. An example of such processing is an algorithm that transforms the data into a post discharge health status assessment. The report generator formats the processed data into an electronic or hardcopy report 212 that is returned to the user.

**[027]** While the report 212 is described as generated on a computer system, it may also be generated in part or entirely outside the computer system. For example, the report 212 could be conveyed to the user via regular mail or other similar technique. In particular, the report may be generated and printed at the site of the de-identified data server 318 and subsequently communicated to the user 302

without using the computer network. The report generator 328 may also reside in the data processor 210 separate from the de-identified data server 318.

**[028]** In one arrangement, once the relevant information and options have been selected, the user 302 submits the request by clicking a submit button. The request message 306 may be encrypted prior to being transmitted over a computer network 310. At the encryption server 312, the request message 306 is unencrypted and stored. The encryption server 312 may send an optional confirmation message to the user 302. The confirmation message may include the time and date that the message was received, and may indicate the service level and options selected by the user 302.

**[029]** Referring to FIG. 4, the user 302 can input the user's identifying information 402, including name, email address, phone number and/or facsimile number, in the first record, or set of fields, of the request message 306. The user can then input the personally identifiable information 404 for each of the group members, including first name, last name, gender, date of birth, and zip code. The user may also input additional data 405 such as service dates, diagnosis information, or other encounter details that will be rendered non-identified and encrypted upon submission. Equivalently, the user can incorporate the group file 330 into the request message 306. Information about the ward 408 from which the group was discharged, or other purpose for which the report 212 is being requested may also be included in the request message 306. The format of the request message 306 may be adjusted based on the user's 302 needs.

**[030]** The request message 306 may also include information about the level of service 410 requested by the user 302, for example the quantity, quality or type of information. A first level of service may request up to six months of pre and post hospitalization medical data; a second level may request up to twelve months of data; and a third level may request a two year pre and post hospitalization medical data. Alternatively, instead of providing the user 302 with a variety of service level

options 410, the system 300 may simply retrieve all of the pre and post hospitalization medical data available for the group.

**[031]** The user 302 may also request additional, optional information 412. For example, the user 302 may request information regarding the drug categories and drug indications associated with the drugs in the de-identified data. Drug indications include the medical conditions associated with each drug. Drug categories include the type of drug. This data can be passed to the data processor 210 to include in the report 212. Alternatively, this data may be returned as part of every report 212.

**[032]** Referring to FIG. 5, a flowchart 500 represents a particular arrangement of operations of a token generator (e.g., the token generator 314 shown in FIG. 3). Operations include receiving 502 the request message (e.g., request message 306) containing the personally identifiable information of each person in the group (e.g., such as the group 154 shown in FIG. 1). Upon receiving the request message, operations may also include determining 504 whether the message includes the minimum number of persons. If the message does not include the minimum number of persons, the token generator returns to receive 502 a request message. A limit on the minimum number of persons ensures that a report (e.g., the report 212) covers enough people such that it is difficult (if not impossible) to infer any association between particular persons and the information in the report. If the message does include the minimum number of people, operations of the token generator include producing 508 tokens from the identifying data of each person. Producing the tokens may include applying an encryption algorithm to the identifying data of each person. The tokens uniquely identify each person in the group 154.

**[033]** Operations also include determining 510 if the request message includes a batch number. If the message does not include a batch number, operations include generating 512 a batch number. Operations also include providing 516 the tokens,

batch number and report options. The individual tokens are placed in a batch file and may be encrypted before being transmitted over the network.

**[034]** Each batch file of request tokens 204 also specifies the information needed for the report 212. The request tokens are transmitted to the de-identified data server 318, unencrypted and processed using rules for searching, matching, and retrieving healthcare data.

**[035]** Referring to FIG. 6, a flowchart 600 represents a particular arrangement of operations of a token matcher (e.g., the token matcher 326 shown in FIG. 3). Operations include receiving 602 request tokens (e.g., such as the request tokens 204 shown in FIG. 2). Operations may also include receiving 604 a token (e.g., such as the token 202) and associated de-identified data (e.g., such as the de-identified data 140), typically from source sites (e.g., such as the source site 138 shown in FIG. 1). Upon receiving a request token, de-identified data and a token, operations include determining 606 whether the request token matches the token. If no match is found, operations include returning to receive 604 more tokens and de-identified data. If a match is found, operations include processing 608 the de-identified data. Processing may include storage for later retrieval. In some arrangements, operations may also include determining whether a minimum number of matches has been detected. If such a minimum number of matches has not occurred in comparing the request tokens and the tokens, action may be taken (e.g., pause or restart processing) until the predefined number of matches has been detected (e.g., so as not to increase the probability of one or more individuals being identified by a process of elimination).

**[036]** In addition to determining that a minimum number of matches has been found operations may also include processing of other privacy-preserving rules. For example, a rule may not allow the same user 302 (e.g., hospital 150) to submit more than one request message 306 containing substantially the same identifying data 404 within a defined period of time, e.g., six months. Identifying substantially

the same identifying data 404 from a user 302 may involve comparing the identifying data 404 from different stored request messages 306 and checking that at least a minimum variation exists in the request messages 306. For example, this may involve checking that the identifying data 404 for at least five patients does not match the identifying data 404 for any previous search request 306 by the user 302. Especially when combined with the size requirements and less than 100% capture rate, such rules greatly reduce the possibility of identifying any one person's data.

**[037]** The de-identified data (e.g., such as the de-identified data 140) may include a list of drugs prescribed over the requested period for the members of the group (e.g., such as the group 154). The list of drugs prescribed may include the drug name, form, strength, days supplied, and date dispensed. The de-identified data could also include data from other sources such as those listed above, and include diagnosis, procedures, prison release date, date of death, date of arrest, etc. As part of processing 608 the de-identified data, operations may include determining the drug category and drug indications for each drug prescribed. Operations may also include accessing a database relating the drug category and indications to each possible drug. The database may be maintained within the de-identified data server 318 database, or may be accessed on a remote server maintained by a third party.

**[038]** Upon processing the de-identified data, operations also include determining 610 if additional tokens remain in the batch of request tokens (e.g., such as the request tokens 204). If additional tokens remain, operations include receiving 602 more request tokens. If there are no additional request tokens, operations may include outputting 612 the processed, de-identified data.

**[039]** Operations may also include providing the number of tokens submitted, the number matched, and the overall match rate. The collected data covers the interval of historical data according to the level of service requested (e.g., as represented by the level of service 410 in FIG. 4). De-identified diagnosis and procedures data

may also be included from administrative medical claims from a doctor's office (e.g., office 106) or a healthcare facility (e.g., the hospital 108).

**[040]** In addition to accessing and incorporating drug indication information for each drug prescribed to persons in the group (e.g., such as group 154), operations may include further processing of the requested de-identified data. For instance, operations may include determining the probability that a particular drug indicates a particular condition. In this example, in addition to providing the possible indications, the requested de-identified data would include the likelihood that anonymous individuals associated with the request tokens (e.g., such as request tokens 204) have each of the conditions indicated by the prescribed drugs. Operations may also include using expert rule systems to provide health status information based on the prescription drug medical data. Alternatively, operations may include using diagnosis codes from medical claims data to assess health status. In some arrangements, operations may also include integrating the de-identified data with the non-identified data 405.

**[041]** The requested de-identified data 208 may be sent for further processing to a third party data processor (e.g., data processor 210) who may apply proprietary algorithms, modify the data format, or generate additional reports, provided that no re-identifiable information is transmitted to the user 302. Third parties may not have access to the request message 306 and the group file 330 so that no association may be inferred between the de-identified data 140 and particular persons in the group 154.

**[042]** In some implementations, the report 212 can include analysis results. The analysis results can include statistical analyses, correlations of varying post-discharge characteristics, comorbidity rates, or other metadata. The analysis results can be determined by the third party data processor. The analysis results can be generated automatically, or by human intervention. For example, in addition to the

report 212, a human analyst can respond to the user 302 with custom analysis relating to the user's 302 request message 306.

**[043]** The report 212 provides the hospital 150 with information for making an informed decision about the relationship between the hospitalization and the health status of the group of discharges. Hospitals could identify changes in the process of care provided during or after the hospitalization by having information on trends in outpatient health care utilization. In particular, the hospital 150 may change internal policies including discharge instructions, structure of care, process of care, or other relevant operating procedures based on the information in the report 212. Patterns from multiple reports over time may be used to determine which actions to take, if any. The report 212 may be used alone to make decisions about the health status of the group 154, or may simply indicate that additional investigation is needed.

**[044]** In some implementations, all reports 212 can be saved and archived by the system 200. Data on the saved reports 212 can be made available to the hospital 150. For example, a hospital 150 may query the system 200 about a group 154 of patients sharing a characteristic, and deliver a report for the group as well as a second report. The second group could include, for example, comparative data for all patients discharged from the hospital.

**[045]** FIG. 7 is a schematic diagram of a generic computer system 700. The system 700 can be used for the operations described in association with any of the computer-implemented methods described previously, according to one implementation. The system 700 includes a processor 710, a memory 720, a storage device 730, and an input/output device 740. Each of the components 710, 720, 730, and 740 are interconnected using a system bus 750. The processor 710 is capable of processing instructions for execution within the system 700. In one implementation, the processor 710 is a single-threaded processor. In another implementation, the processor 710 is a multi-threaded processor. The processor

710 is capable of processing instructions stored in the memory 720 or on the storage device 730 to display graphical information for a user interface on the input/output device 740.

**[046]** The memory 720 stores information within the system 700. In some implementations, the memory 720 is a computer-readable medium. The memory 720 is a volatile memory unit in some implementations and is a non-volatile memory unit in other implementations.

**[047]** The storage device 730 is capable of providing mass storage for the system 700. In one implementation, the storage device 730 is a computer-readable medium. In various different implementations, the storage device 730 may be a floppy disk device, a hard disk device, an optical disk device, or a tape device.

**[048]** The input/output device 740 provides input/output operations for the system 700. In one implementation, the input/output device 740 includes a keyboard and/or pointing device. In another implementation, the input/output device 740 includes a display unit for displaying graphical user interfaces.

**[049]** The features described can be implemented in digital electronic circuitry, or in computer hardware, firmware, software, or in combinations of them. The apparatus can be implemented in a computer program product tangibly embodied in an information carrier, e.g., in a machine-readable storage device, for execution by a programmable processor; and method steps can be performed by a programmable processor executing a program of instructions to perform functions of the described implementations by operating on input data and generating output. The described features can be implemented advantageously in one or more computer programs that are executable on a programmable system including at least one programmable processor coupled to receive data and instructions from, and to transmit data and instructions to, a data storage system, at least one input device, and at least one output device. A computer program is a set of instructions that can be used, directly or indirectly, in a computer to perform a certain activity

or bring about a certain result. A computer program can be written in any form of programming language, including compiled or interpreted languages, and it can be deployed in any form, including as a stand-alone program or as a module, component, subroutine, or other unit suitable for use in a computing environment.

**[050]** Suitable processors for the execution of a program of instructions include, by way of example, both general and special purpose microprocessors, and the sole processor or one of multiple processors of any kind of computer. Generally, a processor will receive instructions and data from a read-only memory or a random access memory or both. The essential elements of a computer are a processor for executing instructions and one or more memories for storing instructions and data. Generally, a computer will also include, or be operatively coupled to communicate with, one or more mass storage devices for storing data files; such devices include magnetic disks, such as internal hard disks and removable disks; magneto-optical disks; and optical disks. Storage devices suitable for tangibly embodying computer program instructions and data include all forms of non-volatile memory, including by way of example semiconductor memory devices, such as EPROM, EEPROM, and flash memory devices; magnetic disks such as internal hard disks and removable disks; magneto-optical disks; and CD-ROM and DVD-ROM disks. The processor and the memory can be supplemented by, or incorporated in, ASICs (application-specific integrated circuits).

**[051]** To provide for interaction with a user, the features can be implemented on a computer having a display device such as a CRT (cathode ray tube) or LCD (liquid crystal display) monitor for displaying information to the user and a keyboard and a pointing device such as a mouse or a trackball by which the user can provide input to the computer.

**[052]** The features can be implemented in a computer system that includes a back-end component, such as a data server, or that includes a middleware component, such as an application server or an Internet server, or that includes a

front-end component, such as a client computer having a graphical user interface or an Internet browser, or any combination of them. The components of the system can be connected by any form or medium of digital data communication such as a communication network. Examples of communication networks include, e.g., a LAN, a WAN, and the computers and networks forming the Internet.

**[053]** The computer system can include clients and servers. A client and server are generally remote from each other and typically interact through a network, such as the described one. The relationship of client and server arises by virtue of computer programs running on the respective computers and having a client-server relationship to each other.

**[054]** A number of implementations have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the following claims.

**WHAT IS CLAIMED IS:**

1. A computer-implemented method comprising:

receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals;

producing, by a hardware processor, a request token for each individual included in the group of individuals;

comparing the request tokens to tokens associated with the medical data to find matching tokens;

producing the requested medical information, the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group; and

providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals.

2. The computer-implemented method of claim 1, wherein the provided medical information is in conformity with the Health Insurance Portability and Accountability Act (HIPAA).

3. The computer-implemented method of claim 1, wherein receiving the request for medical information that characterizes the group of individuals includes receiving personally identifiable information associated with the individuals of the group.

4. The computer-implemented method of claim 1, in which producing the requested medical information includes encrypting respective data that identifies each individual.

5. The computer-implemented method of claim 1, in which the tokens associated with medical data and the request tokens are similarly encrypted.

6. The computer-implemented method of claim 1, in which the medical data represents medical-related information associated with the individuals of the group.

7. A system comprising:

a computing device comprising:

a memory configured to store instructions; and

a processor to execute the instructions to perform operations comprising:

receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals;

producing a request token for each individual included in the group of individuals;

comparing the request tokens to tokens associated with the medical data to find matching tokens;

producing the requested medical information with the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group; and

providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals.

8. The system of claim 7, wherein the provided medical information is in conformity with the Health Insurance Portability and Accountability Act (HIPAA).

9. The system of claim 7, wherein the request for medical information that characterizes a group of individuals includes personally identifiable information associated with the individuals of the group.

10. The system of claim 7, in which the data that identifies each individual is encrypted.

11. The system of claim 7, in which the tokens associated with the medical data and the request tokens are similarly encrypted.

12. The system of claim 7, in which the data server provides the requested medical information if the group includes at least a minimum number of individuals.

13. The system of claim 7, in which the medical data represents medical-related information associated with the individuals of the group.

14. One or more computer readable storage devices storing instructions that are executable by a processing device, and upon such execution cause the processing device to perform operations comprising:

receiving a request from a user device for medical information that characterizes a group composed of multiple individuals from a set of de-identified medical data representing pre-or post-encounter characteristics of the individuals;

producing, by a hardware processor, a request token for each individual included in the group of individuals;

comparing the request tokens to tokens associated with the medical data to find matching tokens;

producing the requested medical information with the identity of the individuals being unattainable from the produced medical information without the individuals in the group having authorized production of such medical information that characterizes the group; and

providing the produced medical information to report the characteristics of the group of individuals absent authorization from the individuals in the group of individuals.

15. The computer readable storage devices of claim 14, wherein the provided medical information is in conformity with the Health Insurance Portability and Accountability Act (HIPAA).

16. The computer readable storage devices of claim 14, wherein receiving the request for medical information that characterizes the group of individuals includes receiving personally identifiable information associated with the individuals of the group.

17. The computer readable storage devices of claim 14, in which producing the requested medical information includes encrypting respective data that identifies each individual.

18. The computer readable storage devices of claim 14, in which the tokens associated with the medical data and the request tokens are similarly encrypted.

19. The computer readable storage devices of claim 14, in which the medical data represents medical-related information associated with the individuals of the group.

20. The computer readable storage devices of claim 14, in which producing the requested medical information includes determining if the group includes at least a minimum number of individuals.

## ABSTRACT

A computer-implemented method includes producing medical information that characterizes a group of individuals from a set of private data representing pre or post-encounter characteristics of the individuals, wherein the individuals have had encounters with a healthcare facility. The identity of the individuals is unattainable from the produced medical information. The method also includes providing the produced medical information to report the pre or post-encounter characteristics of the group.

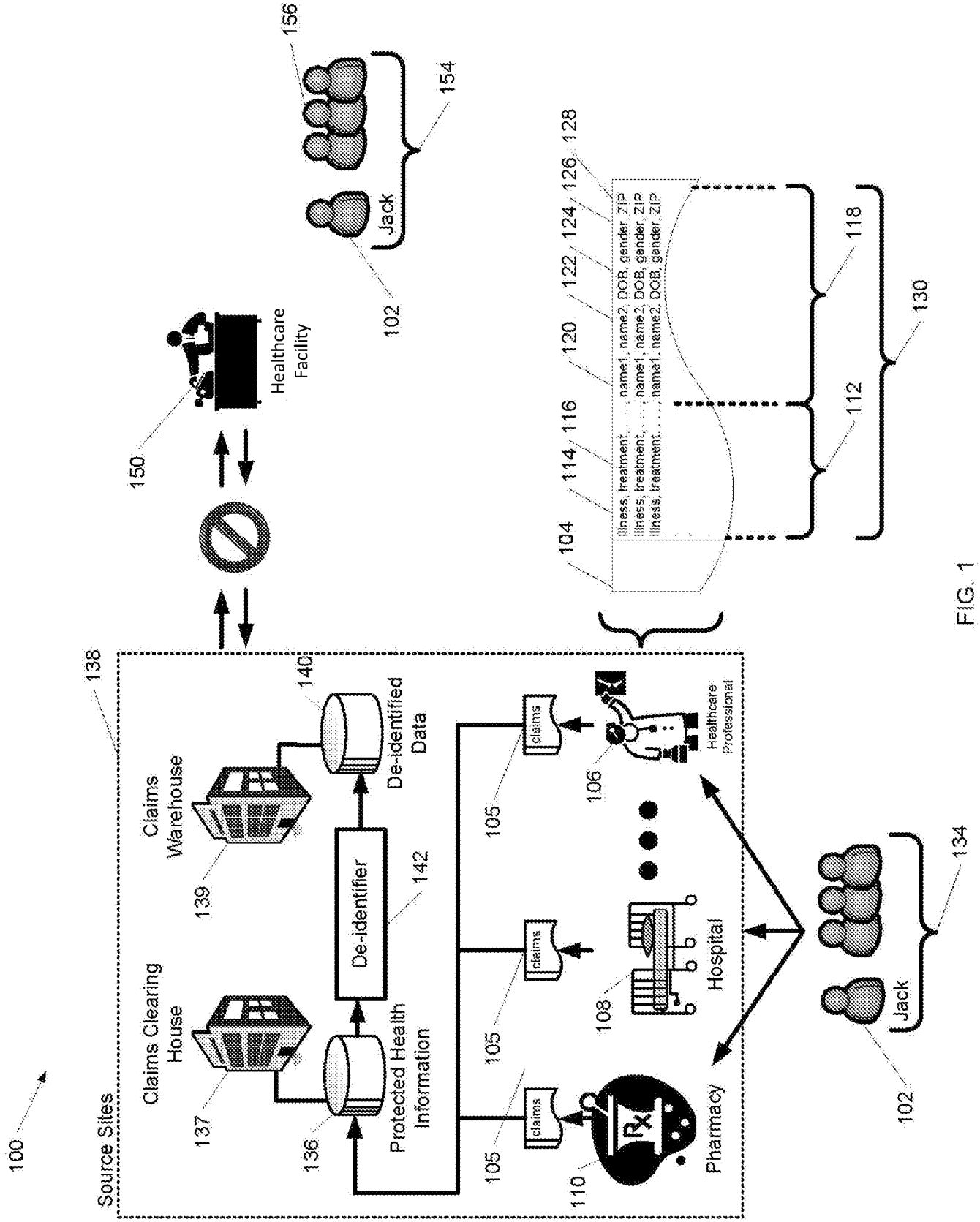

100
Source Sites
138
Claims Clearing House
137
Claims Warehouse
139
Protected Health Information
136
De-identifier
142
De-identified Data
140
claims
105
Pharmacy
110
Hospital
108
Healthcare Professional
106
Healthcare Facility
150
Jack
102
156
154
104
114
116
120
122
124
126
128
illness, treatment, . . . , name1, name2, DOB, gender, ZIP
112
118
130
134

FIG. 1

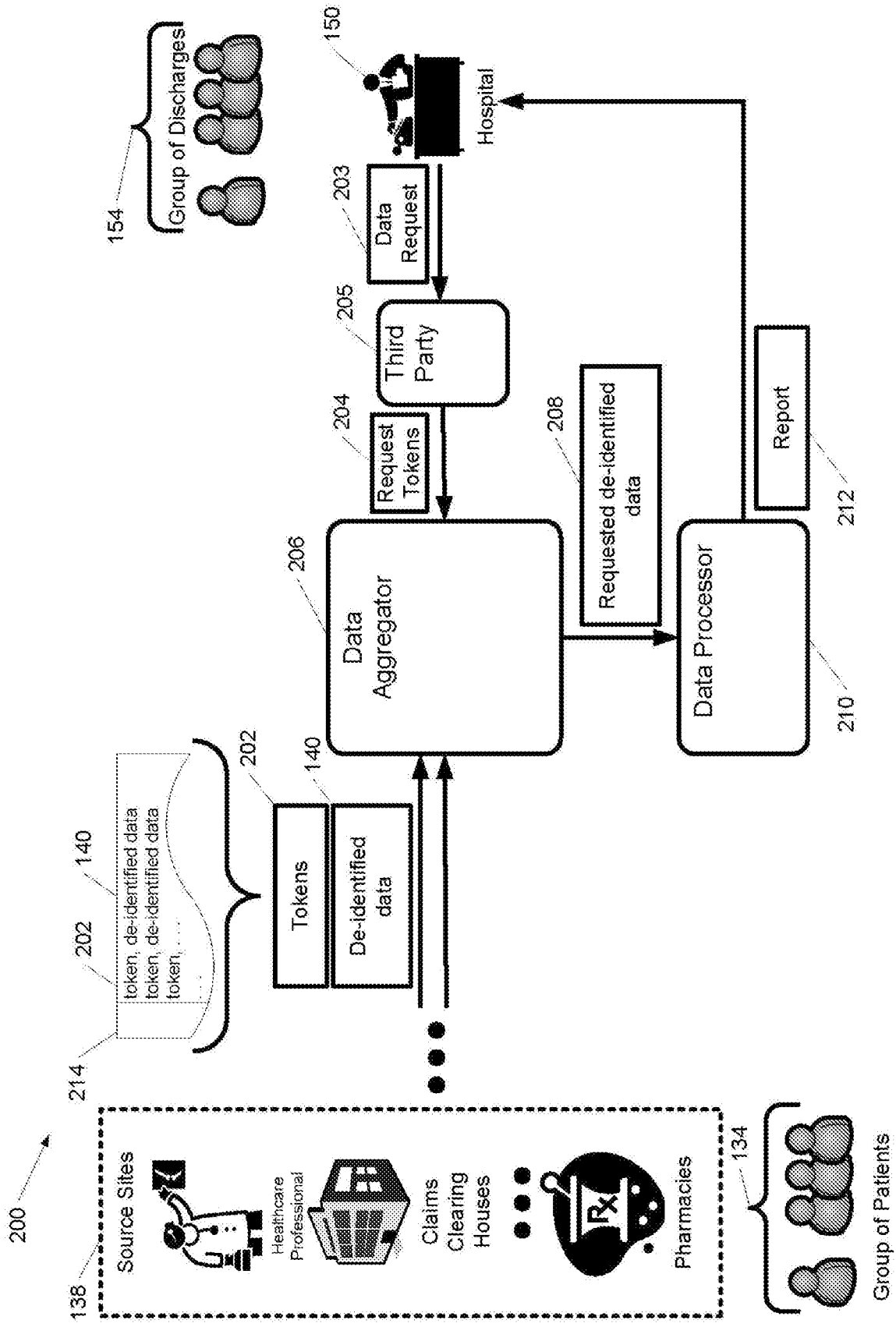

200
Source Sites
Healthcare Professional
Claims Clearing Houses
Pharmacies
138
134
Group of Patients
214
token, de-identified data
token, de-identified data
token, . . .
202
140
Tokens
De-identified data
202
140
Data Aggregator
206
Request Tokens
204
Third Party
205
Data Request
203
Hospital
150
Group of Discharges
154
Requested de-identified data
208
Data Processor
210
Report
212

FIG. 2

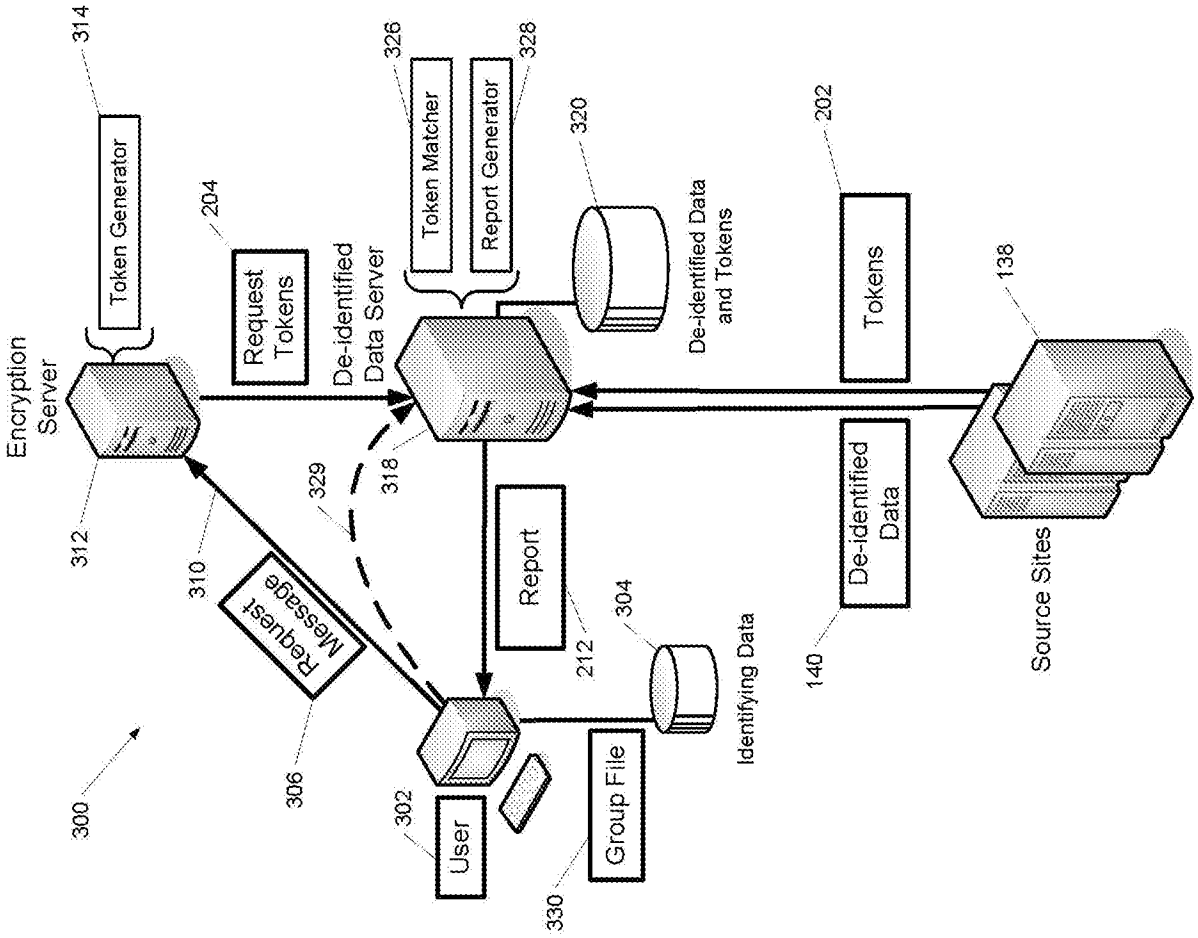

314
Token Generator
326
Token Matcher
328
Report Generator
320
De-identified Data and Tokens
202
Tokens
204
Request Tokens
De-identified Data Server
138
Encryption Server
329
318
312
310
Request Message
Report
212
304
Identifying Data
De-identified Data
140
Source Sites
300
306
302
User
Group File
330

FIG. 3

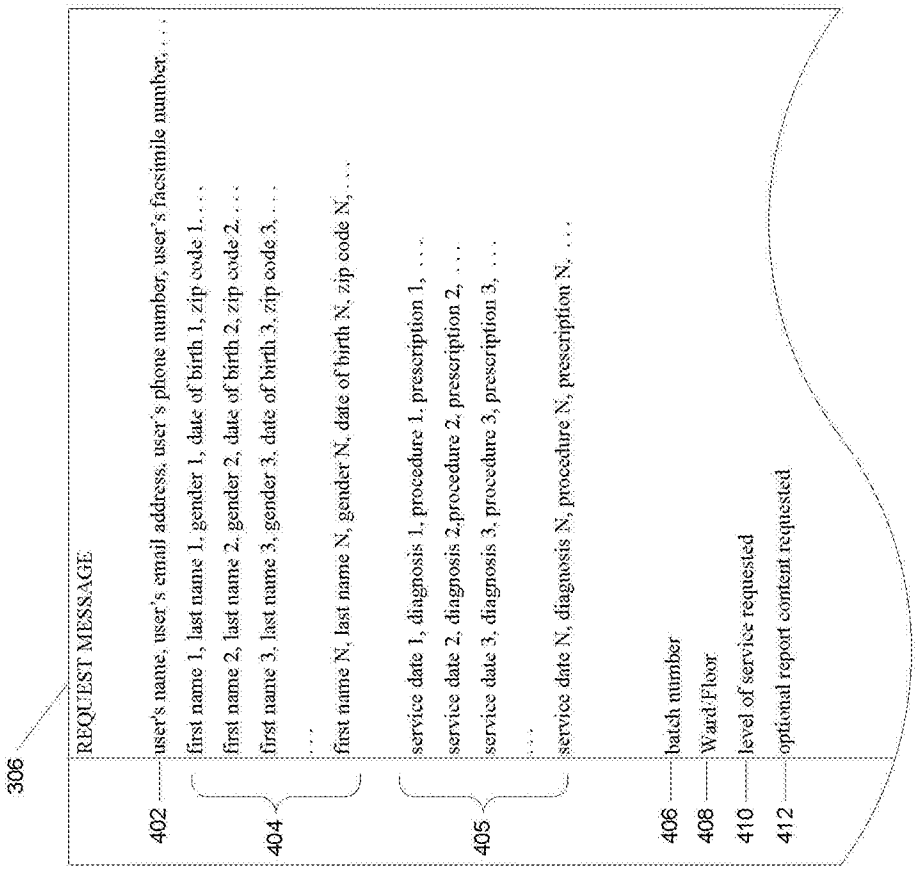

306
REQUEST MESSAGE
402
user's name, user's email address, user's phone number, user's facsimile number, . . .
404
first name 1, last name 1, gender 1, date of birth 1, zip code 1, . . .
first name 2, last name 2, gender 2, date of birth 2, zip code 2, . . .
first name 3, last name 3, gender 3, date of birth 3, zip code 3, . . .
. . .
first name N, last name N, gender N, date of birth N, zip code N, . . .
405
service date 1, diagnosis 1, procedure 1, prescription 1, . . .
service date 2, diagnosis 2,procedure 2, prescription 2, . . .
service date 3, diagnosis 3, procedure 3, prescription 3, . . .
. . .
service date N, diagnosis N, procedure N, prescription N, . . .
406
batch number
408
Ward/Floor
410
level of service requested
412
optional report content requested

FIG. 4

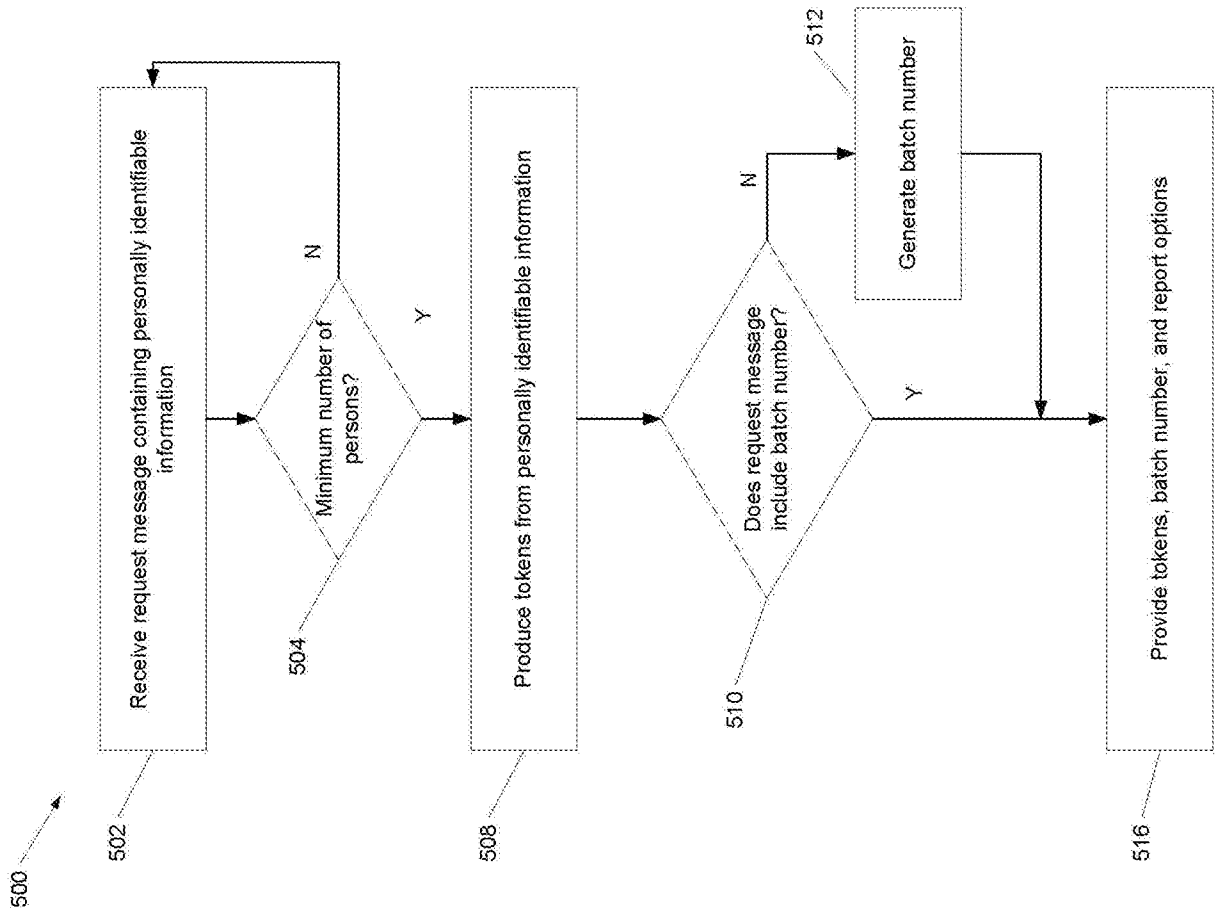

500
502
Receive request message containing personally identifiable information
504
Minimum number of persons?
N
Y
508
Produce tokens from personally identifiable information
510
Does request message include batch number?
N
Y
512
Generate batch number
516
Provide tokens, batch number, and report options

FIG. 5

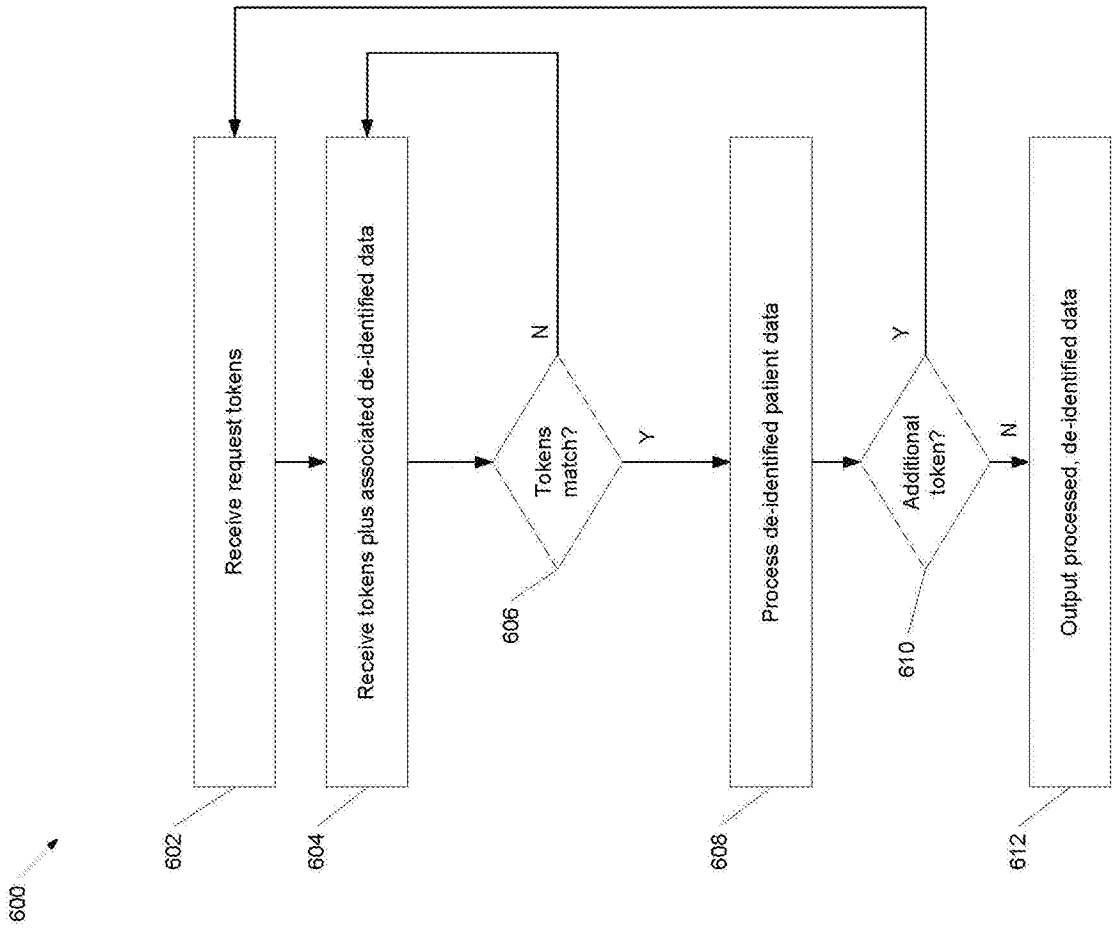

600
Receive request tokens
602
Receive tokens plus associated de-identified data
604
Tokens match?
606
N
Y
Process de-identified patient data
608
Additional token?
610
Y
N
Output processed, de-identified data
612

FIG. 6

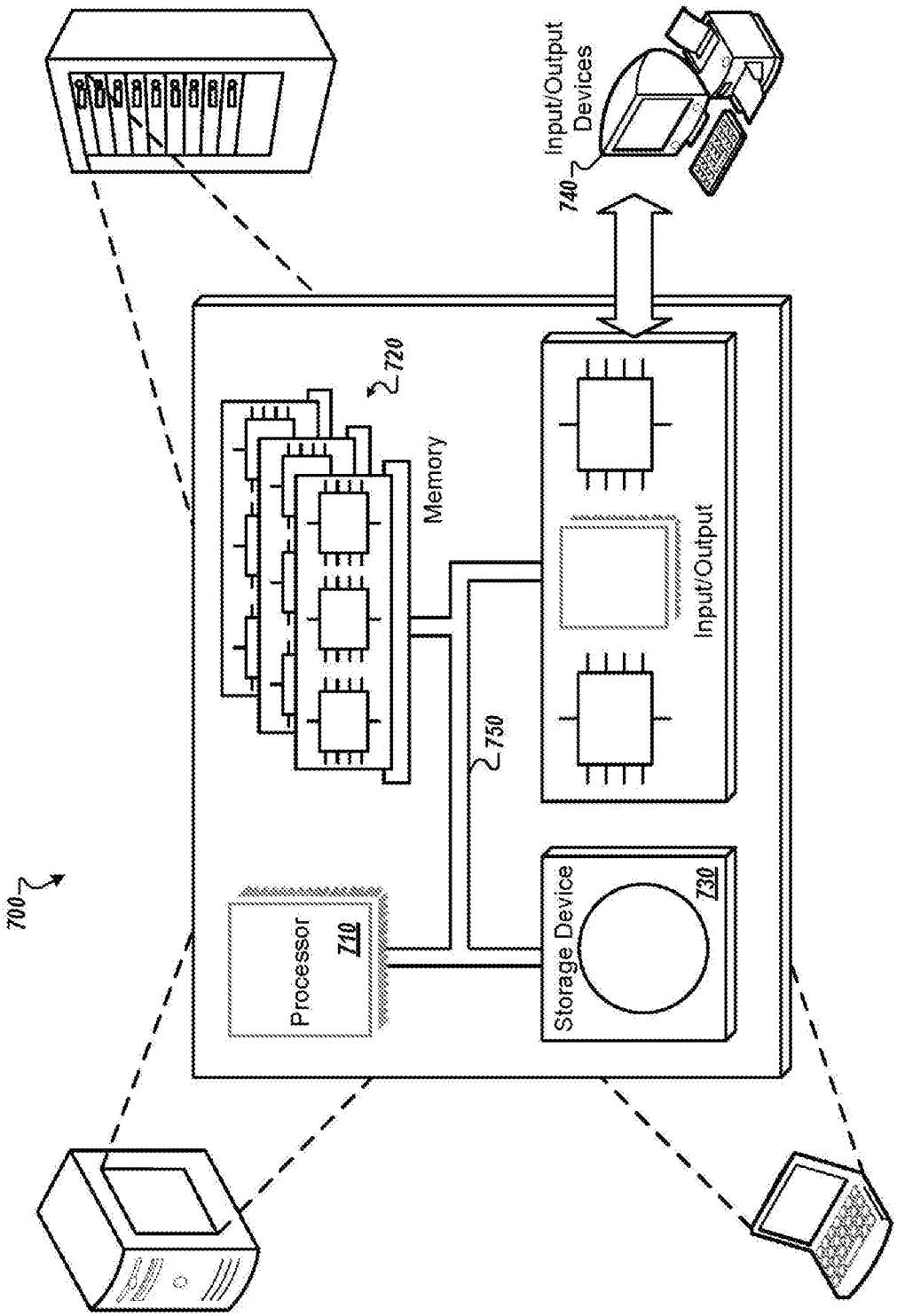

Input/Output Devices
740
720
Memory
Input/Output
750
Storage Device
730
Processor
710
700

FIG. 7

| NONPUBLICATION REQUEST UNDER 35 U.S.C. 122(b)(2)(B)(i) | | |
|---|---|---|
| | First Named Inventor | Andrew L. Paris III |
| | Title | Using De-identified Healthcare Data to Evaluate Post-Healthcare Facility Encounter Treatment Outcomes |
| | Attorney Docket Number | 25412-0003002 |

I hereby certify that the invention disclosed in the attached application **has not and will not be** the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing.

I hereby request that the attached application not be published under 35 U.S.C. 122(b).

| /Jeffrey J. Barclay, Reg. No. 48,950/ | 22 April 2016 |
|---|---|
| Signature | Date |
| Jeffrey J. Barclay | 48,950 |
| Typed or printed name | Registration Number, if applicable |
| | |
| Telephone Number | |

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application **upon filing**.

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant **must** notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. **Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | | | |
|---|---|---|---|---|---|
| First Named Inventor | : | Andrew L. Paris III | Art Unit | : | Unknown |
| Serial No. | : | | Examiner | : | Unknown |
| Filed | : | | | | |
| Title | : | USING DE-IDENTIFIED HEALTHCARE DATA TO EVALUATE POST-HEALTHCARE FACILITY ENCOUNTER TREATMENT OUTCOMES | | | |

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

## INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-SB-08 or Disclosure Form. Foreign patent documents and non-patent literature are enclosed; cited U.S. patents and patent application publications will be provided on request.

While these documents may be material pursuant to 37 C.F.R. § 1.56, their disclosure is not intended to constitute an admission that the documents are prior art in regard to this invention. The filing of this Statement should not be construed to mean that a search has been conducted or that no other material documents or information exists.

Under 35 USC §120, this application relies on the earlier filing date of application serial number 14/082,433, filed on November 18, 2013. The following references were submitted to and/or cited by the Office in the prior application and, therefore, are not provided in this application: References 1-22.

This statement is being filed with the application.

Apply any necessary charges or credits to deposit account 06-1050, referencing the above attorney docket number.

Please contact the undersigned if there are any questions regarding this Statement.

Respectfully submitted,

Date: 22 April 2016

/Jeffrey J. Barclay, Reg. No. 48,950/
Jeffrey J. Barclay
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