



SPRING PRIVACY SERIES

Consumer Generated and Controlled Health Data

MAY 7, 2014

Welcome

Welcoming Remarks

Commissioner Brill



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Controlled Health Data

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Health Data Flows

Latanya Sweeney

Chief Technologist, FTC



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Transparency Establishes Trust

@TechFTC

lsweeney@ftc.gov

theDataMap.org

Disclaimer

The views and opinions in this presentation represent my own and are not necessarily those of the U.S. Federal Trade Commission.

These views are for the benefit of public discourse and public education, and are not necessarily an opinion regarding any position I may take on related issues decided by the FTC.

Transparency Establishes Trust

Establishes Distrust

You, the Patient



Physician, Hospital



thedatamap.org

You, the Patient

Physician, Hospital

Life Insurance Company

Employer (Yours, Spouse's)

Payer (Insurer)

Consulting Physician

Pharmacy

Accreditation

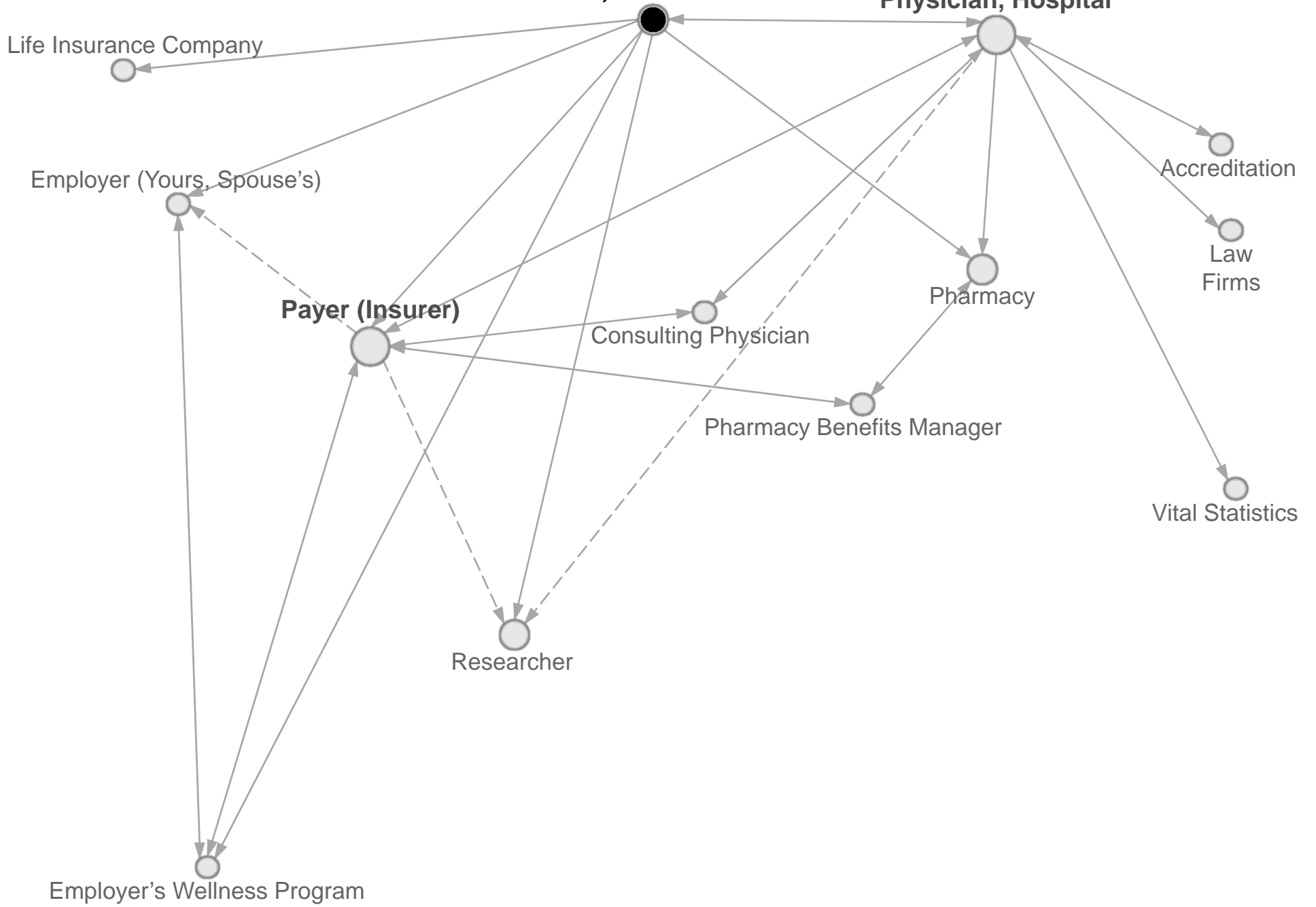
Law Firms

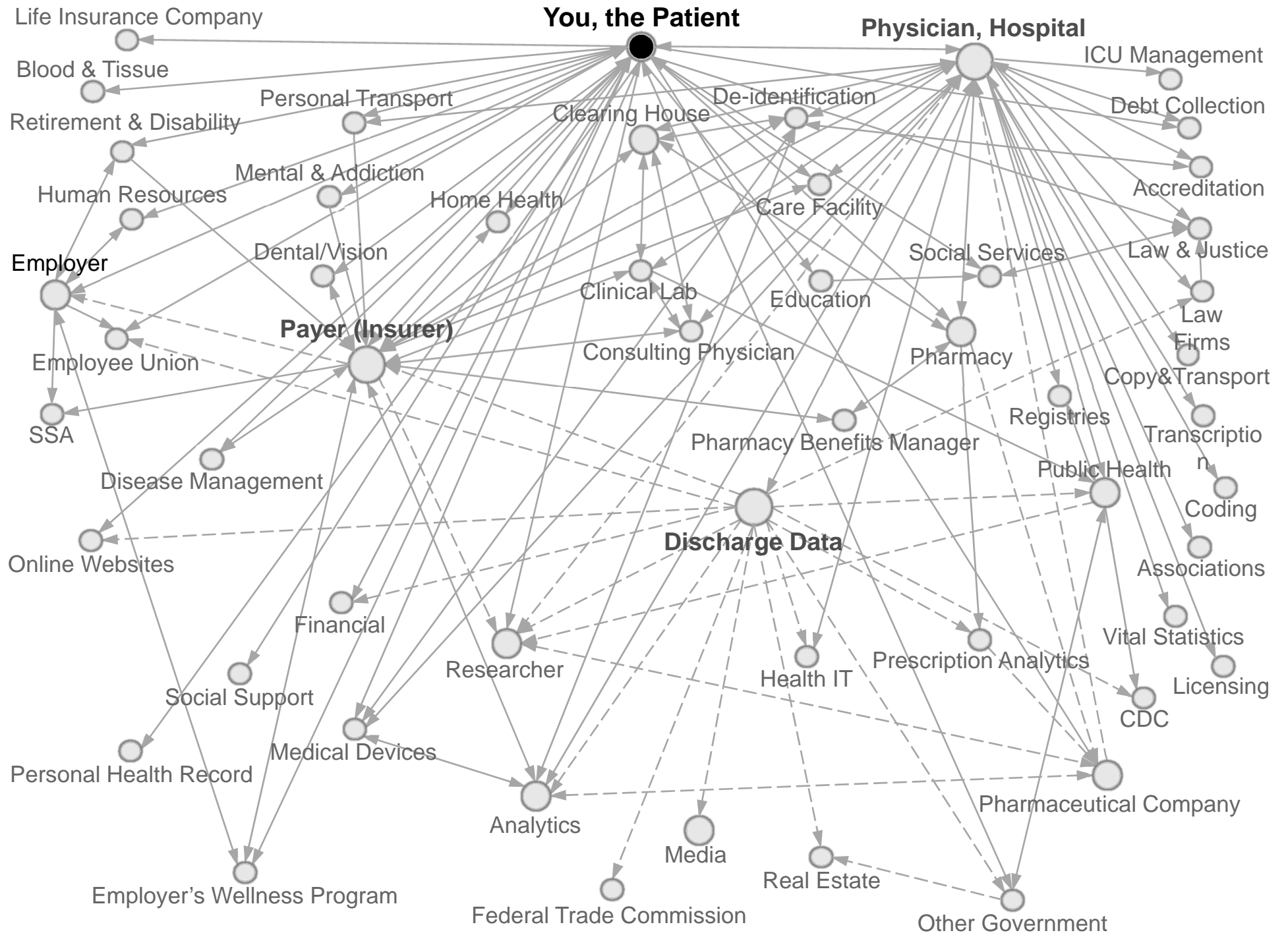
Pharmacy Benefits Manager

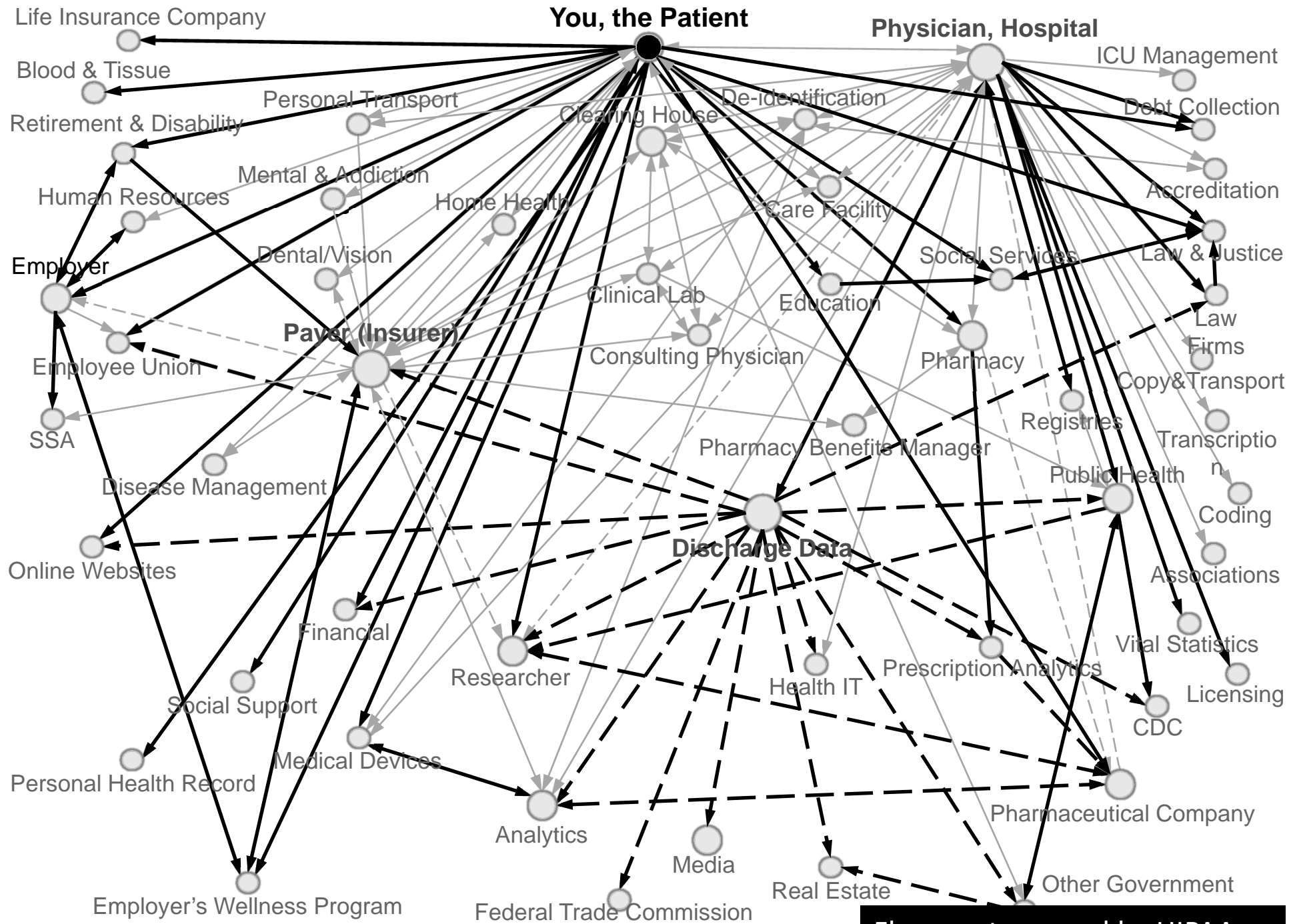
Vital Statistics

Researcher

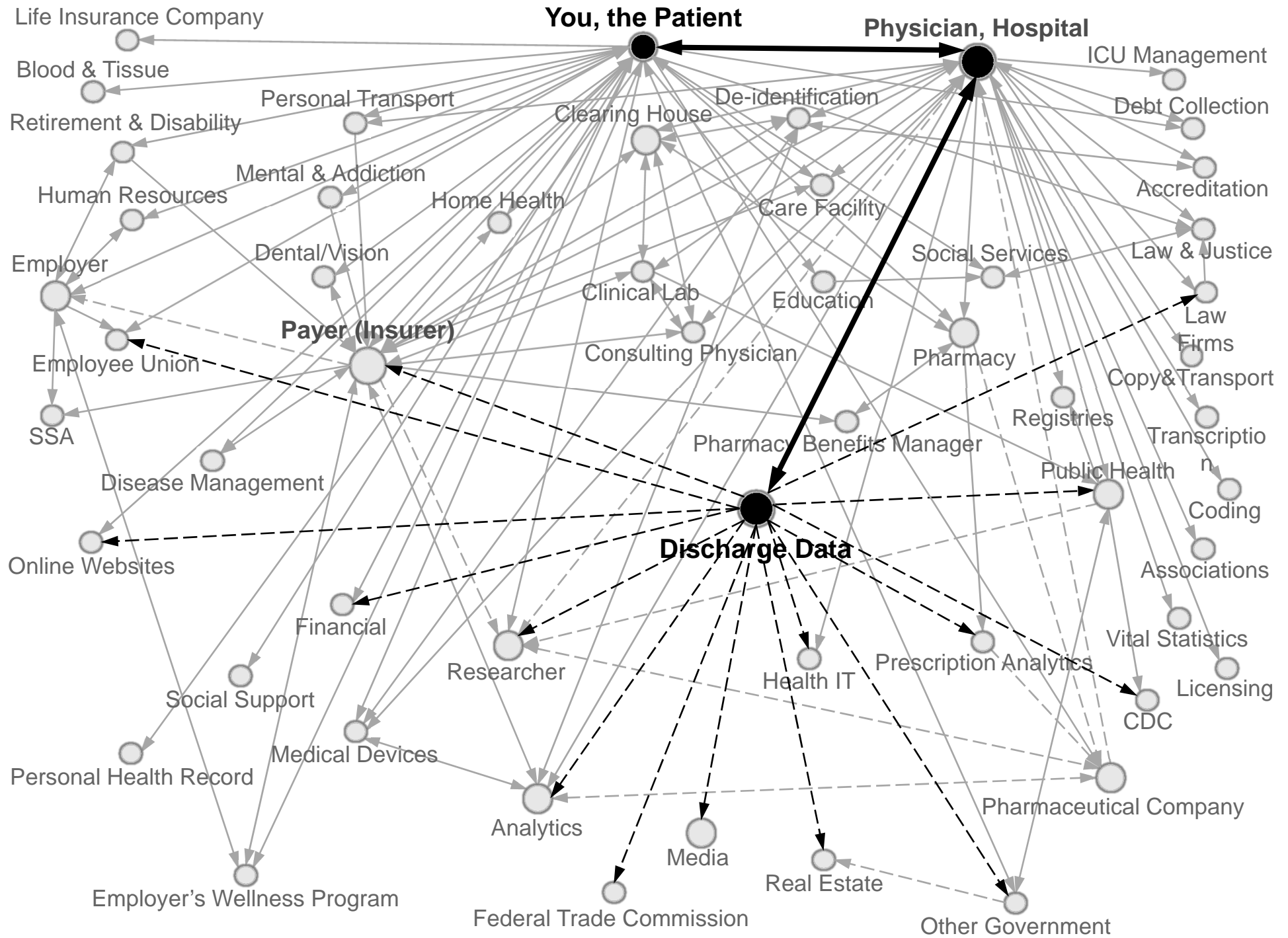
Employer's Wellness Program



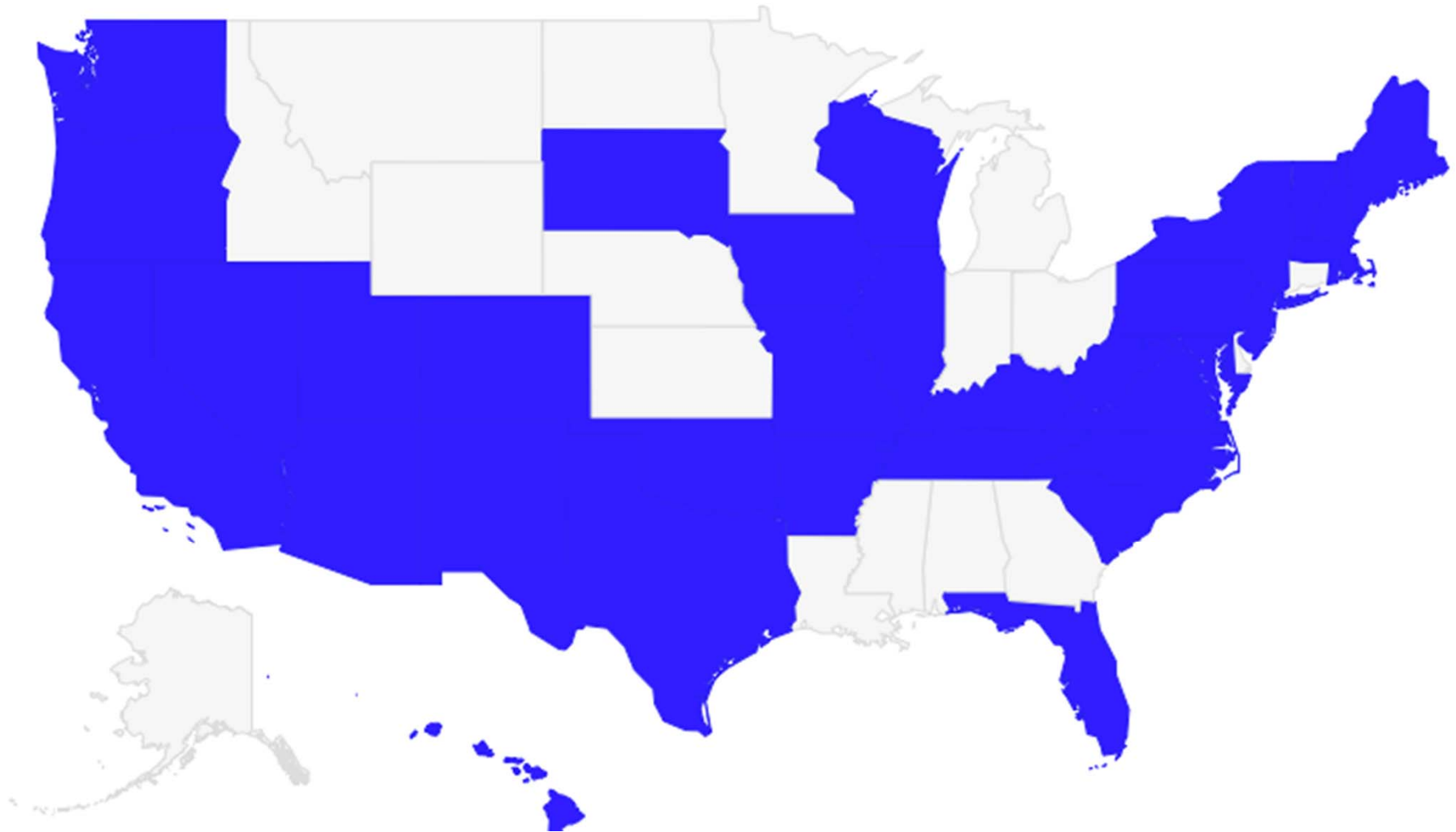




Flows not covered by HIPAA

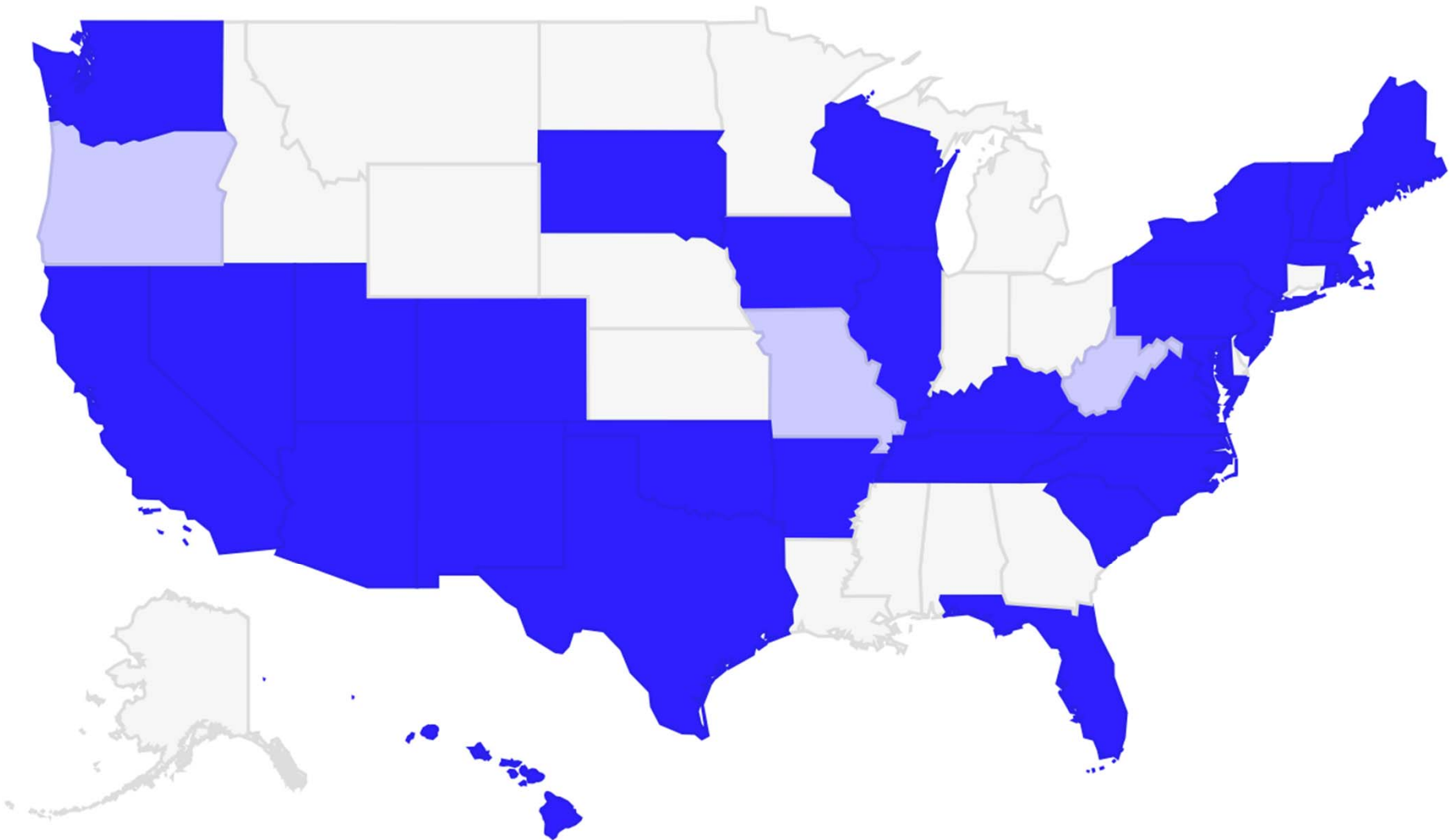


33 States Sell or Share Personal Health Data

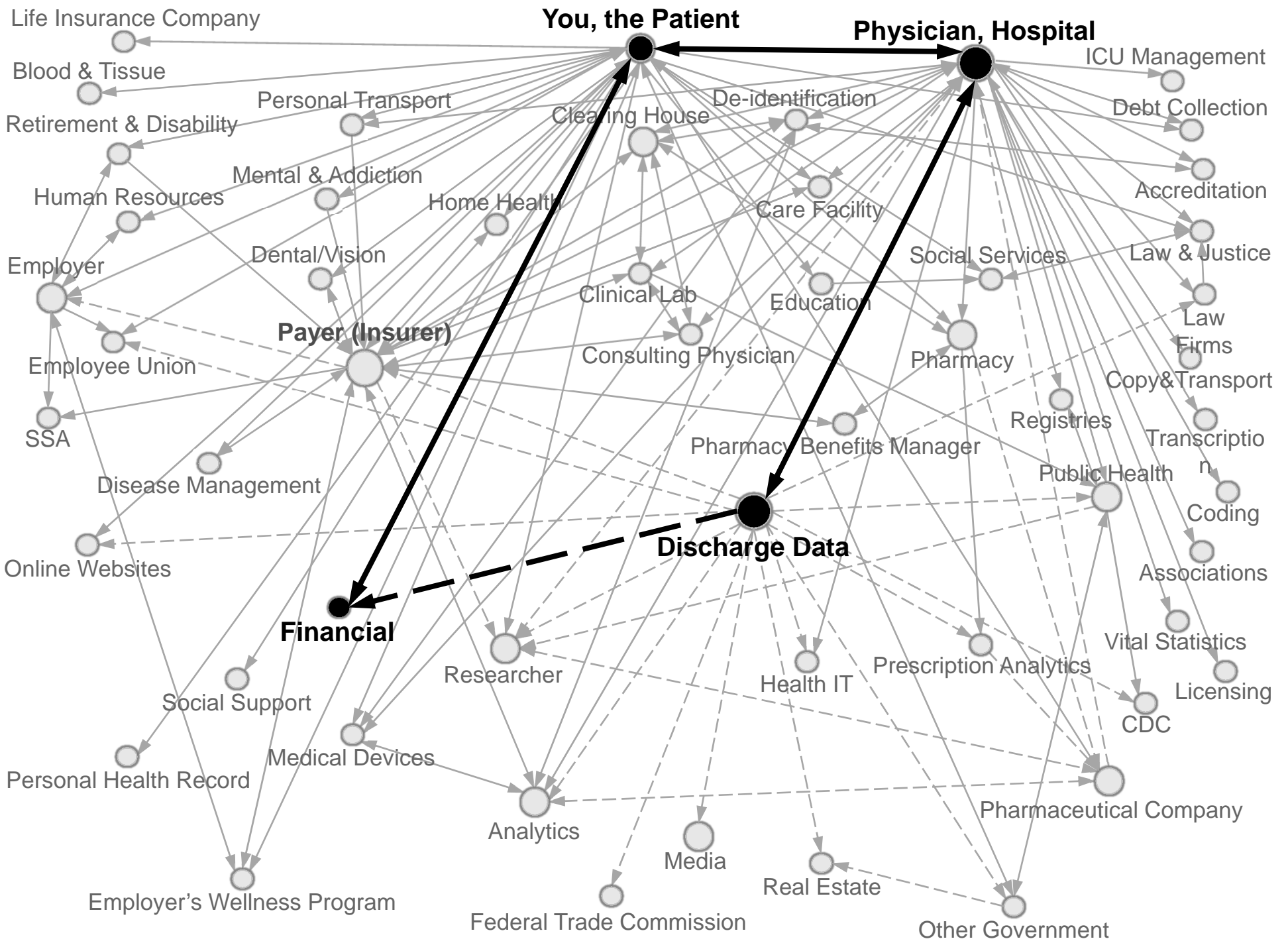


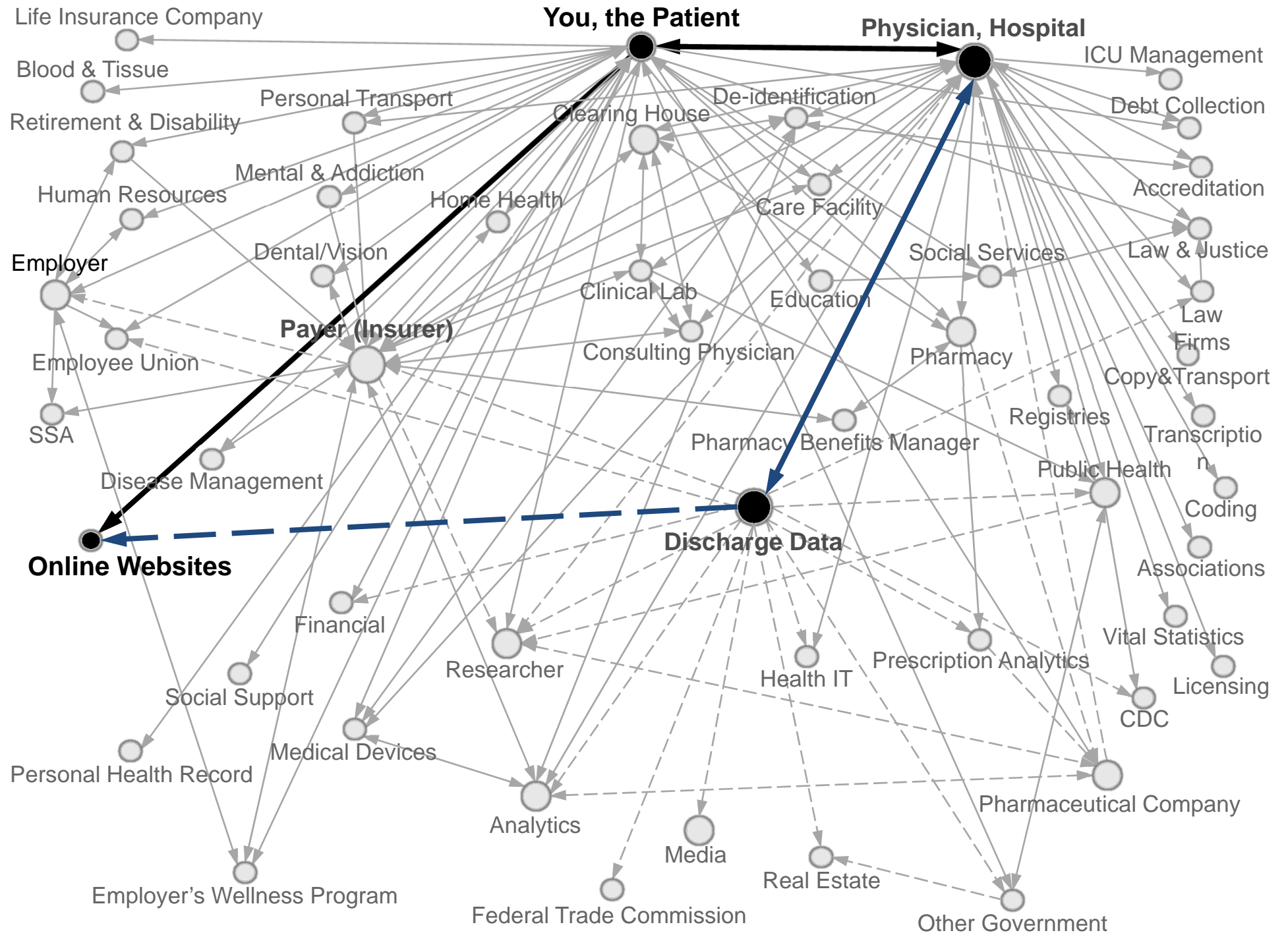
Hooley S and Sweeney L. Survey of Publicly-Available State Health Databases. Paper 1075. 2013.
thedatamap.org/states.html

Only 3 States Use HIPAA Standards



Hooley S and Sweeney L. Survey of Publicly-Available State Health Databases. Paper 1075. 2013.
thedatamap.org/states.html





Top buyers of Publicly Available State Health Databases

Purchaser	States that Sold Purchaser Data
Truven Health Analytics	AZ, CA, FL, IL, MD, MA, NJ, NY, PA, TN, WA
Optuminsight (Ingenix)	CA, FL, IL, MD, MA, NJ, NY, PA, TX, WA
Milliman	AZ, CA, FL, IL, MD, MA, NY, TN, TX, WA
WebMD Health	AZ, CA, IL, MD, NJ, NY, PA, TN, WA
IMS Health (SDI Health and Verispan)	AZ, FL, IL, MD, NJ, NY, PA, TN, WA
Intellimed International	AZ, CA, FL, MD, NY, TX, WA
Service Employees International Union (SEIU)	CA, FL, MD, MA, PA, TN, WA
DataBay Resources	CA, FL, MA, NY, PA, WA

Record	505825338
Hospital	162: Sacred Heart Medical Center in Providence
Admit Type	1: Emergency
Type of Stay	1: Inpatient
Length of Stay	6 days
Discharge Date	Oct-2011
Discharge Status	6: <u>Dsch/Trfn</u> to home under the care of an health service organization
Charges	\$71708.47
Payers	1: Medicare 6: Commercial insurance 625: Other government sponsored patients
Emergency Codes	E8162: motor vehicle traffic accident due to loss of control; loss control mv- <u>mocycl</u>
Diagnosis Codes	80843: closed fracture of other specified part of pelvis 51851: pulmonary insufficiency following trauma & surgery

	86500: injury to spleen without mention of open wound into cavity
	80705: closed fracture of rib(s); fracture five ribs-close
	5849: acute renal failure; unspecified
	8052: closed fracture of dorsal [thoracic] vertebra without mention of spinal cord injury
	2761: <u>hyposmolality</u> &/or <u>hyponatremia</u>
	78057: tachycardia
	2851: acute <u>posthemorrhagic anemia</u>
Age in Years	60
Age in Months	725
Gender	Male
ZIP	98851
State Reside	WA
Race/Ethnicity	White, Non-Hispanic

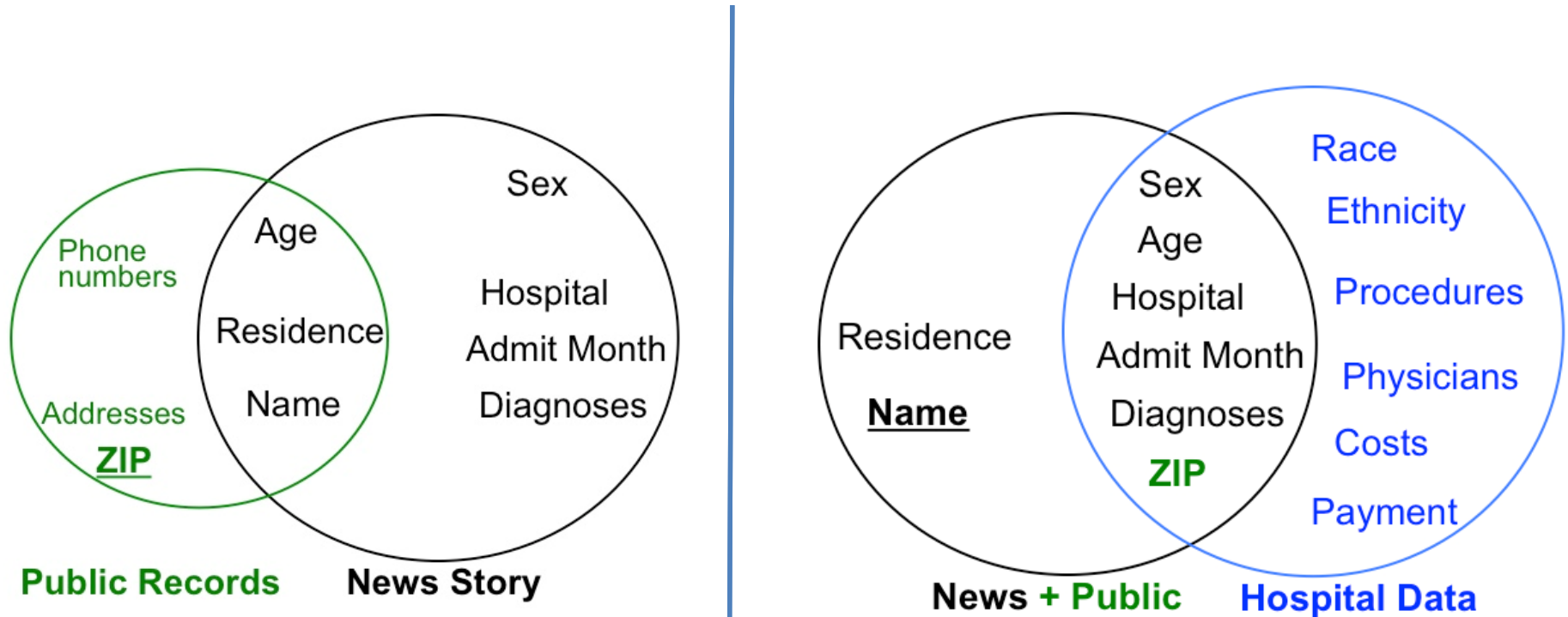
MAN, 60, THROWN FROM MOTORCYCLE

A 60-year-old Soap Lake man was hospitalized Saturday afternoon after he was thrown from his motorcycle. Ronald Jameson was riding his 2003 Harley-Davidson north on Highway 25, when he failed to negotiate a curve to the left. His motorcycle became airborne before landing in a wooded area. Jameson was thrown from the bike; he was wearing a helmet during the 12:24 p.m. incident. He was taken to Sacred Heart Hospital. The police cited speed as the cause of the crash.

[News Review 10/18/2011]

Washington State Health Database

43% news stories re-identified



News stories have same information that others know.
Employers, Creditors, Family, Friends and Neighbors

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A Snapshot of Data Sharing by Select Health and Fitness Apps

FTC Staff's Preliminary Observations



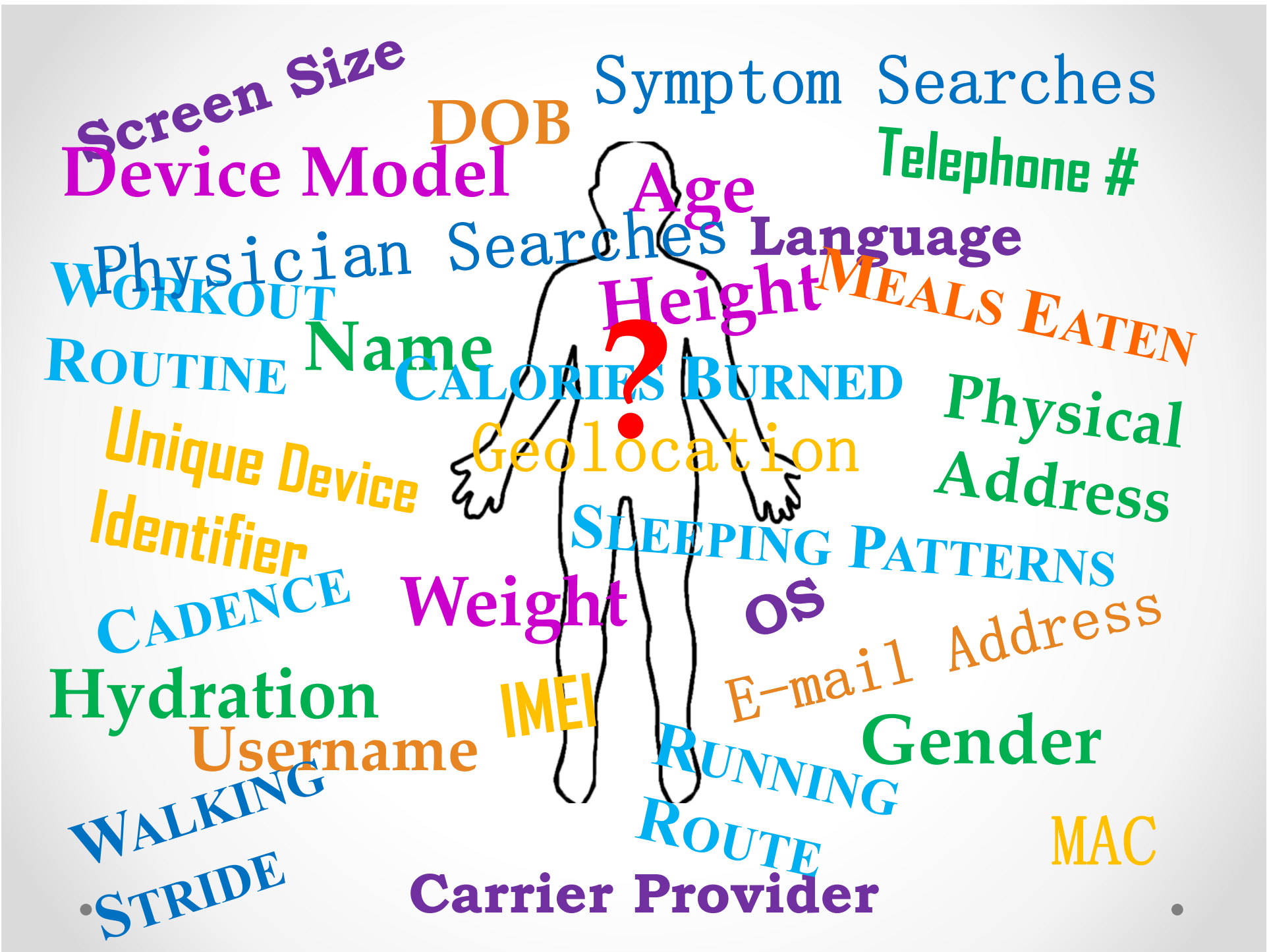
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Jah-Juin "Jared" Ho
Sheryl Novick
Mobile Technology Unit
Federal Trade Commission

Christina Yeung
Division of Planning and Information
Federal Trade Commission



Screen Size

Symptom Searches

Device Model

DOB

Telephone #

Age

Physician Searches Language

WORKOUT

Height

MEALS EATEN

ROUTINE Name

CALORIES BURNED

Geolocation

Physical Address

Unique Device Identifier

SLEEPING PATTERNS

CADENCE

Weight

OS

E-mail Address

Hydration

IMEI

Gender

Username

RUNNING ROUTE

MAC

WALKING STRIDE

Carrier Provider

Privacy Rights Clearinghouse

Mobile Health and Fitness Applications and Information Privacy- July 2013

- Examined 43 free and paid health and fitness apps
 - Wearables not included
- Traffic analysis and privacy policy review
- Findings:
 - 26% of the free apps and 40% of the paid apps did not have a privacy policy
 - 39% of the free apps and 30% of the paid apps sent data to someone not disclosed by the developer either in-app or in any privacy policy they found
 - 13% of the free apps and 10% of the paid apps encrypted all data connections between the app and the developer's website.
- Conclusion:

"Our research brought us to the conclusion that, from a privacy perspective, mobile health and fitness applications are not particularly safe when it comes to protecting user privacy."



Source: <https://www.privacyrights.org/mobile-medical-apps-privacy-consumer-report.pdf>

Evidon

A Healthy Data Set- September 2013

- Tested 20 health and fitness apps
- Found the presence of 70 third parties
- “These companies are typically advertising and analytics companies, who attempt to better match advertisements to users who will buy; and who work to help app developers increase functionality and usability, respectively.”

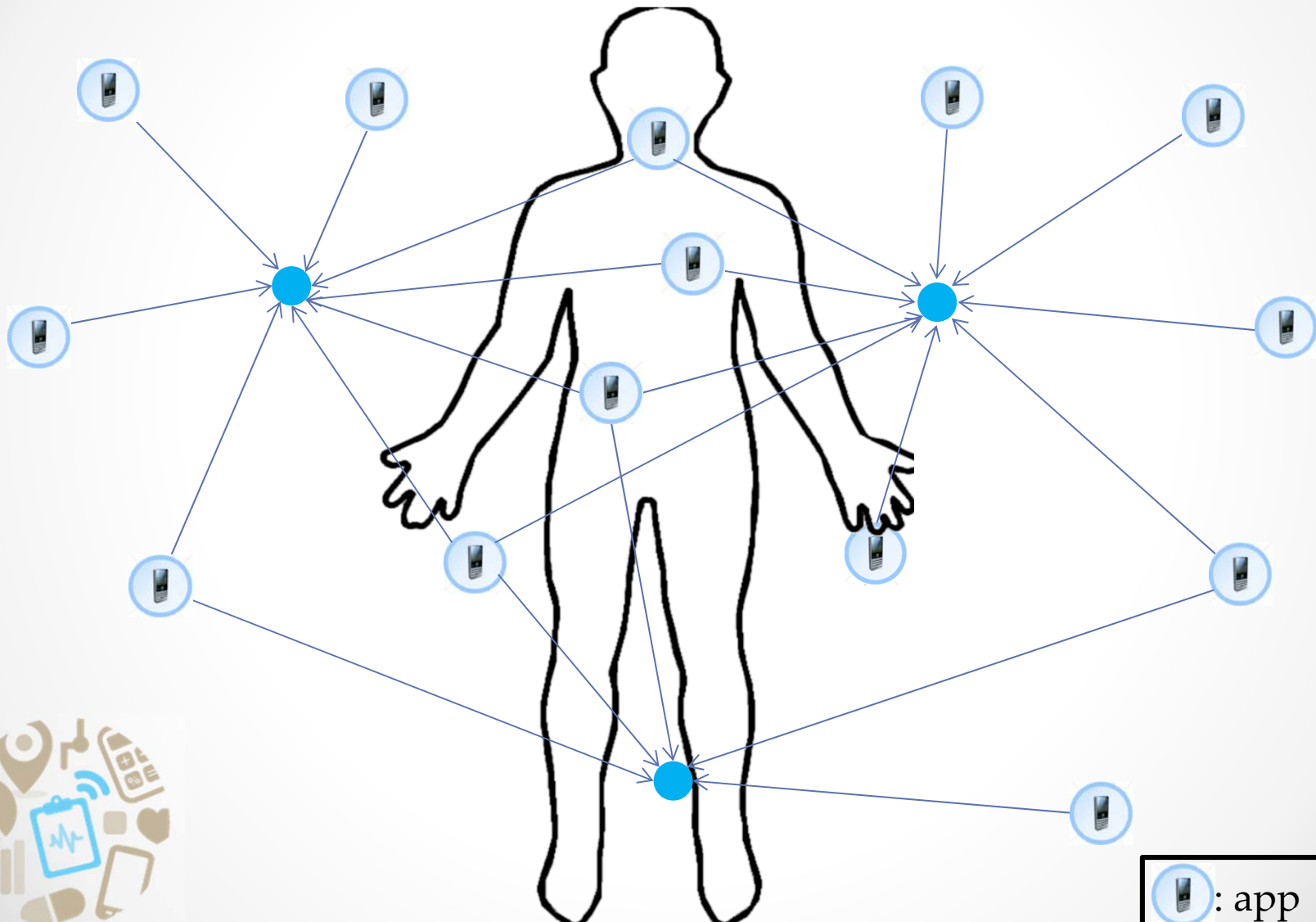


Source: <http://www.evidon.com/blog/healthy-data-set>



WHO and WHAT?

Reconceptualizing the Evidon Study



Health & Fitness App Snapshot

Methodology

- Twelve apps and two wearables
- App traffic analysis
- Mapped the data sets

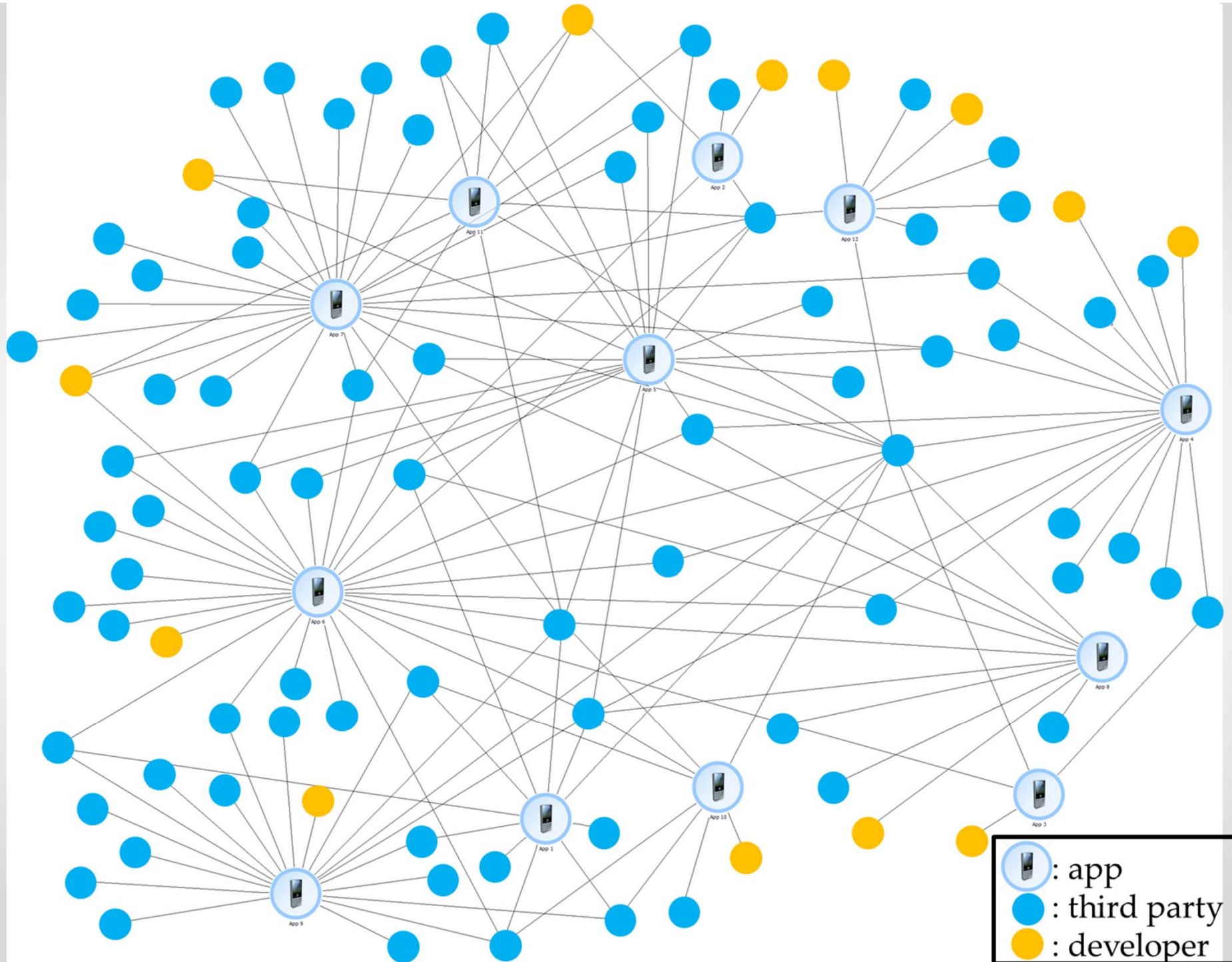


Health & Fitness App Snapshot

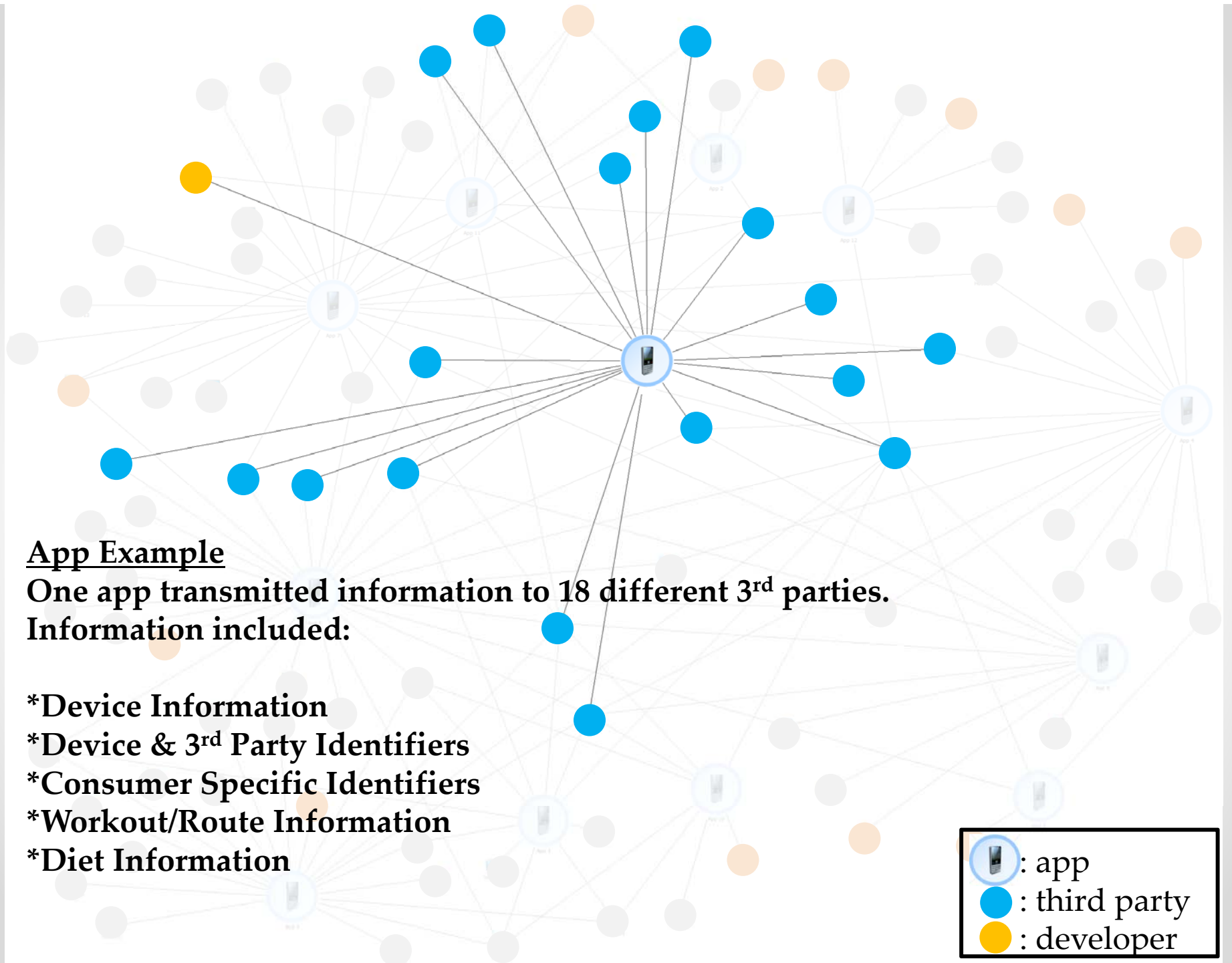
Limitations

- One device
- Only Free Apps
- Front-end testing only
- Did not review privacy policies





 : app
 : third party
 : developer



App Example

One app transmitted information to 18 different 3rd parties.

Information included:

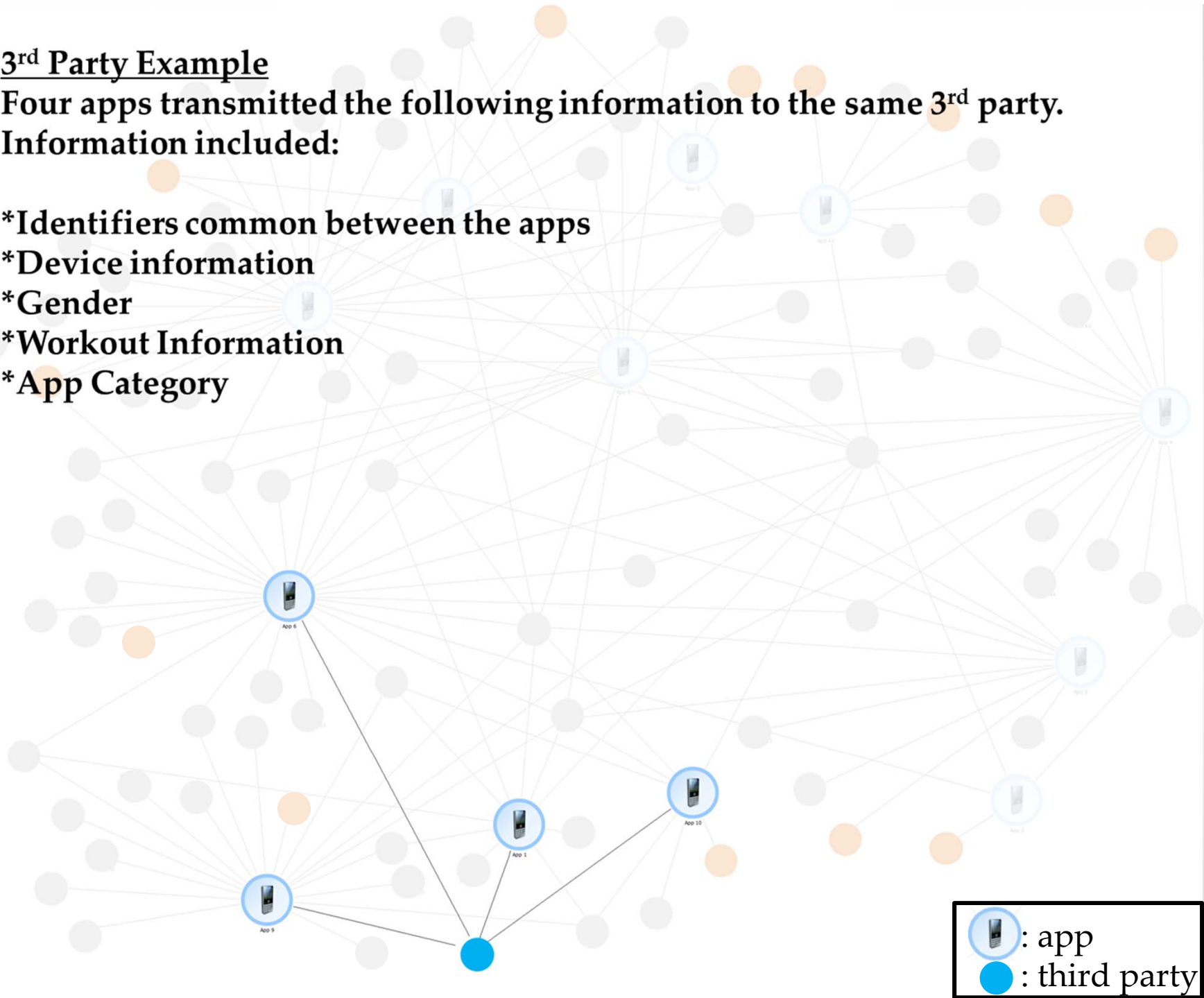
- *Device Information**
- *Device & 3rd Party Identifiers**
- *Consumer Specific Identifiers**
- *Workout/Route Information**
- *Diet Information**

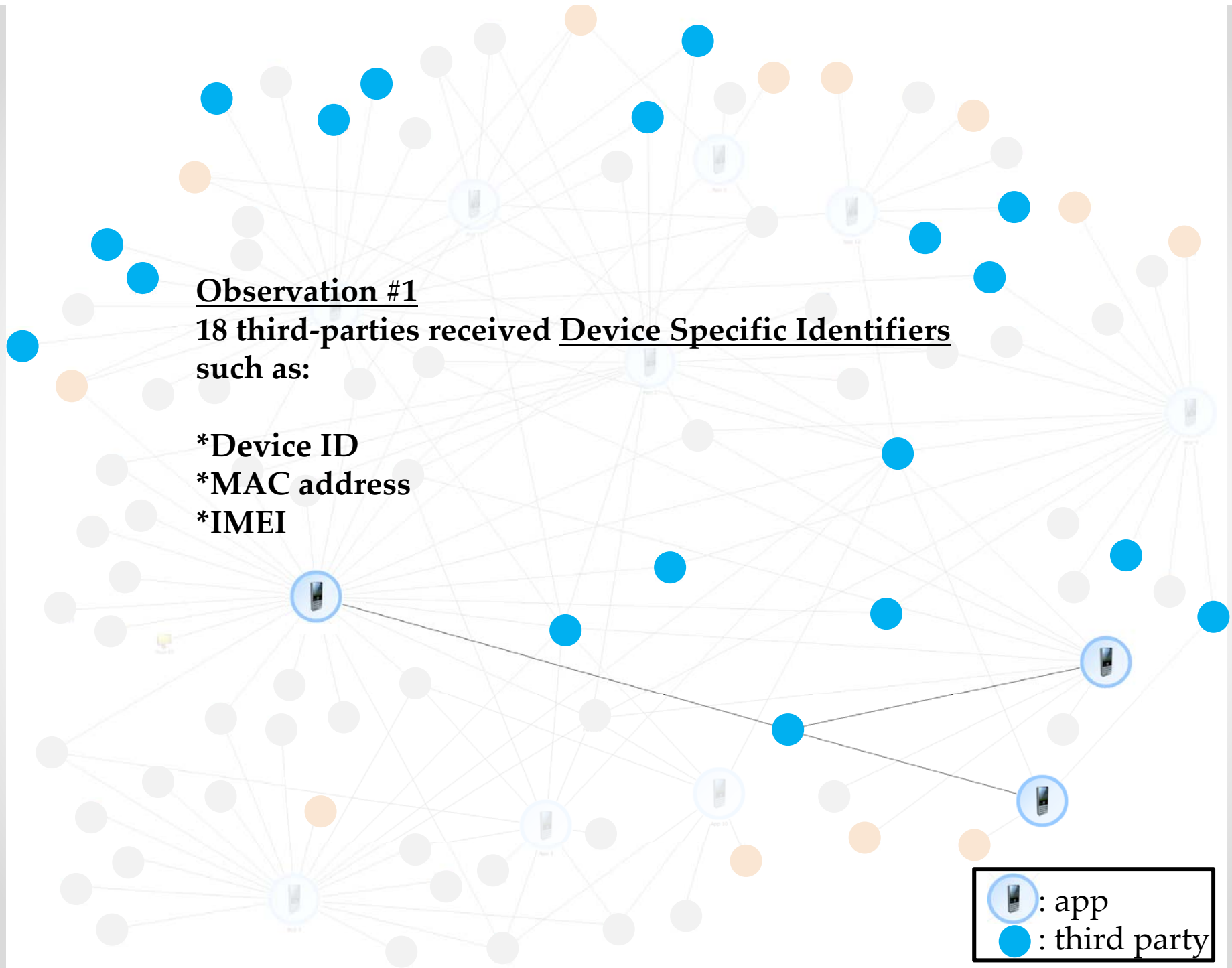
	: app
	: third party
	: developer

3rd Party Example

Four apps transmitted the following information to the same 3rd party.
Information included:

- *Identifiers common between the apps
- *Device information
- *Gender
- *Workout Information
- *App Category



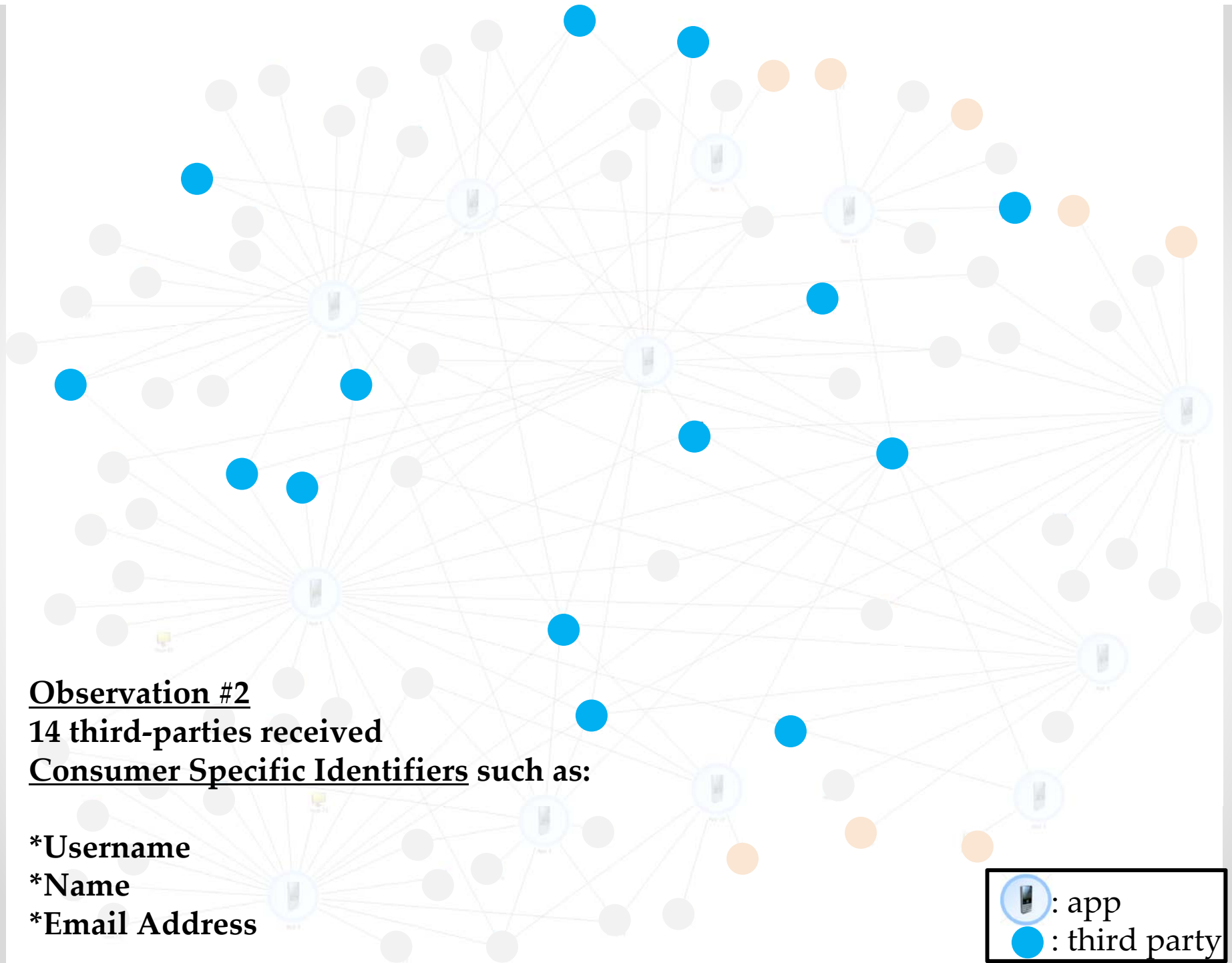


Observation #1

18 third-parties received Device Specific Identifiers such as:

- *Device ID**
- *MAC address**
- *IMEI**

 : app
 : third party



Observation #2

**14 third-parties received
Consumer Specific Identifiers such as:**

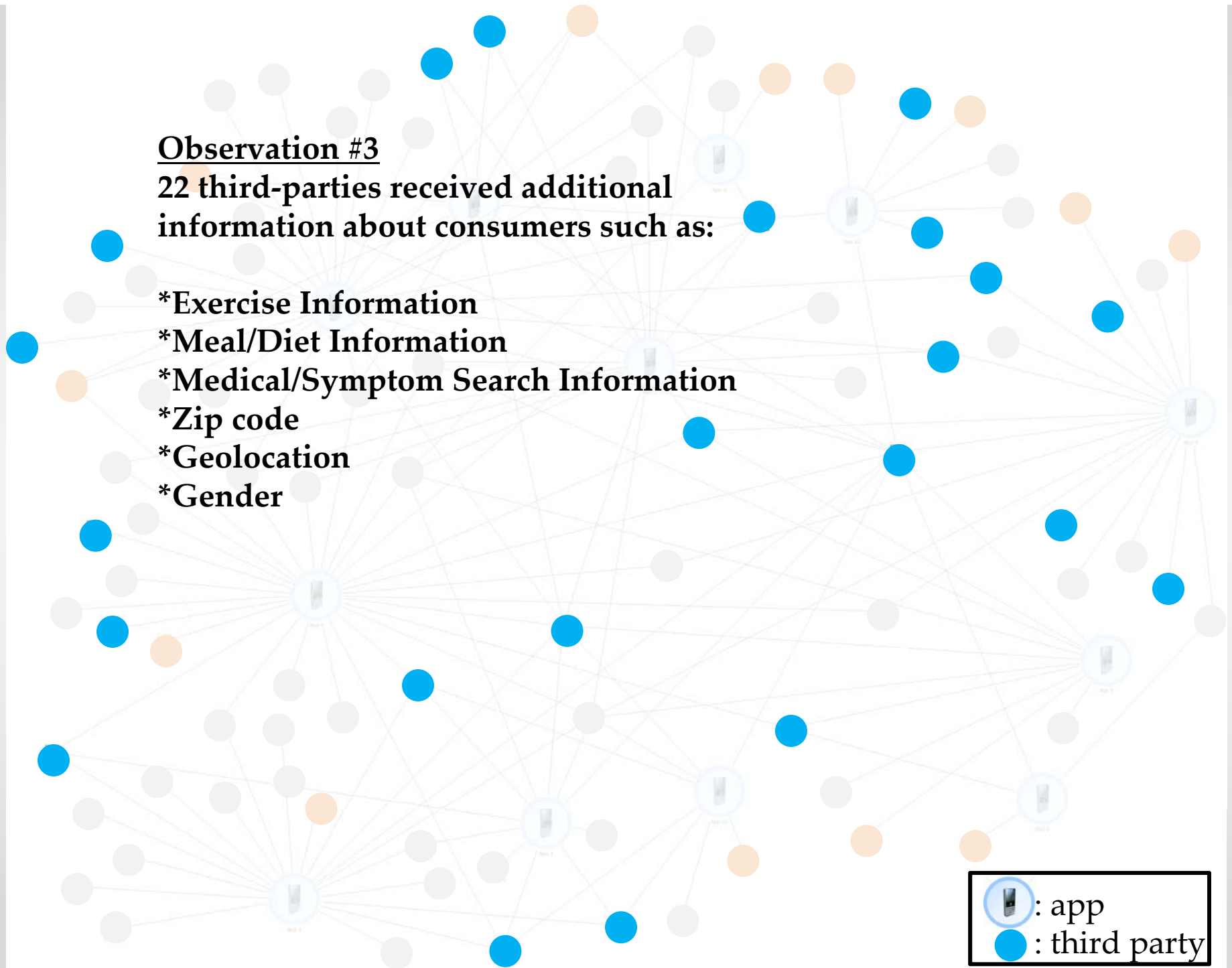
- *Username**
- *Name**
- *Email Address**



	: app
	: third party

Observation #3

22 third-parties received additional information about consumers such as:

- *Exercise Information**
- *Meal/Diet Information**
- *Medical/Symptom Search Information**
- *Zip code**
- *Geolocation**
- *Gender**



 : app
 : third party

Summary of Observations

- Health and fitness apps collect and transmit to third parties sensitive information about our bodies and our habits.
- The 12 apps tested transmitted information to 76 different third-parties. This information included:
 - Device Information;
 - Consumer specific identifiers;
 - Unique device IDs capable of allowing 3rd parties to track users' devices across apps;
 - Unique 3rd party IDs capable of allowing 3rd parties to track users' devices across apps; and
 - Consumer information such as exercise routine, dietary habits, and symptom searches.
- There are significant privacy implications where health routines, dietary habits, and symptom searches are capable of being aggregated using identifiers unique to that consumer.

Panel Discussion

- **Christopher R. Burrow**, M.D., EVP Medical Affairs, Humetrix
- **Joseph Lorenzo Hall**, Chief Technologist, Center for Democracy & Technology
- **Sally Okun**, RN, MMHS, Vice President of Advocacy, Policy & Patient Safety, PatientsLikeMe
- **Heather Patterson**, Postdoctoral Research Fellow, New York University
- **Joy Pritts**, Chief Privacy Officer, Office of the National Coordinator for Health Information Technology, Department of Health & Human Services



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Mobile Anytime/Anywhere Access to Personal Health Records

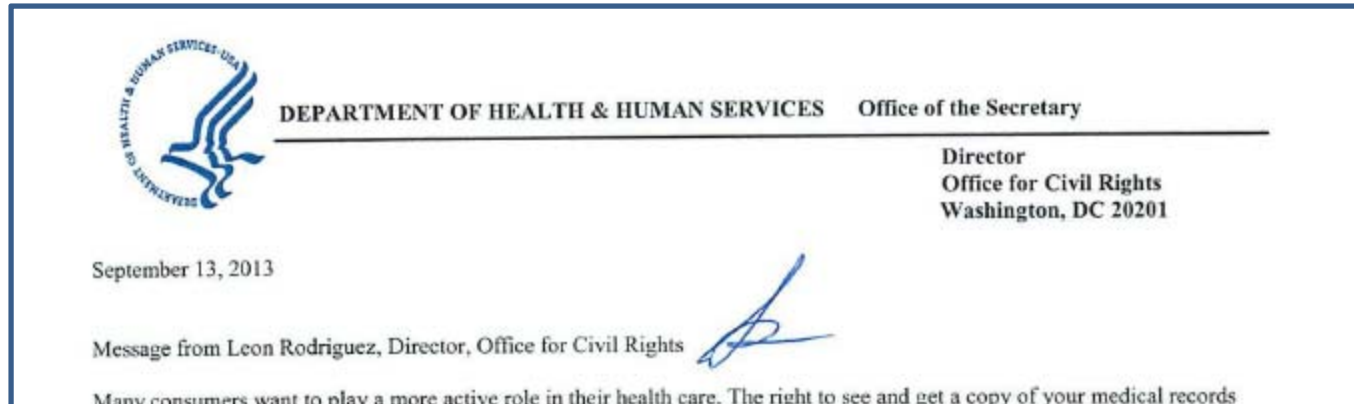


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Access to e-Health Records is a Right Ensured by HIPAA



Important tools like Electronic Health Records (EHRs) and Personal Health Records (PHRs) will make it easier, safer, and faster for you to get access to your health information and stay engaged.

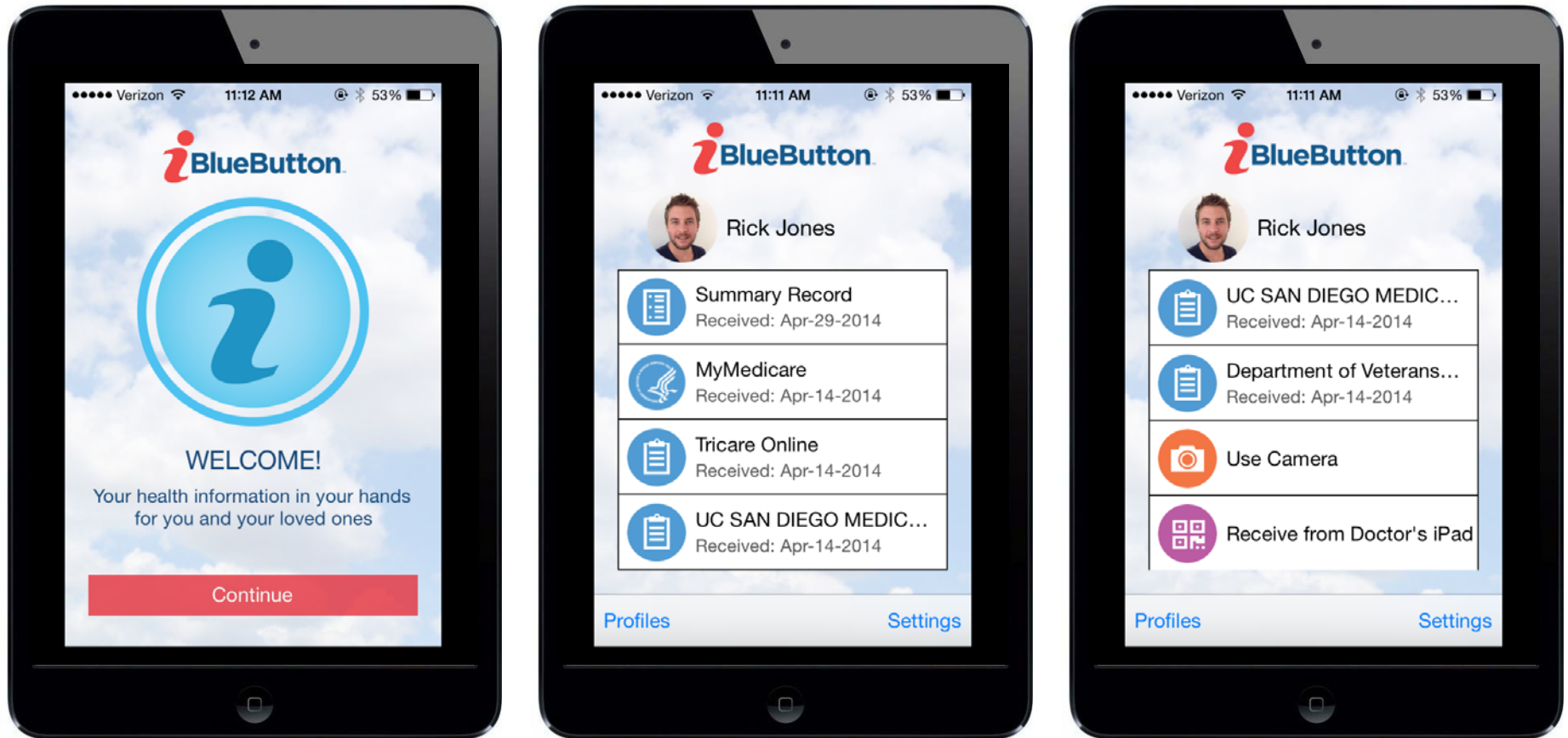
children's doctor visits. Health information is critical to all patients so that they can track their progress through wellness programs, monitor chronic conditions, communicate with their treatment teams, and adhere to their important treatment plans. Important tools like Electronic Health Records (EHRs) and Personal Health Records (PHRs) will make it easier, safer, and faster for you to get access to your health information and stay engaged. These tools help you become a true partner in your health care and wellness.

I also know that, all too often, consumers face barriers to getting their health information – and the first barrier is that many do not know their rights. You should know you have the right to:

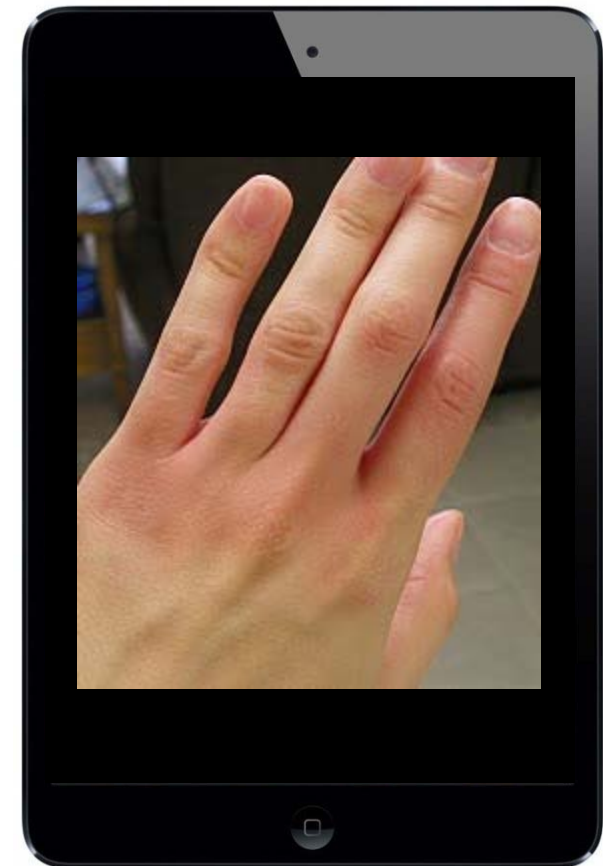
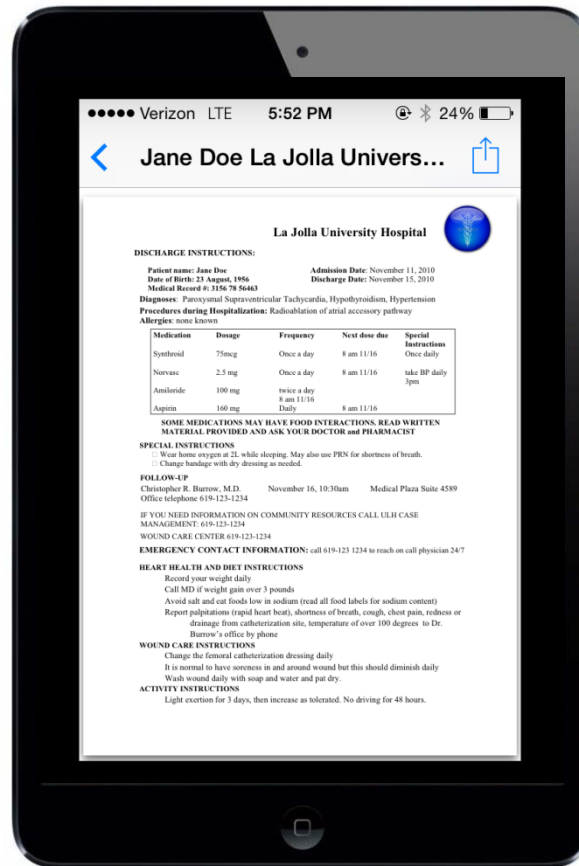
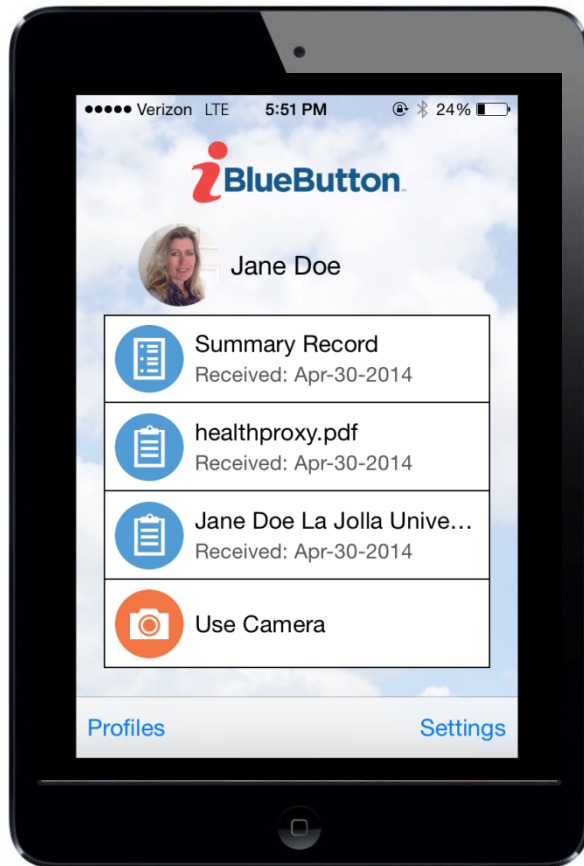
- Ask to see and get a copy of your health records from most doctors, hospitals, and other health care providers such as pharmacies and nursing homes, as well as from your health plan;
- Get either a paper or, if records are kept electronically, an electronic copy of your records; and
- Have your provider or health plan send a copy of your records to someone else.

To make sure you know your rights and are able to assert those rights, my office has developed videos, pamphlets, answers to questions, and other guidance to help you understand your rights under HIPAA. To find these tools, go to our website, www.hhs.gov/ocr, and:

iBlueButton Display & Aggregation of TRICARE, VA, Medicare Blue Button and EMR Records (Epic, Cerner, Allscripts etc...)

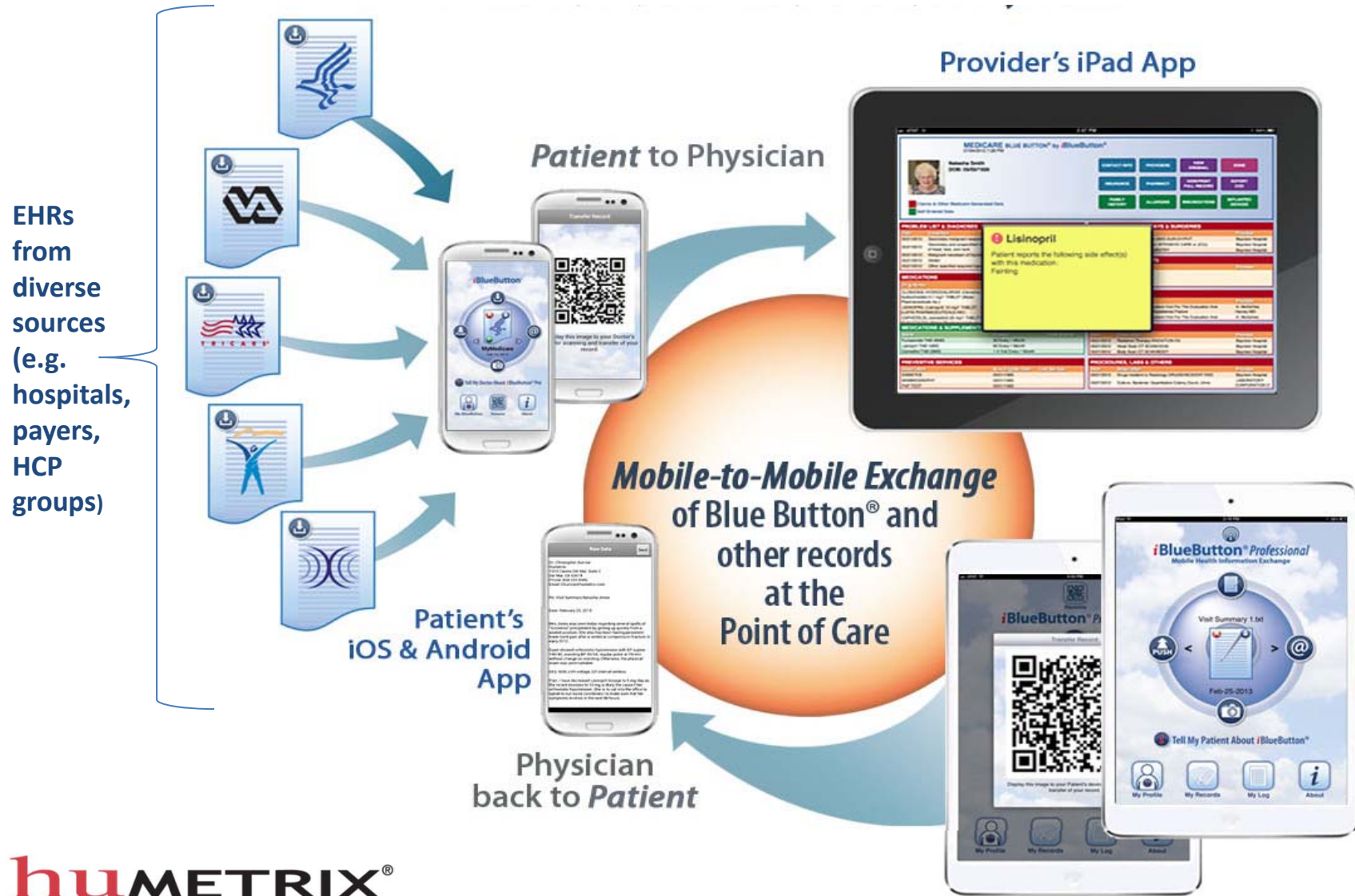


Patient Generated Data Health Care Proxy and Prior Discharge Summaries Imported into iBlueButton





Consumer-Controlled Mobile Health Record Access & Exchange



iBlueButton for Medicare Beneficiaries: Three Years of Medical History in Patients' Hands for their Safety

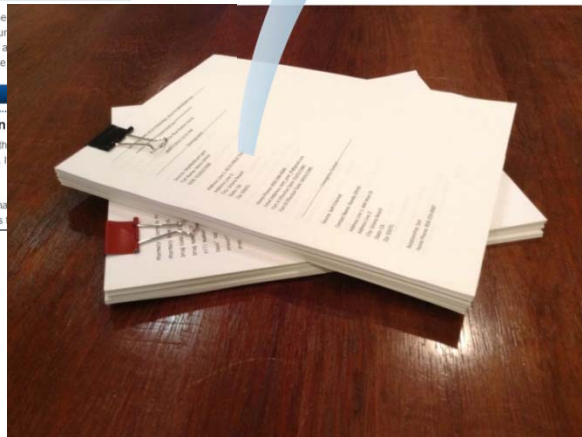


From Blue Button...

to **iBlueButton®**



The screenshot shows the Medicare.gov homepage. At the top, there are navigation links for 'Español', 'Email', 'Print', and 'Live Chat'. The main heading is 'Medicare.gov The Official U.S. Government Site for Medicare'. Below this is a search bar and a navigation menu with categories like 'Sign Up / Change Plans', 'Your Medicare Costs', 'What Medicare Covers', 'Drug Coverage (Part D)', 'Supplements & Other Insurance', 'Claims & Appeals', 'Manage Your Health', and 'Forms, Help, & Resources'. The 'Getting Started' section includes a welcome message and a 'New to MyMedicare.gov? Create an account' button. A 'Secure Sign In' section is visible with fields for 'Username' and 'Password'. A 'What's New?' section highlights the 'Blue Button Download My Data' feature.

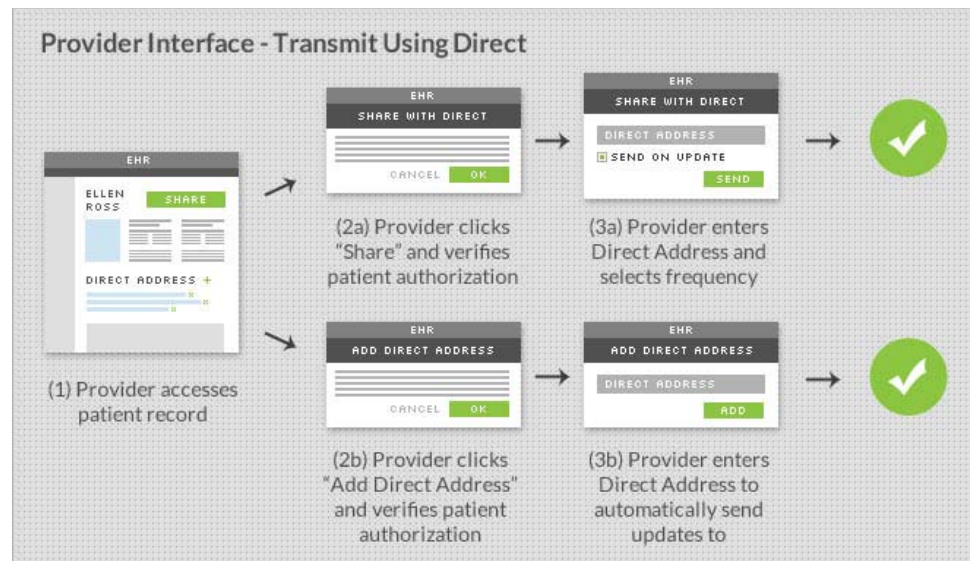


From a 300 page Blue Button ASCII text claims record to...

The image shows a Samsung smartphone and a tablet displaying the iBlueButton mobile application. The smartphone screen shows the 'MyMedicare' app interface for Natasha Jones (DOB: 05/05/1928). It features a 'Home' button, a 'Medicare Blue Button by iBlueButton' header with a date '04/04/2013 1:28 PM', and buttons for 'VIEW ORIGINAL', 'PROVIDERS', 'VIEW/PRINT RECORD', 'INSURANCE', and 'PHARMACY'. Below this is a 'DIAGNOSES' table with columns for 'Condition', 'First Visited', and 'Provider'. The tablet screen shows a more detailed view of the patient's record, including a 'CONTACT INFO' section, a 'DIAGNOSES' table, and a 'MY CONDITIONS' table. The 'DIAGNOSES' table on the tablet lists conditions such as 'Chronic kidney disease, Stage III (moderate)', 'Benign hypertensive heart disease with heart failure', 'Heart syncope', 'Atrioventricular block, complete', 'Unspecified renovascular hypertension', 'Atherosclerosis of aorta', and 'Urinary tract infection, site not specified'. The 'MY CONDITIONS' table lists conditions like 'Hypertension' and 'Diabetes Mellitus Type II'. The interface is clean and user-friendly, with clear navigation options.

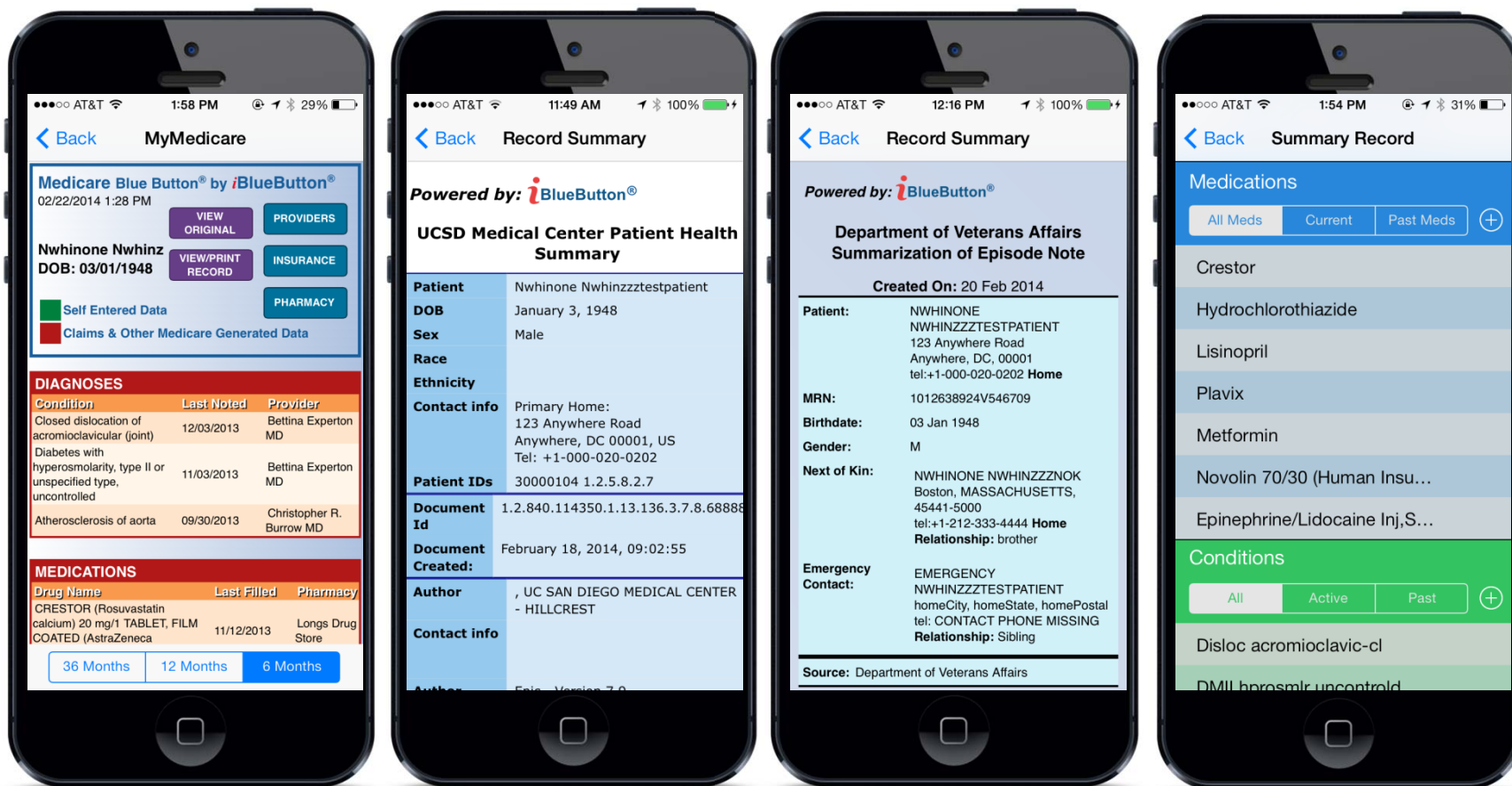
...a mobile longitudinal health record available at every Point of Care

Providers Transmit Records to their Patients' Unique iBlueButton Address using the Secure Federal Direct Transport Standard



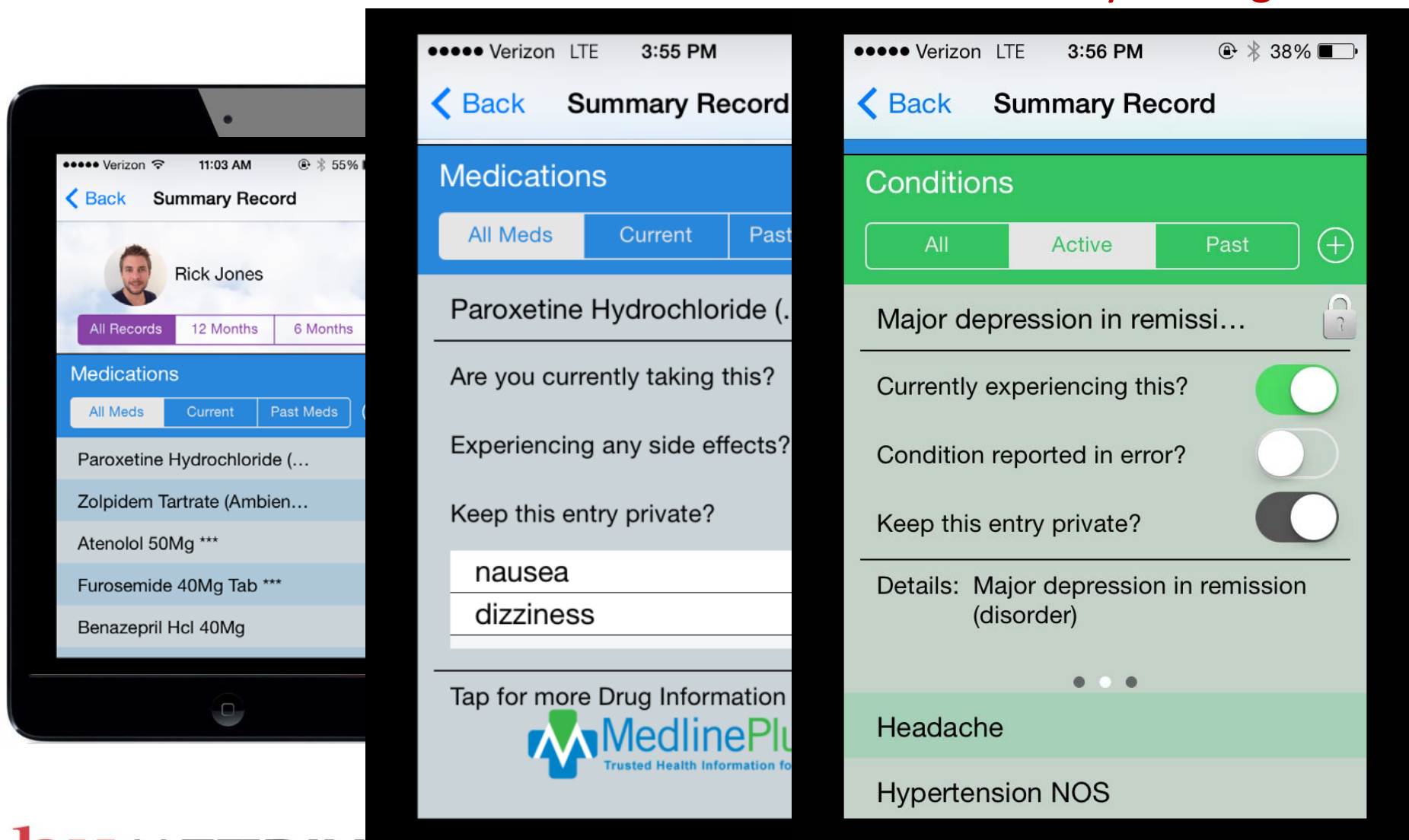
iBlueButton App generates a Direct Address for each Profile

iBlueButton: Display of Medicare, EMR, VA and TRICARE records with Real Time Aggregated View



Patient Generated Data

Medication and Condition Annotations and Privacy Settings



iBlue



What are Humetrix's PHR data practices for iBlueButton?

[Printable Version \(PDF: 53 KB\)](#)
[Get Adobe® Reader](#)

Notice

Use this page to understand how Humetrix and our [service providers](#) release and secure your [PHR Data](#).



Release

Do we release your PHR Data for these purposes?	No
Do we require Limiting Agreements that restrict what third parties can do with your Personal Data?	N/A
Do we stop releasing your Personal Data if you close or transfer your PHR?	N/A

Secure

We have [security measures](#) that are reasonable and appropriate to protect [personal information](#), such as PHR Data, in any form, from unauthorized access, disclosure, or use.

Do we store PHR Data in the U.S. only ?	Yes
Do we keep PHR Data activity logs for your review?	No

We release...	Personal Data	Statistical Data
For marketing and advertising	No	No
For medical and pharmaceutical research	No	No
For reporting about our company and our customer activity	No	No
For your insurer and employer	No	No
For developing software applications	No	No



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