

Streamlining Grateful Patient Prospect Data at UCD

CASE DVII

March 2023

What is a Grateful Patient Program?



- **Identify** new major gift prospects
- **Cultivate** giving from patients
- Seek **funding** for programs that would benefit the greater good
- Help patients in practicing the **science of gratitude and healing** during their patient journey

Source:

Science of Gratitude and Healing

https://greatergood.berkeley.edu/article/item/how_gratitude_changes_you_and_your_brain

https://ggsc.berkeley.edu/images/uploads/GGSC-JTF_White_Paper-Gratitude-FINAL.pdf?_ga=2.55507435.115447651.1582053146-1768656524.1579236103

Our Big Why?

UCD receives \$38.5M, largest ever gift from individual donor

BY TANYA PEREZ · MARCH 10, 2016 · 526 VIEWS · 3 MINUTE READ



Ernest E. Tschannen, 91, walks 6 miles every day and cherishes his time outdoors. When his glaucoma threatened his eyesight, he turned to the UC Davis Eye Center, where he underwent surgery to improve his vision and manage his glaucoma. Courtesy photo

References:

<https://www.davisenterprise.com/news/local/ucd/ucd-receives-38-5m-largest-ever-gift-from-individual-donor/>

Tschannen Eye Institute Ground Breaking Video:

https://www.youtube.com/watch?v=_6KxqHgL240

Ernest E. Tschannen Eye Institute



The future home of the Ernest E. Tschannen Eye Institute building

Estimated completion in 2022

The Way We Were: A Series of Sends and Appends

1. Hospital billing (pulls the data)
2. Grateful Patient program at UCD Health (append)
3. Advancement Services (append)
4. Prospect Management and Research review
5. Wealth screening service (external)
6. Prospect Management and Research
7. Advancement Services



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Why We Had to Change

All that travel made the data much worse for the wear:

- Increased security risk
- Took too long
- Data wasn't trusted 100%
- VIPs went unnoticed
- Not scalable



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But travelling teaches you a lot. Even when it's a spreadsheet that's doing the travelling.

We learned that we needed:

- Securely transfer patient data from (EPIC) to our system of record (Advance)
- Append health data to existing records in Advance
- A timely method of wealth screening.
- A timely method of uploading new prospects into Advance.



Before we built any automation, we had to think about our data. A lot.

- What are the datasets?
- What does the output look like?
- How do we deal with growing datasets?
- Are there timelines that need to be met in terms of data delivery?

- Also a (not-so) minor thing: data protection rules and regulations!

Systems-Requirements-Systems Translation

- BRM role on this project
 - Collecting specs from customers
 - Design multi-channel solicitations outputs (Mail, Email, Phone)
- July 2020: Started meeting with UCD Health regularly
- Differing Project Management Styles: Agile for us, Waterfall for UCD Health
- Careful planning is the way of UCD health, so many regulations.

Data Compliance Considerations

Compliance: Adhering to privacy standards in using and handling health data

- Federal (HIPAA)
- State laws (CCPA)
- Local laws
- Hospital policies



Which patient data can we use for fundraising (according to HIPAA)?

Cannot Use Without Written Permission

- Diagnosis
- Nature of services
- Treatment
- Any information related to psychology

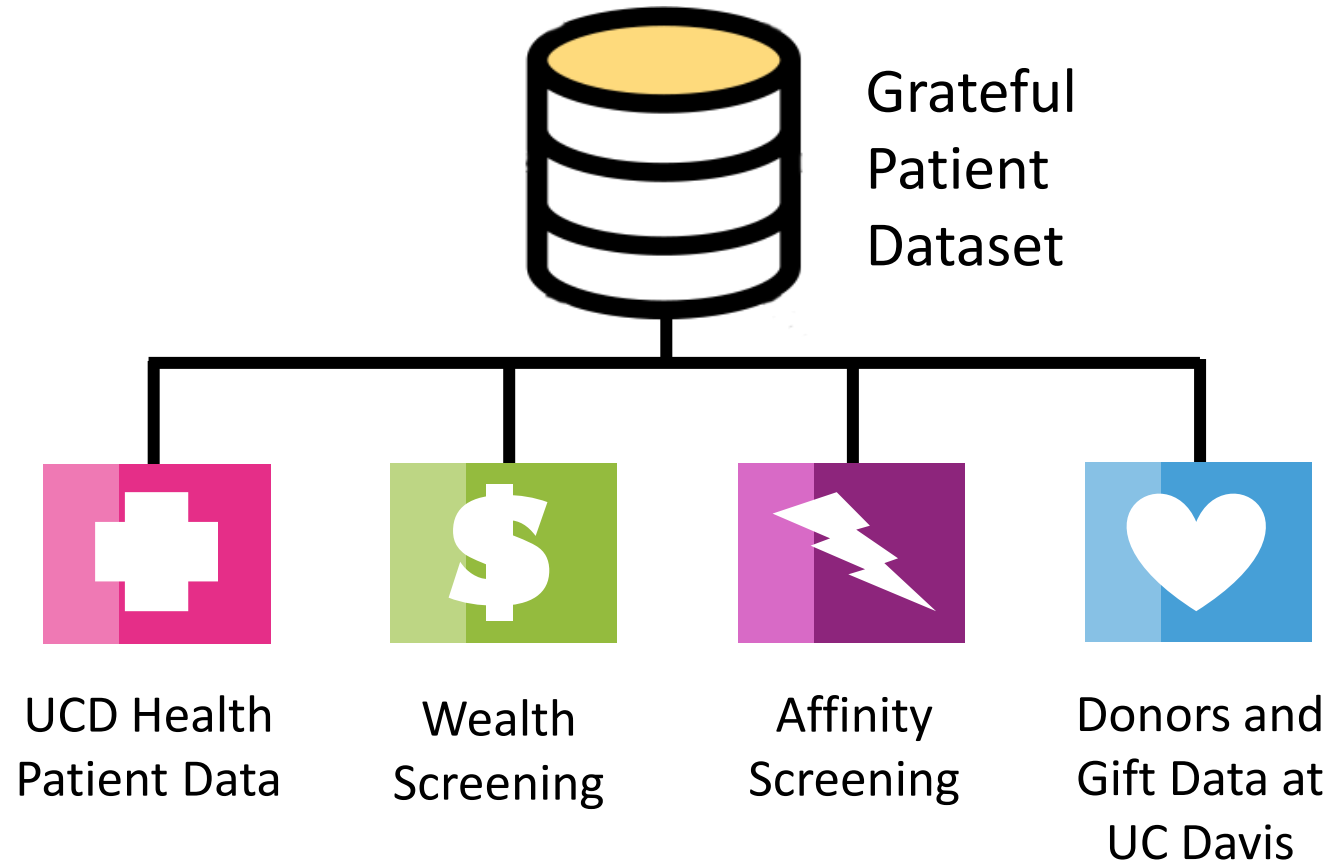
Can Use Without Written Permission

- Patient demographic data (name, address, phone, email, date of birth, age, gender, etc.)
- Health insurance status
- Dates of patient services
- General type of department in which a patient is serviced
- Treating physician information
- Outcome information

Reference:

<https://www.givinginstitute.org/news/250351/The-HIPAA-Privacy-Rule-What-Fundraisers-Need-to-Know.htm>

Grateful Patient Dataset: The Key Ingredients



How do we keep all that data safe as they move from set to set?

1. Data encryption
2. Regular cyber security training
3. Patient ID protection for internal users
4. Hashing Patient ID before sending to vendor
5. Files are secured while they are transported



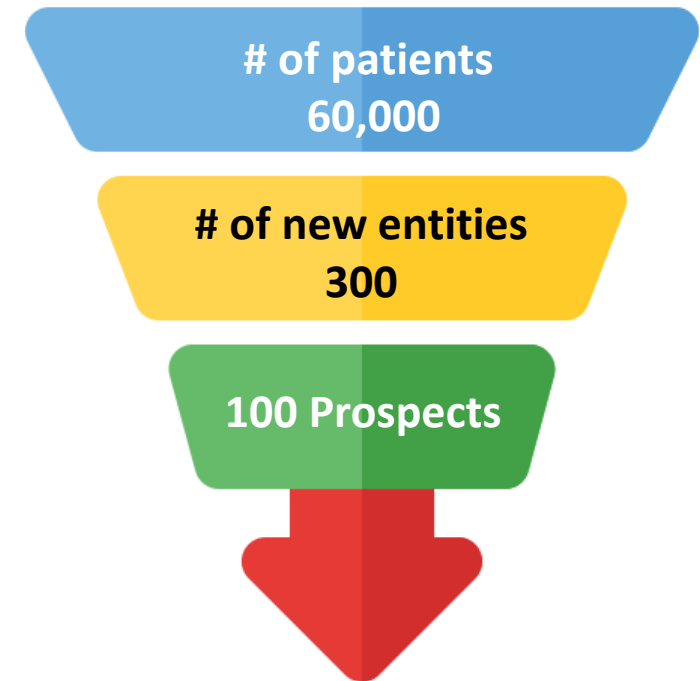
Our Grateful Patient Process in a Nutshell

1. Securely download patient data files from UCD Health to Advancement Services
2. Run the data through our entity match systems to identify the donors in the patient data and to prevent database bloat
3. After identifying the donors, we merge the datasets and send a single set to our wealth screening and affinity scoring vendors
4. Securely receive the data at Advancement Services and upload selected prospect data to corresponding (matched) entities held in Ellucian Advance (we use data hashing).
5. Refreshed prospect data feed an Advance-sourced Power BI dashboard we created for Prospect Research. (Refreshes nightly)
6. Data are now available to frontline fundraisers for visits and mass solicitation efforts.

Why it works.

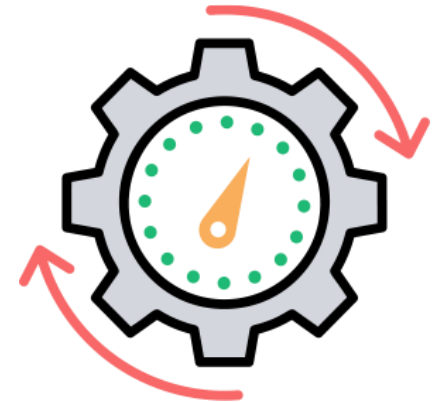
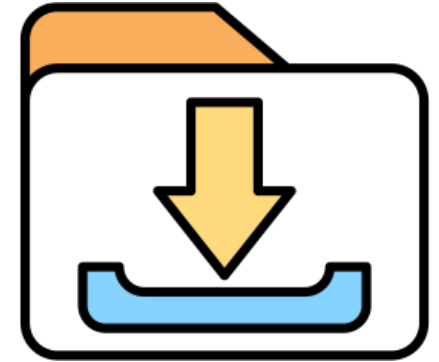
1. No database bloat
2. Secure transfer of files to satisfy all regulations
3. One-stop shop. Everyone has their data in the same platform: Power BI
4. Quick turn-around time: Our turn-around time is anywhere from 1 day to a month.
5. Customers and stakeholders are delighted

In a typical month



1. Secure File Transfer of Patient Data to Advancement Services

- File transfer via Secure File Transfer Protocol (SFTP)
- File is encrypted at Rest: PGP Encryption
- Excel File Contents:
 - Patient ID (EPIC ID)
 - Patient Biographic Data (name, address, phone, email, birthdate, gender)
 - Patient Medical Data (treating physician, department, last visit)
- Frequency:
 - 2 Files Daily: Inpatient (~300 daily) Outpatient (~5000 daily)



Automation!

Challenges with the File Drop

- **Goal:** Screening complete by 9am every day
- **Challenge:** File size prevented us from hitting our target
- **Solution:** Break up inpatient file (9am) and outpatient (12pm) so we could hit our goal for inpatient

Owner	Process	Inpatient (~300 rows)	Outpatient (~6000 rows)
UCDH	File ready for download	5:30am	11:53am
AS	Download File	6:00am	12:00pm
AS	MelissaData Matching	6:00am-7:00am	12:00pm-1:00pm
AS	DonorSearch Upload	7:00am	1:30pm
AS	DonorSearch Download	7:30am	2:30pm
AS	Load data to Advance	8:30am	3:30pm
AS	Publish to PowerBI	9:45am	4:00pm

2. Find Patients with Existing Advance Entities

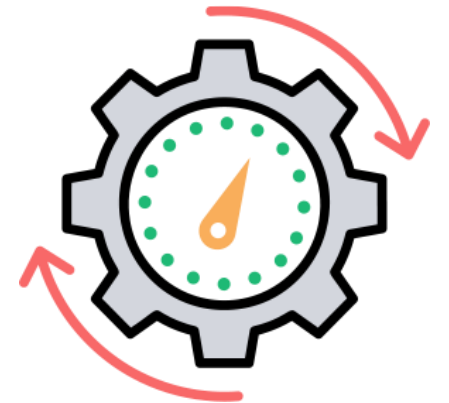
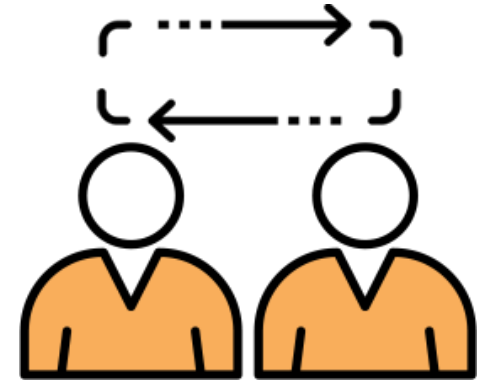
Entity Matching is the task of identifying a record that references the same entity from a different source

Other Usages of Entity Matching

- Online Giving and Crowdfunding
- Admissions Load (Students, Parents etc)

Why is this important?

- We don't want to create a new entity in our donor database for a patient that already has existing giving
- Garbage IN === Garbage OUT



Automation!

Entity Matching Challenge: Inexact Values

Fuzzy Matching takes these things into account:

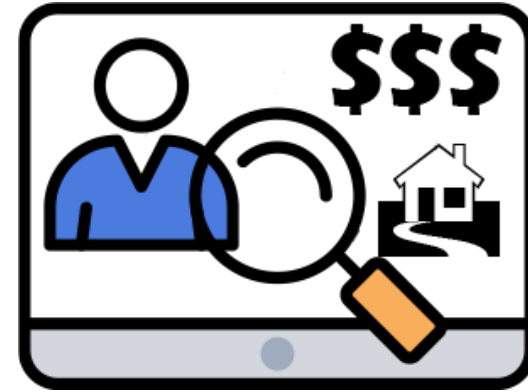
- Phonetic variations
 - “Gonzalez” and “Gonzales”
- Reordered terms
 - “Jane Marie” and “Marie Jane”
- Nicknames
 - “William Clinton” and “Bill Clinton”
- Non-Standardized Addresses
 - “Blvd” and “Boulevard”
- Prefixes and Suffixes
 - “Tom Hanks” and “Tom Hanks Jr.”
- Abbreviations and Initials
 - “J. R. R. Tolkien” and “John Tolkien”
- Missing/extra spaces
 - “Annemarie” and “Anne Marie”
- Special Characters
 - “650-333-2211” and “650.333.2211”

3. Wealth Screening by Vendors

What is Wealth Screening?

Wealth Screening helps us determine:

- **Capacity** - a Donor's capacity to give
- **Inclination** - Likelihood of donating
- **Affinity** – Is your cause something they already give to?



Wealth Screening Considerations

- File is uploaded directly to the vendors via FTP
- **EXCLUSIONS:**
 - Anyone screened within the last 2 years
 - Anyone younger than 18 years old
 - Anyone on Medicaid insurance
 - Incarcerated individuals
- Wealth Screening output is available by 6:15am the following day (instead of once a month!)

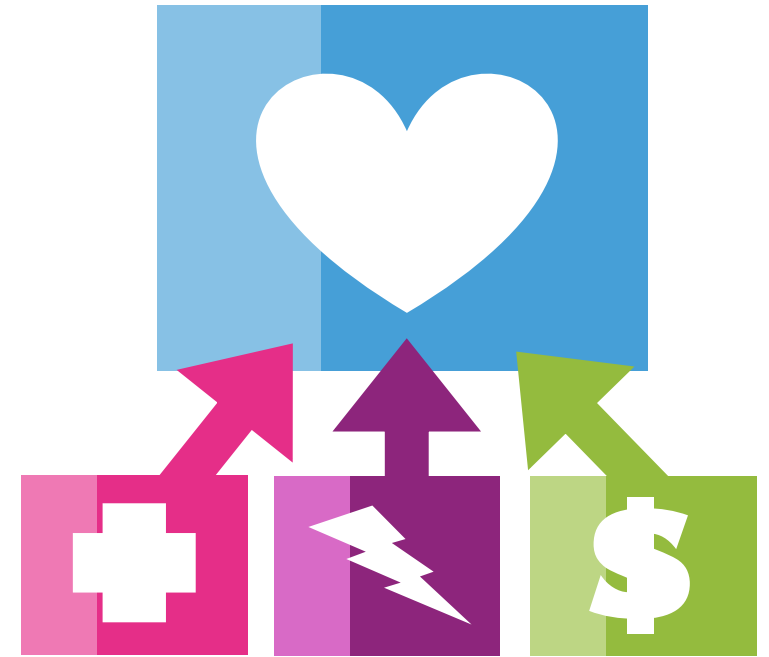


4. Upload and Attach Screened Prospect Data to Matched Entities in Advance

We use an Ellucian Advance API to perform an automated data load.

- New Patient IDs
- New Grateful Patient Affiliation data
- New Wealth Screening scores
- Any new personal information: Birthdate, Phone, Email and Address

This now happens daily instead of quarterly!



Do we load all patients as prospects?

How do we choose which prospects to upload?

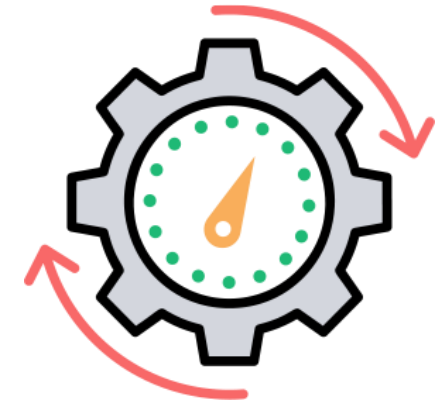
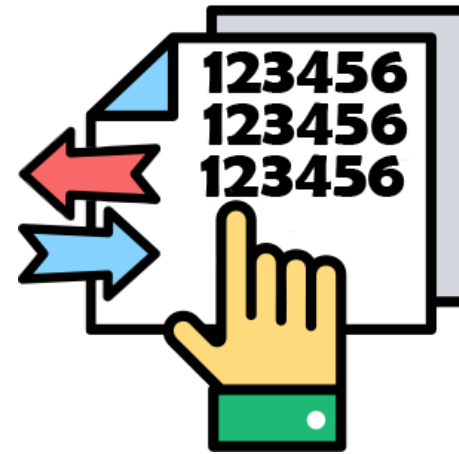
- Capacity is \$100,000 and up
- Overall quality score is 18 and up
- This has yielded about 300 prospects each month



5. Power BI Dashboard of Grateful Patient Prospect Data (Based on Advance Data)

Sample data published in Power BI:

- Patient Biodata
- Patient Medical Information
 - Last Physician Seen
 - Last Department Seen
 - Last Visit etc
- Giving Information
 - Last Gift etc
- Wealth Screening Results
 - Evaluation
 - Capacity etc

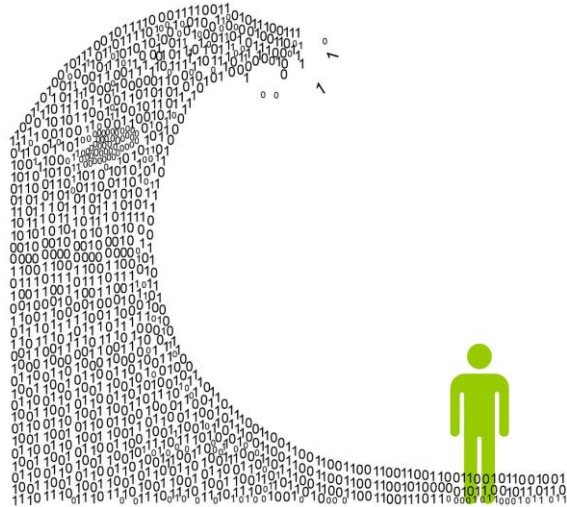


Automation!

Self-service report with data refreshed nightly (instead of monthly manual reports!)

[illegible]

Dashboard Challenge: So Much Data.



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CHALLENGE:

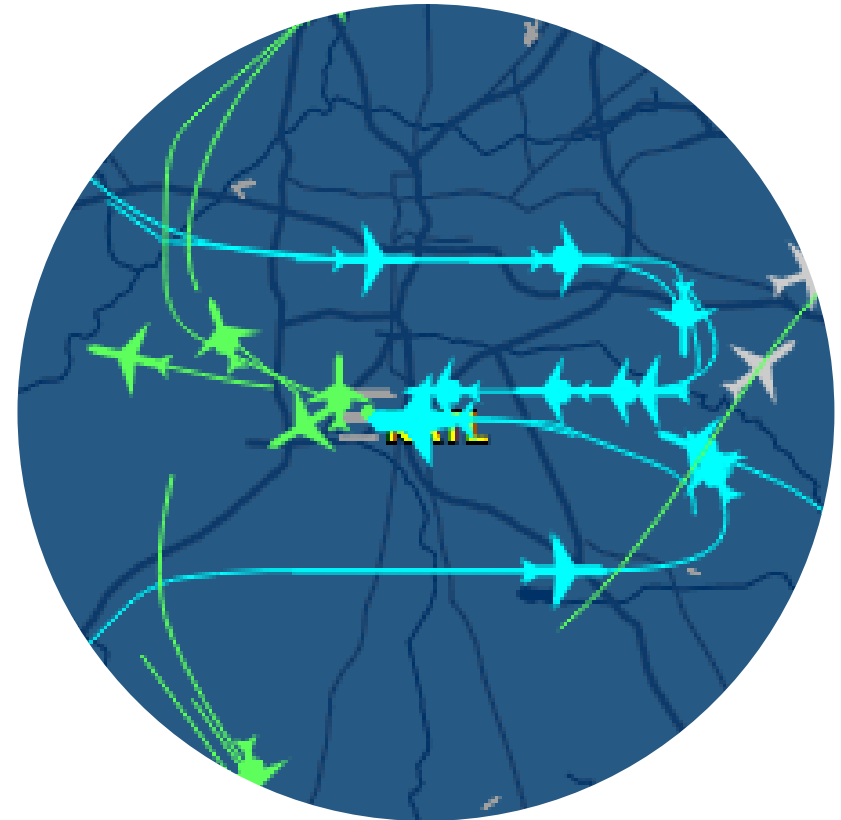
We can only publish a fixed amount of data in PowerBI.
Easy to exceed this limit with 1 million encounters a year
and 90 columns of data

SOLUTION:

We moved data that was more than a year old into a
separate PowerBI view called Paginated Reports. Data is
still available but archived and slightly less accessible

Challenge: Monitoring the Automated Processes (or Air Traffic Control)

- Automation is not a set it and forget it kind of thing.
- Monitoring automation is just as important as building it.
- So we built a series of monitors and alerts to let us know if one of our data loading batches have a problem



Our Monitoring System

Batch Details

id	FileType	Created	Records	Loaded	Matched	Match (in hours)	Screen Uploaded	Screen Downloaded	Screen (in hours)	Updated Advance
1196	Inpatient	20220906	274	9/6/2022 5:35:59 AM	9/6/2022 6:50:58 AM	60	9/6/2022 5:37:11 AM	9/6/2022 6:15:57 AM	38	9/6/2022 7:42:52 AM
1195	Outpatient	20220905	42	9/5/2022 12:05:55 PM	9/5/2022 1:19:28 PM	59	9/5/2022 12:06:46 PM		1258	
1194	Inpatient	20220905	244	9/5/2022 5:35:59 AM	9/5/2022 6:53:13 AM	63	9/5/2022 5:37:11 AM	9/5/2022 6:15:58 AM	38	9/5/2022 7:42:43 AM
1193	Outpatient	20220904	71	9/4/2022 12:05:55 PM	9/4/2022 1:19:11 PM	59	9/4/2022 12:06:46 PM		2698	
1192	Inpatient	20220904	265	9/4/2022 5:35:54 AM	9/4/2022 6:50:41 AM	60	9/4/2022 5:37:12 AM	9/4/2022 6:15:55 AM	38	9/4/2022 7:43:26 AM
1191	Outpatient	20220903	3334	9/3/2022 12:07:10 PM	9/3/2022 1:22:23 PM	62	9/3/2022 12:36:46 PM		4108	

Counts

id	FileType	Date	Records	Match	Match %	Screen Upload	Screen Download	Screened %	Screened at 50K	Screened at 100K	Screened at 100K%	Screened at 150K	Created Entities	Created Entities %
1196	Inpatient	20220906	274	20	7.30%	109	109	39.78%	4	2	0.73%	1	2	0.73%
1195	Outpatient	20220905	42	10	23.81%	0								
1194	Inpatient	20220905	244	21	8.61%	94	94	38.52%	2	1	0.41%	0	1	0.41%
1193	Outpatient	20220904	71	12	16.90%	0								
1192	Inpatient	20220904	265	21	7.92%	111	111	41.89%	5	4	1.51%	1	4	1.51%
1191	Outpatient	20220903	3334	918	27.53%	0								
1190	Inpatient	20220903	304	16	5.26%	111	111	36.51%	1	0	0.00%	0	0	0.00%
1189	Outpatient	20220902	3738	959	25.66%	0								
1188	Inpatient	20220902	339	28	8.26%	0	0	0.00%	0	0	0.00%	0	0	0.00%
1187	Inpatient	20220902	339	28	8.26%	121	121	35.69%	3	2	0.59%	0	2	0.59%
1186	Outpatient	20220901	4051	1018	25.13%	0								
1185	Inpatient	20220901	296	21	7.09%	123	123	41.55%	2	2	0.68%	1	2	0.68%
Average			1108	256	14.31%	56	96	33.42%	2	2	0.56%	0	2	0.56%

ation (in hours)

209

1649

7409

9267

7. Extract data for direct solicitation!

- Our Health team tries to reach out to patient donors within 60-90 days of their visit.
 - Every month we send their telephone vendor 60,000 new patients
 - Every quarter we email and mail an acquisition piece to 55,000 patients
 - We send an email to nearly every patient from the past year on Doctor's Day (300,000 patients)
- Health doesn't have the resources to call or direct mail everyone. Now they can use affinity scores to intelligently make cuts.
- Success:
 - Patient calling has been very successful. Health reported a 12% pledge rate on patient calling.
 - Health has reported a much higher patient renewal rate this year. 50% higher than previous fiscal years

