



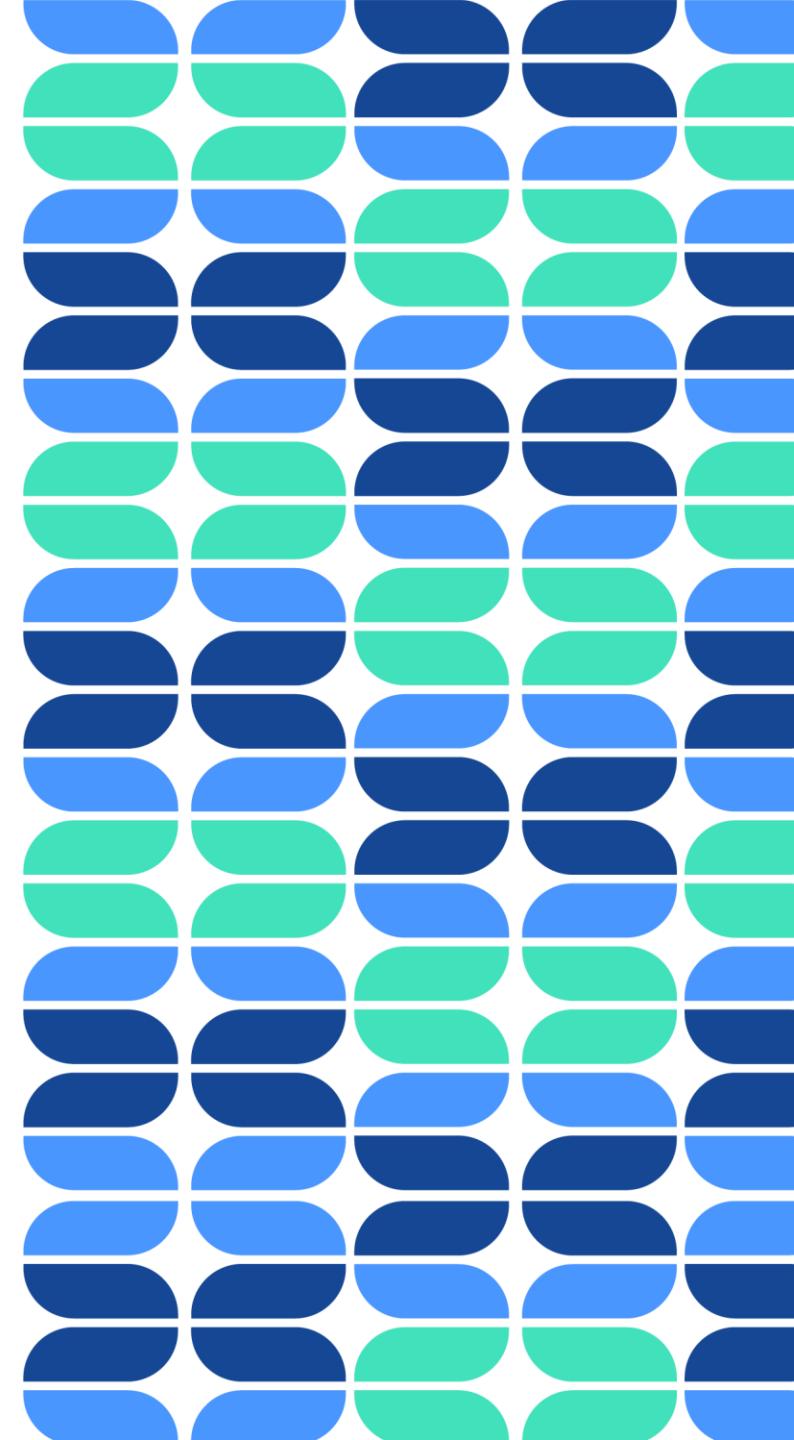
CIO/CMIO Peer Group

THURSDAY, MAY 25, 2023
11AM-12PM



[Recording Link](#)

Bi-Monthly CIO/CMIO Peer Group Meeting



Agenda

| Time | Topic | Lead(s) |
|--------|--|-------------------------------------|
| 7 min | Welcome & Introductions | Zoe So David Lown |
| 25 min | Member Presentation: Contra Costa Health Services | Duane Eikleberry |
| 25 min | Discussion | All Facilitator: Ash Amarnath |
| 3 min | Wrap-Up | Zoe |

Introductions

Member Presentation: **Tech-based Approaches to Outreach and Engagement**

Duane Eikleberry, Business Intelligence Developer
Contra Costa Health Services



Tech-Based Approaches to Outreach and Engagement

**Duane Eikleberry
Nooshin Abtahi
Grace Dwyer**

5/23/2023

CCHS Overview

- Contra Costa County Medical Center comprised of Contra Costa Regional Medical Center (CCRMC) and ten ambulatory health centers which is the training ground for our family practice residency program.
- CCRMC is a 167-bed general acute care safety-net hospital that has an average of over 8,000 admissions per year.
- CCRMC and HCs have over 140,000 Empaneled patients
- Additionally, the Psychiatric Emergency Services Unit provides wide range of services and has an average of 10,000 visits per year.

CCHS Overview

- We are integrated with our health plan which means we receive claims for non-CCHS care
- This helps with having a more complete picture of care gaps
- In turn this *usually* helps with QIP numerators, too
- For orgs not integrated with health plans, perhaps seek out other data sources via interop tools of EMR such as Epic's Care Everywhere when possible

Excel-Based Outreach Lists – Created by BI Team SQL Queries

- Multiple/duplicative versions of one search floating around
- Quickly out of date, distributed by email

Epic Reporting Workbench – Registry Searches

- At least in EMR for easy patient encounter creation
- Extremely slow to run, upwards of an hour for 1 run
- Not maintained by BI team

Televox/Automated Messaging

- Mix of SQL-based queries that could become outdated without anyone realizing

Outcome Success Reporting

- Very limited in scope

Each Campaign Not Holistic

- Each campaign had no awareness of other messaging going out
- Could get text messages for breast and cervical cancer screenings minutes apart
- Each campaign's exclusion criteria was different
- "Do not call" lists not used
- Standardization of workflow and training not in place

Beginnings of New Outreach Lists

QIP Tobacco Measure Denominator Growth

- Tobacco denominator population had many visits missing screenings
- Knew we needed to contact many patients, could use previous methods, or...

New Epic Reporting Workbench Option – SQL-Based Queries

- In EMR for easy patient encounter creation
- But also extremely fast to run!
- Looking for a pilot to try this tool out

Transitioning from Televox to Well/Artera and Luma

- A chance to revisit old logic

Step 1 – Creating Patient Base

- We already had QIP measure-specific tables updating nightly
- Patients to call: In Denominator, not in numerator

Tobacco Measure

| PAT_ID | Numerator |
|--------|-----------|
| Z123 | N |
| Z124 | Y |

Diabetes A1c Measure

| PAT_ID | Numerator |
|--------|-----------|
| Z124 | N |
| Z125 | Y |



QIP Outreach List

| PAT_ID | Tobacco Screening | Diabetes A1c |
|--------|-------------------|--------------|
| Z123 | Denom | |
| Z124 | Denom+Num | Denom |
| Z125 | | Denom+Num |

Step 2 – Complications with Using QIP Data Alone

- Certain measures might not have patients in denominator today, but would on 12/31

Ages

3–21 years as of December 31 of the measurement year. Report the total rate.

Idea 1

- Pretend it is a future date like 4 months ahead
- Run QIP measure code (e.g. on 5/23/23, measurement year is 9/23/22 – 9/22/23)
- So a child 2 years old today is 3 by 9/22/23

Idea 2

- Use Health Maintenance EMR data
- Much more common, but this data sometimes is less complete (e.g. not considering claims)
so we can use QIP numerator status as an exclusion

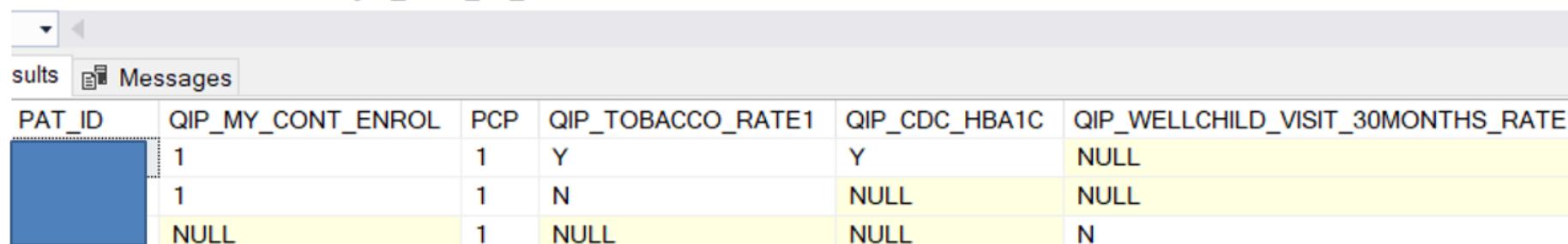
Step 3 – Add in Columns for Various Populations

- Similar to QIP measure-specific tables, we have population-specific tables
- Some like "covered for the past year" are safe enough to assume the patient will also be covered as of 12/31
- Some (especially W15) need dummy populations like “all patients with a PCP currently assigned and failing future date denominator”

```

SELECT PAT_ID,
       QIP_MY_CONT_ENROL,          -- Continuous Cvg Past Year
       PCP,                         -- Has PCP assigned currently
       QIP_TOBACCO_RATE1,           -- Tobacco Screening num/denom
       QIP_CDC_HBA1C,              -- A1c num/denom
       QIP_WELLCHILD_VISIT_30MONTHS_RATE1 -- W15 num/denom
  FROM Dashboard.dbo.QIP_GAPS_IN_CARE

```



| PAT_ID | QIP_MY_CONT_ENROL | PCP | QIP_TOBACCO_RATE1 | QIP_CDC_HBA1C | QIP_WELLCHILD_VISIT_30MONTHS_RATE1 |
|--------|-------------------|-----|-------------------|---------------|------------------------------------|
| 1 | | 1 | Y | Y | NULL |
| 1 | | 1 | N | NULL | NULL |
| NULL | | 1 | NULL | NULL | N |

Step 4 – Add in Other Columns for Filtering or Display in Epic’s Front-End Tool

- Last primary care appointment date
- Has future primary care appointment scheduled
- Reason failing Diabetes A1c (High or Missing A1c)
- Has active A1c order
- Last FIT Kit mail date
- Race/Ethnicity

Step 5 – Create Front End

- For non-Epic groups: this is just an EMR-side activity capable of running a SQL query and handing the patient IDs off to the client as if it's a native report

Report Settings - QIP Outreach Report - Antioch [2034379]

Criteria [Display](#) [Appearance](#) [Summary](#) [Print Layout](#) [Toolbar](#) [Override](#)

[Find Patients](#) [Find Criteria](#)

Failing Measures

- Breast Cancer Screening [OR](#)
- Cervical Cancer Screening [OR](#)
- Child and Adolescent Well-Care Visits [OR](#)
- Child Immunization (Combo 10) [OR](#)
- Colorectal Cancer Screening [OR](#)

8 more values ...

In Population

- QIP Proactive Measures [OR](#)
- QIP 12 months of Continuous Enrollment as of 13th birthday [OR](#)
- QIP 12 months of Continuous Enrollment as of 2nd birthday [OR](#)
- QIP 27 Month Continuous Enrollment [OR](#)
- QIP Continuous Enrollment from 15 months to 30 months [OR](#)

3 more values ...

Clinic
Antioch

Use Appointment Filter
Yes

Use Flowsheet Filter
Yes

Require PCP and Pt Eligibility PCP
Yes

Report Logic: AND

Front End Example

- Big benefit is this provides access to EMR tools (Pt Outreach encounter, MyChart msg, letters, etc.)

QIP Outreach Report - Bay Point [60957429] as of Mon 5/1/2023 1:32 PM

Chart **Pt Outreach** **Generate Letters** **Place Orders** **Track Pt Outreach** **Send Patients Message** **Sort by F** **Re-run Report** **Search**

Filter

| MRN | Patient | Language | Phone | QIP Failed Measures | Last Visit | Age | Outreach Due Status | Prior Outreach Date | PCP |
|-----|---------|----------|-------|---|------------|-------------|---------------------|---------------------|-------------------------|
| | | Spanish | | Child and Adolescent Well-Care Visits; Influenza Immunization | 01/19/2023 | 18-year old | Due for Second Call | 04/10/2023 | Ballesteros, Karla, FNP |
| | | Spanish | | Immunizations for Adolescents | 01/31/2023 | 12-year old | Due for First Call | | Perez, Greta, MD |
| | | Spanish | | Colorectal Cancer Screening; Depression Screening and Follow-up; Influenza Immunization; Tobacco Use: Cessation | 05/18/2022 | 71-year old | Due for Second Call | 03/02/2023 | Ballesteros, Karla, FNP |
| | | Spanish | | Controlling Blood Pressure | 04/18/2023 | 47-year old | Due for First Call | | Ballesteros, Karla, FNP |
| | | English | | Breast Cancer Screening; | 10/13/2022 | 52-year old | Due for First Call | | Perez, Greta, MD |

Focused Outreach **Snapshot**

Focused Care Gaps
This patient has no relevant Health Maintenance data.

Overdue Health Maintenance **Full History**
Hepatitis C Screening Adults (Once) **Overdue - never done**
HIV Screening (Once) **Overdue - never done**
COVID-19 U... **Overdue - never done**

Patient Demographics
Address **(Home) *Preferred* (Mobile)**

Recent Outpatient Visits
Date Provider Department Visit Type Primary Dx
04/10/2023 Ponce, Vanessa E, CMA Pittsburg Nursing Patient Outreach

Front End Example

- All failed measures could be addressed with 1 call, and data is not in Excel

QIP Outreach Report - Bay Point [60957429] as of Mon 5/1/2023 1:32 PM

Chart Pt Outreach Generate Letters Place Orders Track Pt Outreach Send Patients Message Sort by F Re-run Report

Filter

| MRN | Patient | Language | Phone | QIP Failed Measures | Last Visit | Age | Outreach Due Status | Prior Outreach Date | PCP |
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Focused Outreach Snapshot

Focused Care Gaps
This patient has no relevant Health Maintenance data.

Overdue Health Maintenance Full History

- Hepatitis C Screening Adults (Once) ① Overdue - never done
- HIV Screening (Once) ② Overdue - never done
- COVID-19 U... ② Overdue - never done

Patient Demographics

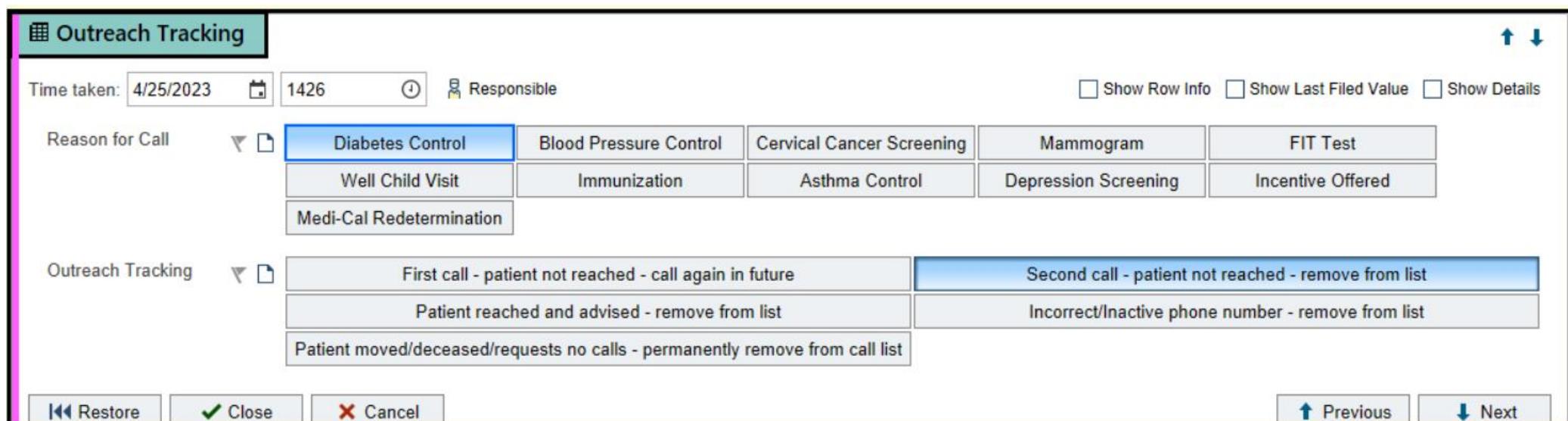
Address REDACTED Phone REDACTED (Home) *Preferred* (Mobile)

Recent Outpatient Visits

| Date | Provider | Department | Visit Type | Primary Dx |
|------------|-----------------------|-------------------|------------------|------------|
| 04/10/2023 | Ponce, Vanessa E, CMA | Pittsburg Nursing | Patient Outreach | |

Front End Example

- Once inside Patient Outreach encounter, 2 flowsheets are critical to this style of outreach's functioning:



Outreach Tracking

Time taken: 4/25/2023 1426 Responsible

Show Row Info Show Last Filed Value Show Details

| Reason for Call | Diabetes Control | Blood Pressure Control | Cervical Cancer Screening | Mammogram | FIT Test |
|-----------------|--------------------------|------------------------|---------------------------|----------------------|-------------------|
| | Well Child Visit | Immunization | Asthma Control | Depression Screening | Incentive Offered |
| | Medi-Cal Redetermination | | | | |

| Outreach Tracking | First call - patient not reached - call again in future | Second call - patient not reached - remove from list |
|-------------------|--|--|
| | Patient reached and advised - remove from list | Incorrect/Inactive phone number - remove from list |
| | Patient moved/deceased/requests no calls - permanently remove from call list | |

Restore Close Cancel Previous Next

Outreach Tracking Flowsheet

- Dictates how long a patient falls off the report to avoid re-calling the same patient
- This filter is optional at run time

| Response | Return to Outreach Report After |
|--|------------------------------------|
| First call – patient not reached – call again in future | 1 week |
| Second call – patient not reached – remove from list | 2 months |
| Patient reached and advised - remove from list | 2 months |
| Incorrect/Inactive phone number – remove from list | 6 months |
| Patient moved/deceased/requests no calls – permanently remove from call list | Never return |

Multi-Step Outreach Workflow Example

- Run **HbA1c Order Needed**, generate letter and place order
- 2 weeks later they'll appear on **Overdue A1c Phone Outreach**

Report Settings - QIP Outreach Report - Diabetes HbA1c Order Needed [2086128]

Criteria Display Appearance Summary Print Layout Tools

Find Criteria Enter a search term, or click the search icon

Failing Measures
Diabetes Poor HBA1c Control

In Population
PCP Primary Care Population **OR**
QIP Continuous Enrollment in MY

Due for A1c Order
Yes



Report Settings - QIP Outreach Report - Diabetes Overdue A1c Phone Outreach [2106128]

Criteria Display Appearance Summary Print Layout Tools

Find Criteria Enter a search term, or click the search icon

Failing Measures
Diabetes Poor HBA1c Control

In Population
QIP Continuous Enrollment in MY

Use Flowsheet Filter
Yes

Exclude Patients w/ Missing A1c Letter On or After
W-2 (4/21/2023)

A1c Fail Type
Missing

Has Active A1c Order
Yes

Goals

- Have simple data model storing all outreach
- Help us get closer to a true picture of all outreach happening per patient
- Support basic self service reporting via dashboard

Step 6 – Create Outreach Table

- First main campaign was QIP-based staff calls – presence of the flowsheet on Patient Outreach encounter identifies these
- Also pull in all known automated calls/texts happening (Televox, Well/Artera, Luma)
- Automated patient portal (MyChart) health maintenance reminders
- Very recently implemented Epic Campaigns functionality for Birthday Letters and FIT Mailings
- Merging 5+ outreach systems requires merging some lists (e.g. prevent “SMS” and “Text” appearing as two different contact methods)

| Outreach ID | Patient | Campaign ID | Outreach Time | User | Department | Reasons | Contact Method | Reached | Opt Out |
|-------------|---------|-------------|---------------|---------|-------------|--------------------------|----------------|---------|---------|
| 1 | Z123 | 1 | 1/2/22 08:33 | Nurse A | PHC Nursing | Immunization; Well Child | Phone | Y | N |
| 2 | Z124 | 2 | 1/2/22 09:00 | | | Influenza | Text | Y | Y |
| 3 | Z125 | 3 | 1/2/22 13:11 | | | Mammogram | Text | N | |

Step 7 – Define Formal Campaigns and Create Campaign Table

- Aids in keeping track of basic documentation like a start/end date, description, etc.
- Also keep the outcome determination dynamic (red columns)

| Campaign ID | Campaign Name | Topic | Start Date | End Date | Description | Success Measure | Balancing Measure | Needs PCP Appt in 14 Days | Needs Flu Shot 30 Days | Needs COVID Vacc 14 Days |
|-------------|-------------------------------------|-------|------------|----------|--|---|---|---------------------------|------------------------|--------------------------|
| 1 | QIP Staff Calls | QIP | 1/1/21 | | Contacting patients failing a variety of QIP... | An appointment created within 14 days of... | Canceled or No Show appointment... | Y | | |
| 2 | Televox Flu | QIP | 10/1/21 | 10/1/21 | Robocall or text message notifying patients.... | Completed flu shot within 30 days | N/A | | Y | |
| 3 | COVID-19 Physician MyChart Messages | COVID | 12/7/21 | 12/10/21 | MyChart message from physician notifying unvaccinated... | Completed COVID vaccine within 14 days | Vaccine appointment that became Canceled or No Show | | | Y |

Full Campaign List

| COVID Campaigns | QIP Topic-Related Campaigns | Other Campaigns |
|---|---|------------------------|
| COVID-19 Antiviral Treatment - CCRMC | Adult Well Visit Reminder | MPX Vaccine Scheduling |
| COVID-19 Antiviral Treatment - Community | Annual Cervical Cancer Campaign | MPX Vaccine 2nd Dose |
| COVID-19 Vaccine - Booster Incentive Research - Message | Annual Colon Cancer Campaign | |
| COVID-19 Vaccine - Booster Incentive Research - Message + Financial | Annual Flu Shot Campaign | |
| COVID-19 Vaccine - Booster Incentive Research - No Message | Automated Overdue Health Maintenance Alerts | |
| COVID-19 Vaccine - Booster Texts | Birthday Letter | |
| COVID-19 Vaccine - CCHP 6 month-5 year olds | Blood Pressure Reminder | |
| COVID-19 Vaccine - Missing 2nd dose (CCHS) | Cervical Cancer Reminder | |
| COVID-19 Vaccine - Missing 2nd dose (non-CCHS) | Colon Cancer Screening Reminder | |
| COVID-19: Behavioral Health Booster Outreach | Flu Shot MyChart Messaging | |
| COVID-19: Elderly Postcard Campaign | Flu Shot Reminder | |
| COVID-19: Immunocompromised Booster MyChart messages | Mailed FIT Kit | |
| COVID-19: Physician MyChart messages | Mammogram No Show | |
| COVID-19: Unvaccinated Phone Calls | Mammogram Reminder | |
| | Pediatric Immunization & Well Child Reminder | |
| | QIP - Staff Calls | |
| | Unreturned FIT Kit Reminder | |
| | Well Child Visit - Incentive Research - Gift Card Offered | |
| | Well Child Visit - Incentive Research - No Message | |

Step 8 – Calculate Outcomes

- Using Outreach and definitions in Campaigns table, compute Outcomes table
- We originally had these columns in the Outreach table, but a need arose to track multiple outcomes (COVID Vacc and/or Resource Nurse Call)

| Outreach ID | Line | Outcome Time | Outcome | Success | Additional Details |
|-------------|------|---------------|-------------------|---------|---|
| 1 | 1 | 1/15/21 18:13 | No Show Appt | N | OFFICE VISIT on 1/25/21 in PHC FAMILY PRACTICE |
| 2 | 1 | 1/14/21 15:49 | Completed Appt | Y | TELEHEALTH AUDIO on 2/5/21 in NRC FAMILY PRACTICE |
| 3 | 1 | 7/17/22 13:11 | Advice Nurse Call | Y | Nurse: JACKSON, RONDA |
| 4 | 1 | 3/10/23 12:00 | FIT Lab Collected | 1 | Results: NEGATIVE |



Step 9 – Create Dashboard

Outreach Dashboard

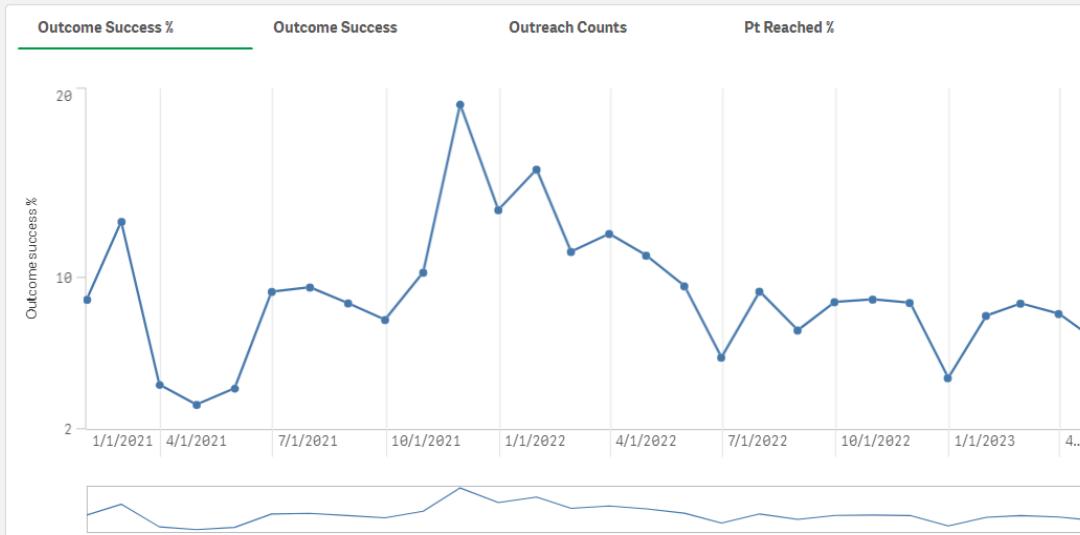
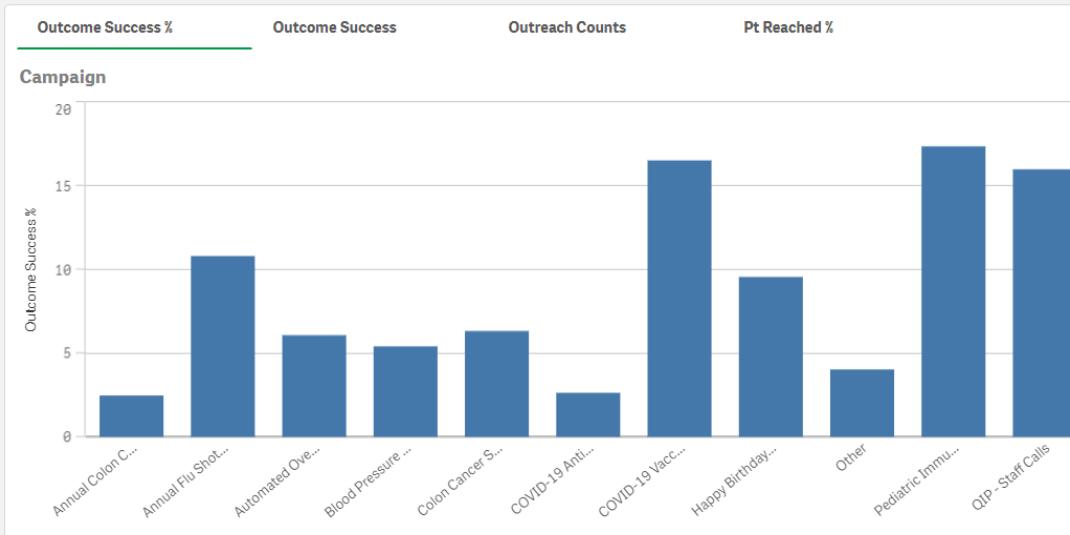
| Date Range: 1/1/2021 - 4/25/2023 ▾ | Topic | Campaign | Was Patient Reached? |
|------------------------------------|-----------|-------------------|----------------------|
| | Outreach | Outcome Success | Opt Out % |
| | 1,249,848 | 116,670 | 0.2% |
| | | Outcome Success % | Balancing Measure % |
| | | 9.3% | 3.2% |

Campaign:
Campaign Start Date:
Campaign End Date:
Description:
Success Measure:
Balancing Measure:

| Campaign | Q | All Outreach | All Outreach % | Total Patients | Reached | Reached % | Not Reached | Outcome Success | Outcome Success % | Balancing Measure | Balancing Measure % | Opt Out | Opt Out % |
|--|---|------------------|----------------|----------------|----------------|--------------|----------------|-----------------|-------------------|-------------------|---------------------|--------------|-------------|
| Totals | | 1,249,848 | 100.0% | 350,370 | 552,312 | 44.2% | 277,353 | 116,670 | 9.3% | 40,351 | 3.2% | 2,537 | 0.2% |
| Annual Colon Cancer Campaign | | 38,821 | 3.1% | 37,999 | 0 | 0.0% | 0 | 959 | 2.5% | 0 | 0.0% | 0 | 0.0% |
| Annual Flu Shot Campaign | | 178,157 | 13.6% | 131,405 | 100,141 | 58.9% | 11,485 | 18,388 | 18.8% | 0 | 0.0% | 248 | 0.1% |
| Automated Overdue Health Maintenance Alerts | | 181,709 | 14.5% | 83,961 | 62,345 | 34.3% | 119,364 | 11,031 | 6.1% | 8,233 | 4.5% | 0 | 0.0% |
| Blood Pressure Reminder | | 60,267 | 4.8% | 18,482 | 19,106 | 31.7% | 2,057 | 3,257 | 5.4% | 2,029 | 3.4% | 29 | 0.0% |
| Colon Cancer Screening Reminder | | 39,796 | 3.2% | 19,807 | 0 | 0.0% | 0 | 2,516 | 6.3% | 0 | 0.0% | 0 | 0.0% |
| COVID-19 Antiviral Treatment - Community | | 43,363 | 3.5% | 36,877 | 35,536 | 82.0% | 7,827 | 1,140 | 2.6% | 0 | 0.0% | 184 | 0.4% |
| COVID-19 Vaccine - Booster texts | | 131,120 | 10.5% | 101,817 | 103,428 | 78.9% | 27,692 | 21,653 | 16.5% | 1,577 | 1.2% | 6 | 0.0% |
| Happy Birthday Letter FIT Kit | | 52,360 | 4.2% | 34,477 | 0 | 0.0% | 0 | 5,002 | 9.6% | 0 | 0.0% | 0 | 0.0% |
| Other | | 286,434 | 22.9% | 163,179 | 172,898 | 60.4% | 43,754 | 11,531 | 4.0% | 7,361 | 2.6% | 214 | 0.1% |
| Pediatric Immunization & Well Child Reminder | | 139,715 | 11.2% | 46,007 | 24,175 | 17.3% | 3,215 | 24,244 | 17.4% | 6,149 | 4.4% | 95 | 0.1% |

Select dimension

- *No Dimension
- Campaign**
- All Outreach Results
- Outreach Method
- Documentation Tool
- # Times Person Contacted in Last Week
- # Times Person Contacted in Last Month
- # Times Person Contacted in Last 3 Months
- Day of Week
- Hour of Day
- Hour of Day Group
- Outreach Location
- Outreach Department
- Outreach User
- Outreach Reason
- Call Outcome
- Health Center
- Legal Sex
- Race/Ethnicity
- Language
- Age Group
- Ped Age Group

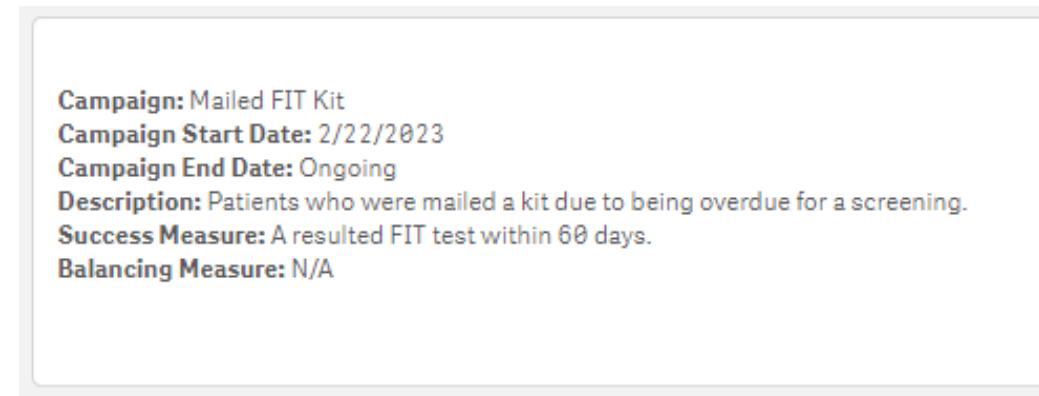
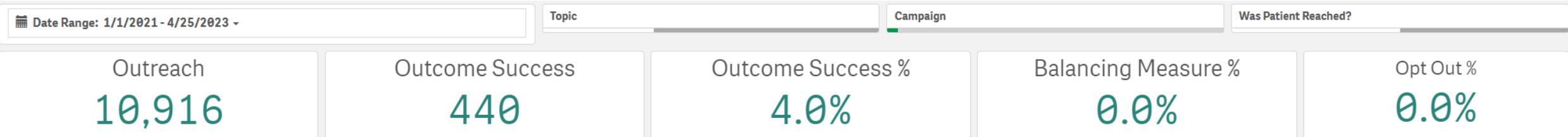
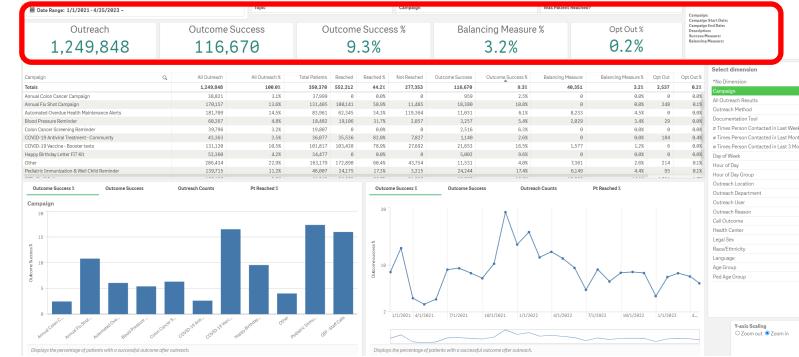


Y-axis Scaling
 Zoom out Zoom in

Displays the percentage of patients with a successful outcome after outreach.

Executive Summary Sheet

- Main filters
- KPIs
- Campaign info (shows if 1 campaign selected)



Executive Summary Sheet

- Dimension selector, stratifies table/charts by this

Select dimension

*No Dimension

Campaign

All Outreach Results

Outreach Method

Documentation Tool

Times Person Contacted in Last Week

Times Person Contacted in Last Month

Times Person Contacted in Last 3 Months

Day of Week

Hour of Day

Hour of Day Group

Outreach Location

Outreach Department

Outreach User

Outreach Reason

Call Outcome

Health Center

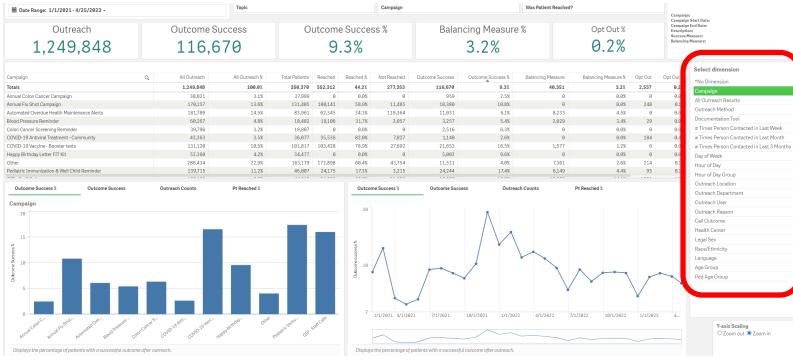
Legal Sex

Race/Ethnicity

Language

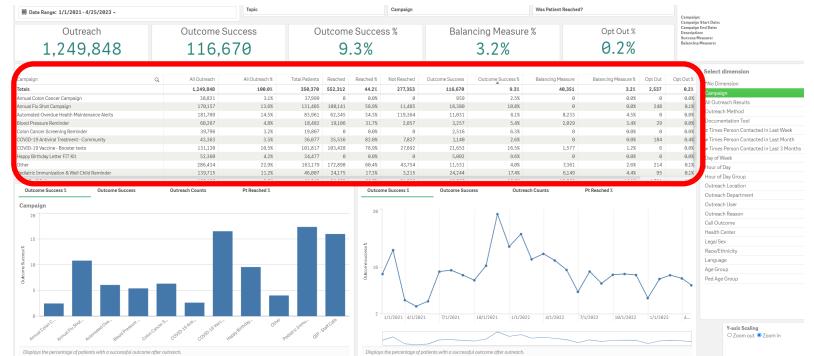
Age Group

Ped Age Group



Executive Summary Sheet

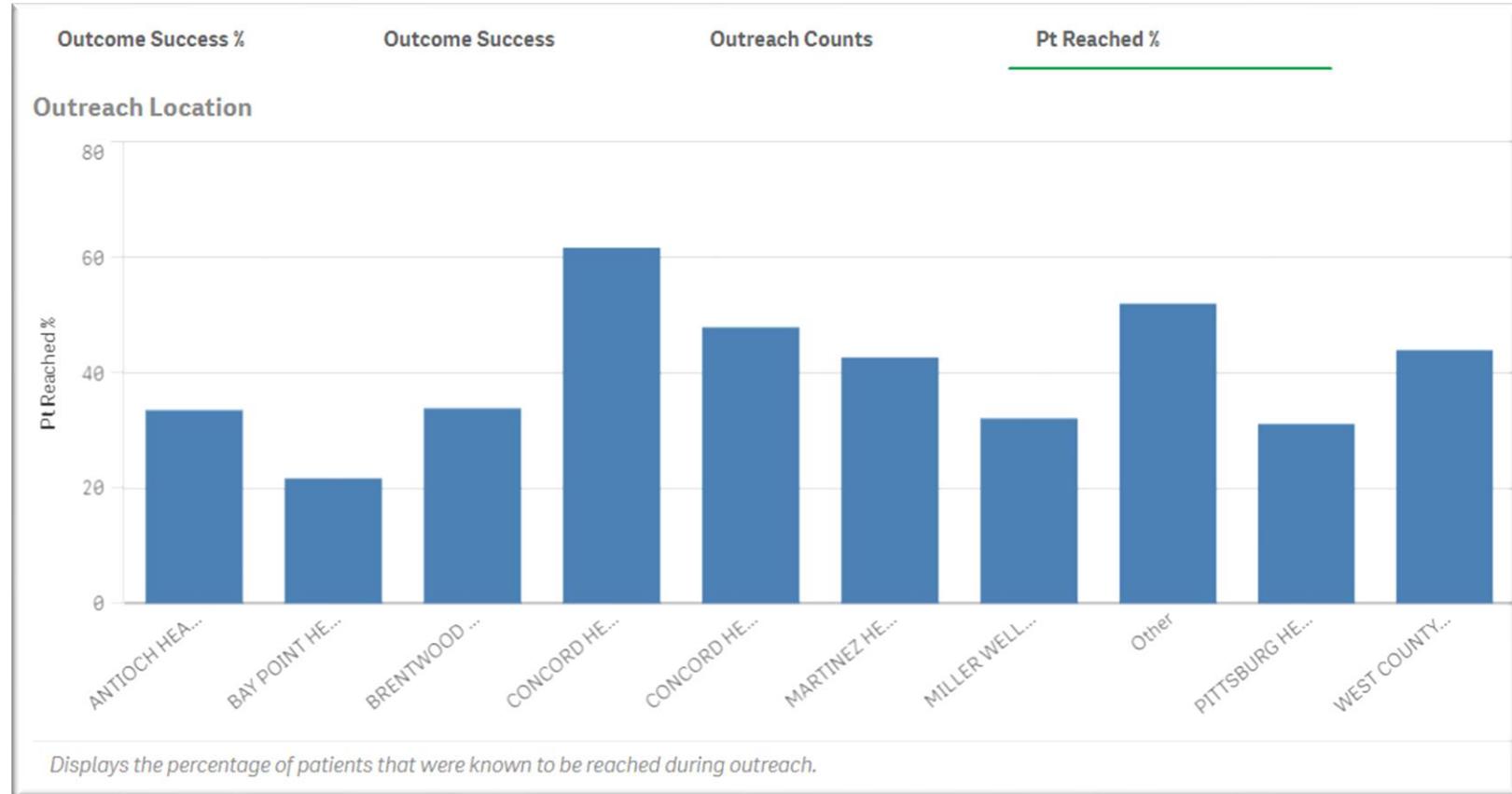
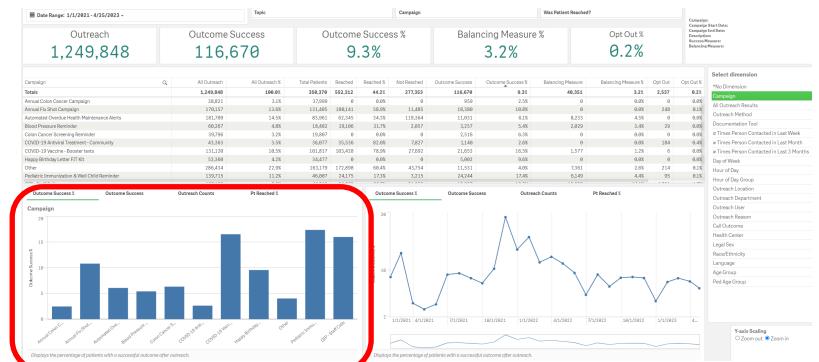
- Main summary table
- Example here shows comparing COVID/Well Child outreach when incentives are offered



| Campaign | Q | All Outreach | All Outreach % | Total Patients | Reached | Reached % | Not Reached | Outcome Success | Outcome Success % | Balancing Measure | Balancing Measure % | Opt Out | Opt Out % |
|---|---|---------------|----------------|----------------|---------------|--------------|---------------|-----------------|-------------------|-------------------|---------------------|----------|-------------|
| Totals | | 61,377 | 100.0% | 61,374 | 36,306 | 59.2% | 25,071 | 1,938 | 3.2% | 3,033 | 4.9% | 0 | 0.0% |
| COVID-19 Vaccine - Booster Incentive Research - Message | | 19,307 | 31.5% | 19,304 | 17,721 | 91.8% | 1,586 | 642 | 3.3% | 958 | 5.0% | 0 | 0.0% |
| COVID-19 Vaccine - Booster Incentive Research - Message + Financial | | 19,287 | 31.4% | 19,287 | 17,719 | 91.9% | 1,568 | 634 | 3.3% | 946 | 4.9% | 0 | 0.0% |
| COVID-19 Vaccine - Booster Incentive Research - No Message | | 19,291 | 31.4% | 19,291 | 0 | 0.0% | 19,291 | 488 | 2.5% | 1,015 | 5.3% | 0 | 0.0% |
| Well Child Visit - Incentive Research - Gift Card Offered | | 999 | 1.6% | 999 | 866 | 86.7% | 133 | 51 | 5.1% | 38 | 3.8% | 0 | 0.0% |
| Well Child Visit - Incentive Research - No Message | | 2,493 | 4.1% | 2,493 | 0 | 0.0% | 2,493 | 123 | 4.9% | 76 | 3.0% | 0 | 0.0% |

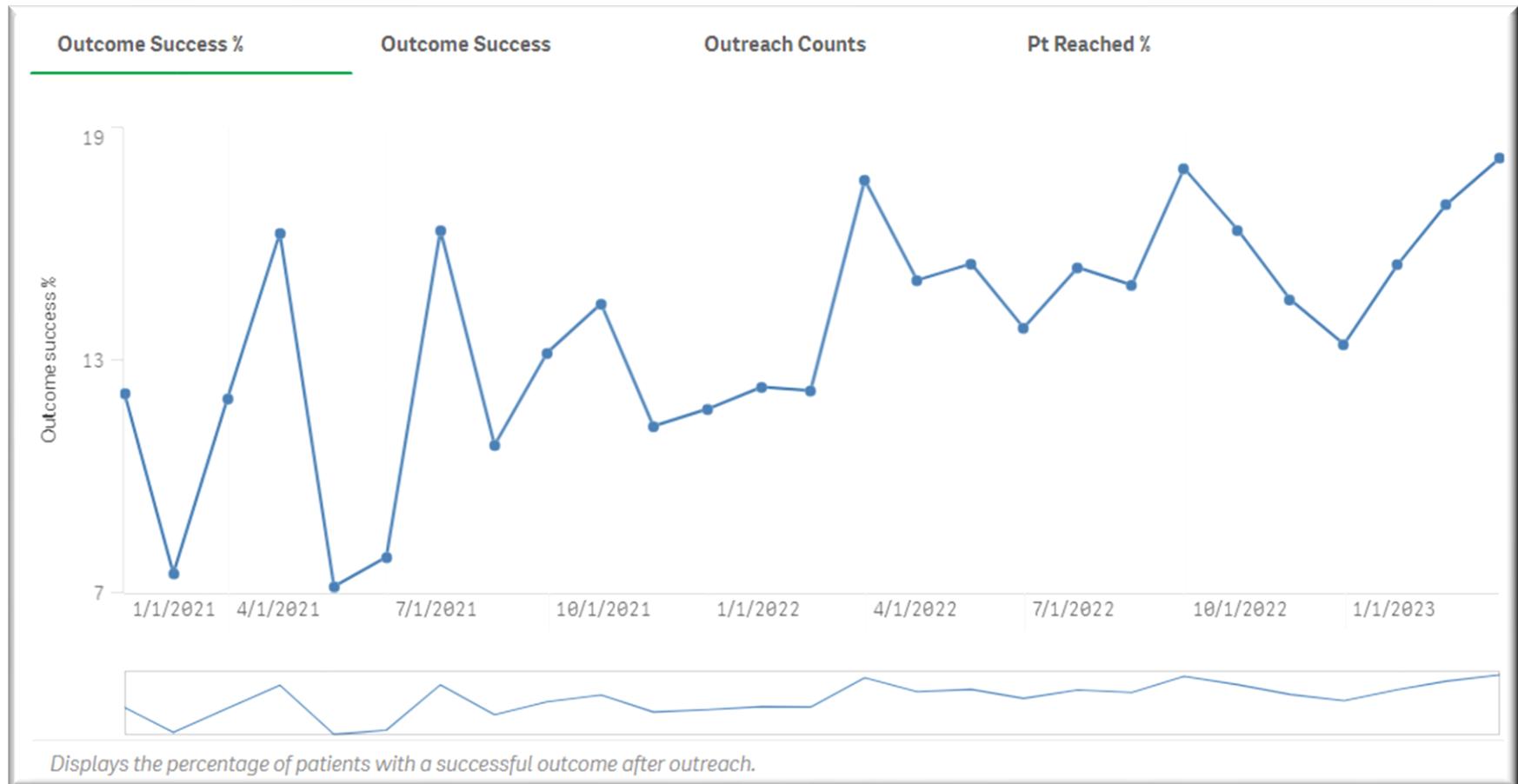
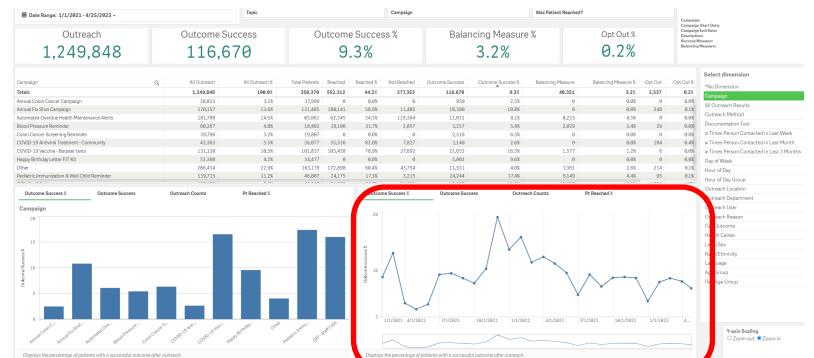
Executive Summary Sheet

- Grand total bar charts stratified by selected dimension
- Outcome Success %, Outcome Success (count), Outreach Count, and Pt Reached %



Executive Summary Sheet

- Over time counts/rates



Example A – What is best time of day to make calls?

- Filter on *Reached* = Yes and *Campaign* = QIP Staff Calls
- Change Dimension to *Hour of the Day*

Was Patient Reached?

| | Opt Out | Opt Out % |
|-------|---------|-----------|
| Yes | 1,482 | 4.3% |
| No | 32 | 2.6% |
| | 51 | 3.7% |
| | 236 | 5.7% |
| | 231 | 5.1% |
| | 165 | 4.2% |
| | 146 | 3.9% |
| 1,460 | 249 | 4.5% |
| 1,286 | 168 | 3.4% |
| 949 | 149 | 4.0% |
| 202 | 30 | 3.9% |
| 100 | 25 | 2.6% |

Campaign: QIP - Staff Calls
Campaign Start Date: 1/1/2021
Campaign End Date: Ongoing
Description: Contacting patients failing a variety of measures in which it is not too late to intervene.
Success Measure: A scheduled or completed primary care appt made within 14 days.
Balancing Measure: A primary care appointment made within 14 days that has been canceled, no show or left without seen

Select dimension

- *No Dimension
- Campaign
- All Outreach Results
- Outreach Method
- Documentation Tool
- # Times Person Contacted in Last Week
- # Times Person Contacted in Last Month
- # Times Person Contacted in Last 3 Months
- Day of Week
- Hour of Day**
- Hour of Day Group



Example B – How does automated messaging compare to human-made calls?

- Filter on *Campaign* = *QIP Staff Calls* or *Automated HM Alerts*
- Change Dimension to *Campaign*

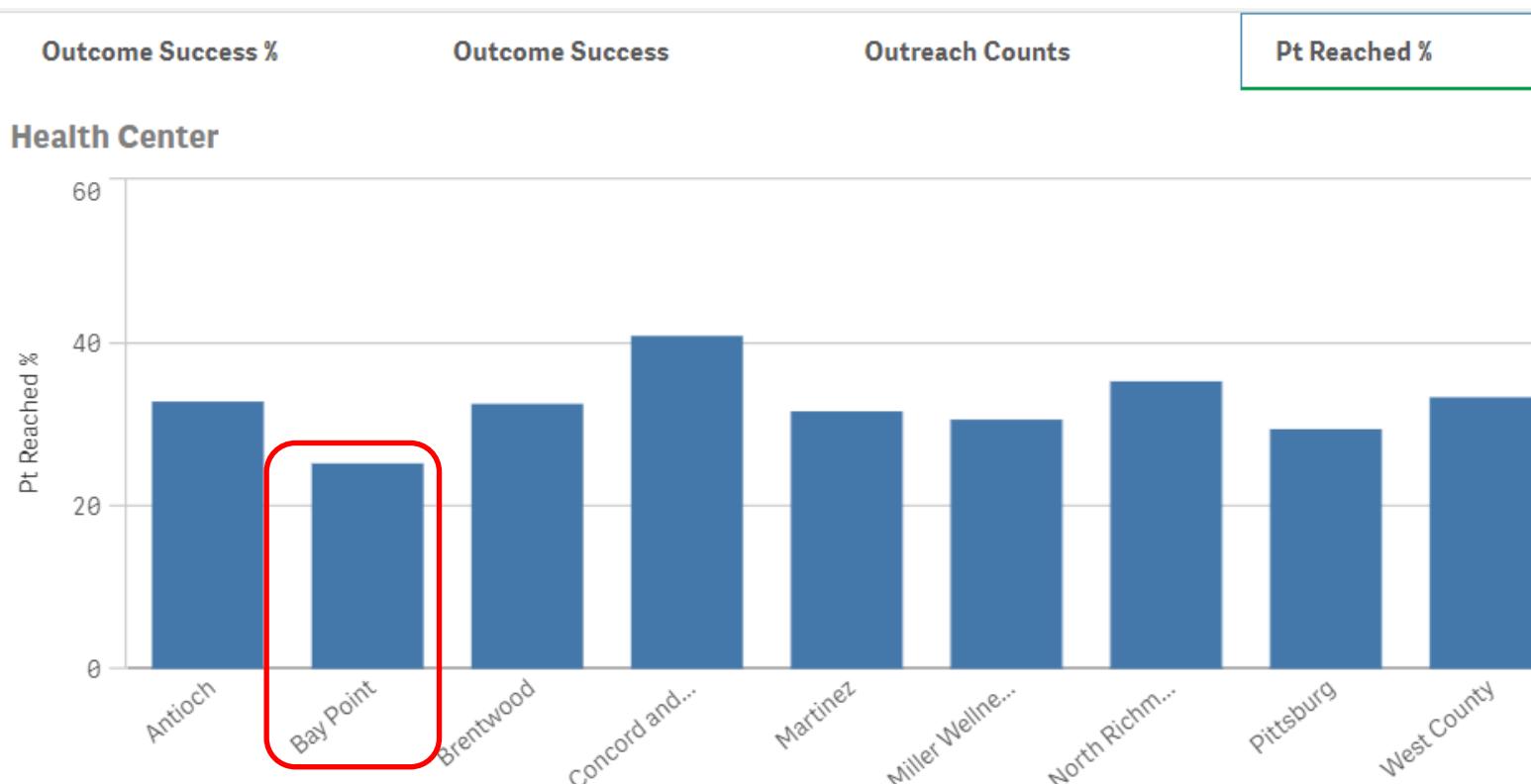
| Campaign | Q | All Outreach | All Outreach % | Total Patients | Reached | Reached % | Not Reached | Outcome Success | Outcome Success % | Balancing Measure | Balancing Measure % | Opt Out | Opt Out % |
|---|---|----------------|----------------|----------------|---------------|--------------|---------------|-----------------|-------------------|-------------------|---------------------|------------|-------------|
| Totals | | 115,852 | 100.0% | 68,821 | 42,561 | 36.7% | 72,489 | 10,473 | 9.0% | 5,808 | 5.0% | 309 | 0.3% |
| Automated Overdue Health Maintenance Alerts | | 95,189 | 82.2% | 61,724 | 35,643 | 37.4% | 59,546 | 6,877 | 7.2% | 3,162 | 3.3% | 0 | 0.0% |
| QIP - Staff Calls | | 20,663 | 17.8% | 13,398 | 6,918 | 33.5% | 12,943 | 3,596 | 17.4% | 2,646 | 12.8% | 309 | 1.5% |

- Add Filter on *Reached* = *Yes*

| Campaign | Q | All Outreach | All Outreach % | Total Patients | Reached | Reached % | Not Reached | Outcome Success | Outcome Success % | Balancing Measure | Balancing Measure % | Opt Out | Opt Out % |
|---|---|---------------|----------------|----------------|---------------|---------------|-------------|-----------------|-------------------|-------------------|---------------------|------------|-------------|
| Totals | | 42,561 | 100.0% | 30,961 | 42,561 | 100.0% | 0 | 6,427 | 15.1% | 3,594 | 8.4% | 266 | 0.6% |
| Automated Overdue Health Maintenance Alerts | | 35,643 | 83.7% | 25,764 | 35,643 | 100.0% | 0 | 4,136 | 11.6% | 1,820 | 5.1% | 0 | 0.0% |
| QIP - Staff Calls | | 6,918 | 16.3% | 6,443 | 6,918 | 100.0% | 0 | 2,291 | 33.1% | 1,774 | 25.6% | 266 | 3.8% |

Example C – Why are Bay Point patients hardest to reach using staff calls?

- Step 1: Filter on *Campaign = QIP Staff Calls*



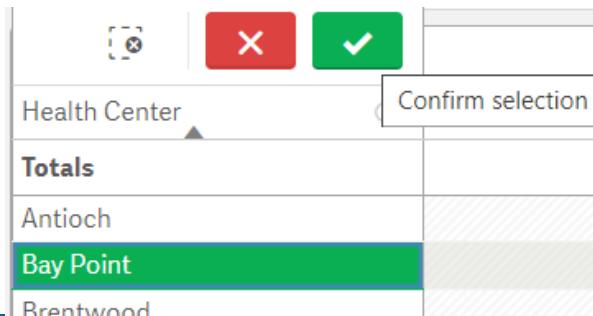
Displays the percentage of patients that were known to be reached during outreach.

Outreach Dashboard

Example C – Why are Bay Point patients hardest to reach?

- Step 2: Experiment with various dimensions on all clinics to see hard to reach groups, first tried Age Group

- Step 3: Add Bay Point filter and see if those groups have higher proportion

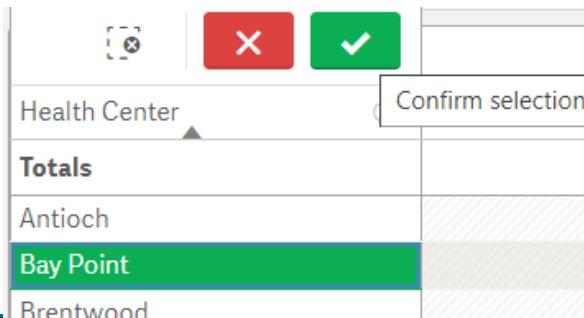


| Age Group | All Outreach | All Outreach % | Total Patients | Reached | Reached % |
|--------------|----------------|----------------|----------------|---------------|--------------|
| | 110,629 | 100.0% | 45,406 | 36,297 | 32.8% |
| 0-12 | 33,551 | 30.3% | 15,293 | 12,757 | 38.0% |
| 13-17 | 12,190 | 11.0% | 5,642 | 4,239 | 34.8% |
| 18-29 | 17,514 | 15.8% | 6,662 | 4,852 | 27.7% |
| 30-39 | 8,033 | 7.3% | 3,093 | 2,485 | 30.9% |
| 40-49 | 7,516 | 6.8% | 3,006 | 2,303 | 30.6% |
| 50-59 | 13,807 | 12.5% | 5,374 | 4,191 | 30.4% |
| 60-69 | 13,357 | 12.1% | 5,490 | 3,994 | 29.9% |
| 70-79 | 4,243 | 3.8% | 1,972 | 1,311 | 30.9% |
| 80-89 | 385 | 0.3% | 232 | 147 | 38.2% |

| Age Group | All Outreach | All Outreach % | Total Patients | Reached | Reached % |
|--------------|--------------|----------------|----------------|------------|--------------|
| | 1,669 | 100.0% | 624 | 420 | 25.2% |
| 0-12 | 150 | 9.0% | 75 | 54 | 36.0% |
| 13-17 | 125 | 7.5% | 59 | 38 | 30.4% |
| 18-29 | 296 | 17.7% | 112 | 76 | 25.7% |
| 30-39 | 167 | 10.0% | 44 | 46 | 27.5% |
| 40-49 | 166 | 9.9% | 56 | 36 | 21.7% |
| 50-59 | 408 | 24.4% | 146 | 84 | 20.6% |
| 60-69 | 255 | 15.3% | 98 | 58 | 22.7% |
| 70-79 | 97 | 5.8% | 44 | 26 | 26.8% |
| 80-89 | 5 | 0.3% | 4 | 2 | 40.0% |

Example C – Why are Bay Point patients hardest to reach?

- Step 4: Try language dimension without Bay Point filter
- Step 5: Re-add Bay Point filter to see if those groups have higher proportion



Health Center

Confirm selection

Totals

Antioch

Bay Point

Brentwood

| Language | All Outreach | All Outreach % | Total Patients | Reached | Reached % |
|------------------------|----------------|----------------|----------------|---------------|--------------|
| Totals | 110,629 | 100.0% | 45,406 | 36,297 | 32.8% |
| Arabic | 622 | 0.6% | 273 | 213 | 34.2% |
| Dari | 1,090 | 1.0% | 604 | 572 | 52.5% |
| English | 77,483 | 70.0% | 30,250 | 24,253 | 31.3% |
| Mandarin (Spoken Only) | 354 | 0.3% | 176 | 118 | 33.3% |
| Other | 2,330 | 2.1% | 1,121 | 733 | 31.5% |
| Pashto | 299 | 0.3% | 143 | 123 | 41.1% |
| Portuguese | 415 | 0.4% | 197 | 148 | 35.7% |
| Punjabi | 871 | 0.8% | 339 | 237 | 27.2% |
| Spanish | 25,668 | 23.2% | 11,653 | 9,494 | 37.0% |

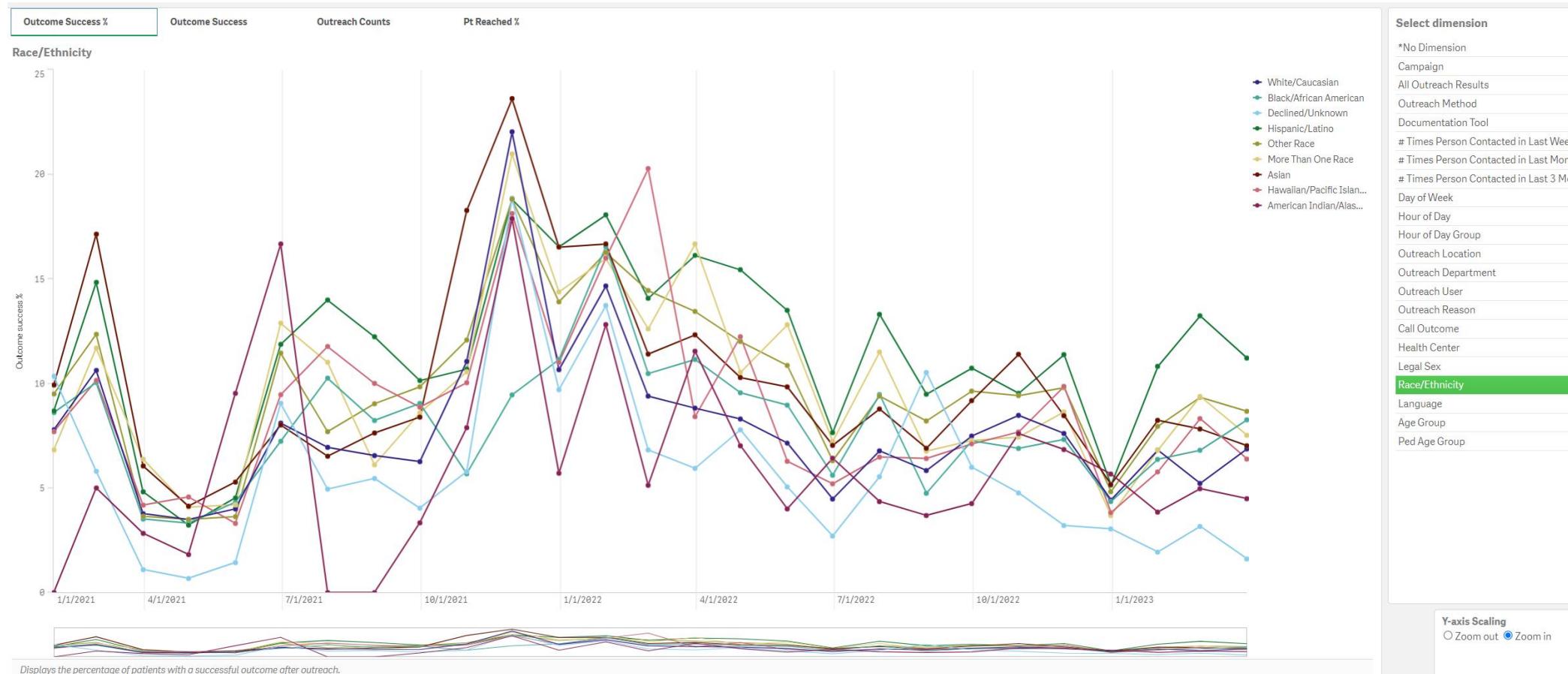
| Language | All Outreach | All Outreach % | Total Patients | Reached | Reached % |
|------------------------|--------------|----------------|----------------|------------|--------------|
| Totals | 1,669 | 100.0% | 624 | 420 | 25.2% |
| Arabic | 5 | 0.3% | 2 | 0 | 0.0% |
| Arabic - Yemeni | 2 | 0.1% | 1 | 2 | 100.0% |
| Dari | 10 | 0.6% | 3 | 3 | 30.0% |
| English | 830 | 49.7% | 285 | 194 | 23.4% |
| Laotian | 1 | 0.1% | 1 | 0 | 0.0% |
| Mandarin (Spoken Only) | 1 | 0.1% | 1 | 0 | 0.0% |
| Punjabi | 20 | 1.2% | 8 | 9 | 45.0% |
| Spanish | 785 | 47.0% | 316 | 210 | 26.8% |
| Tagalog | 13 | 0.8% | 5 | 2 | 15.4% |

Example C – Why are Bay Point patients hardest to reach?

- Sometimes no clear explanation can be found as to the “why”
- But one solution could be allocating more time to making Bay Point calls

Outreach Over Time Sheet

- Larger version of over time charts



Patient Detail

- Patient details with column selector control

Patient Detail

Date Range: 01/01/2021 - 03/31/2023

Outreach Count: 1,205,547, Reached Count: 534,882, Successful Outcomes: 115,778

| MRN | Patient Name | Campaign | Outreach Method | Outre... | Outreach Date | Outreach User | Outreach Department | Outreach Reason | Pt Reach... | Was Patient Reached? | Opt Out | Column Selection |
|-----|--------------|--|------------------------|----------|---------------|--------------------------------------|-------------------------|---|-------------|----------------------|---------|---|
| | | Blood Pressure Reminder | Text Message | | 2/24/2023 | - | | Blood Pressure Control | Yes | No | | Age at Outreach |
| | | QIP - Staff Calls | Mail | | 2/24/2023 | BHANDAL, GURDEET [GBHANDAL] | | Diabetes Control | Unknown | Unknown | | Legal Sex |
| | | Annual Cervical Cancer Campaign | Text Message | | 5/25/2021 | - | | Cervical Cancer Screening | Unknown | Unknown | | Race/Ethnicity |
| | | Colon Cancer Screening Reminder | Text Message | | 12/29/2022 | - | | FIT Test | Unknown | Unknown | | Clinic |
| | | Colon Cancer Screening Reminder | Text Message | | 12/15/2022 | - | | FIT Test | Unknown | Unknown | | Provider |
| | | COVID-19 Vaccine - Booster texts | Text Message | | 12/13/2021 | - | | COVID-19 | Yes | No | | Insurance |
| | | COVID-19 Vaccine - Missing 2nd dose (non-CCHS) | Text Message | | 12/13/2021 | - | | COVID-19 | Yes | No | | Outreach ID |
| | | Happy Birthday Letter FIT Kit | Mail | | 12/8/2022 | PHUN, KATHIE [KPHUN] | CCHP QUALITY MANAGEMENT | FIT Test | Unknown | Unknown | | Campaign |
| | | MPX Vaccine Scheduling | Text Message | | 8/29/2022 | - | | Monkeypox | Yes | No | | Outreach Method |
| | | QIP - Staff Calls | Mail | | 4/29/2022 | MENDOZA-SMITH, E. DIDI R. [EMENDOZA] | | Diabetes Control | Unknown | Unknown | | Documentation Tool |
| | | Annual Flu Shot Campaign | Text Message | | 10/1/2021 | - | | Immunization | Unknown | Unknown | | Outreach Date |
| | | Automated Overdue Health Maintenance Alerts | Patient Portal Message | | 3/29/2023 | MYCCLINK ADMIN BG [MYCHARTG] | | Diabetes Control | No | Unknown | | Outreach Time |
| | | Automated Overdue Health Maintenance Alerts | Patient Portal Message | | 2/8/2023 | MYCCLINK ADMIN BG [MYCHARTG] | | Diabetes Control;Hepatitis B Screening;Immunization;Urine Microalbumin | No | Unknown | | Outreach User |
| | | Automated Overdue Health Maintenance Alerts | Patient Portal Message | | 9/28/2022 | MYCCLINK ADMIN BG [MYCHARTG] | | Blood Pressure Check;COVID-19;Diabetes Control;Influenza Vaccine eligible for High Dose | No | Unknown | | Outreach Department |
| | | Blood Pressure Reminder | Text Message | | 2/17/2023 | - | | Blood Pressure Control | Yes | No | | Outreach Reason |
| | | COVID-19 Vaccine - Booster texts | Text Message | | 1/5/2022 | - | | COVID-19 | Yes | No | | Pt Reached |
| | | COVID-19 Vaccine - Booster texts | Text Message | | 11/29/2021 | - | | COVID-19 | Yes | No | | Opt Out |
| | | MPX Vaccine Scheduling | Text Message | | 8/29/2022 | - | | Monkeypox | Yes | No | | Contact Relation |
| | | Annual Cervical Cancer Campaign | Text Message | | 5/25/2021 | - | | Cervical Cancer Screening | Unknown | Unknown | | Call Type |
| | | Annual Flu Shot Campaign | Text Message | | 10/5/2022 | - | | Influenza Vaccine | No | Unknown | | Call Outcome |
| | | Annual Flu Shot Campaign | Text Message | | 10/1/2021 | - | | Immunization | Unknown | Unknown | | Comm. Comment |
| | | Colon Cancer Screening Reminder | Robocall | | 3/30/2022 | - | | FIT Test | Unknown | Unknown | | Follow Up Topic |
| | | Colon Cancer Screening Reminder | Robocall | | 3/16/2022 | - | | FIT Test | Unknown | Unknown | | Outreach Tracking Flowsheet |
| | | COVID-19 Vaccine - Missing 2nd dose (non-CCHS) | Text Message | | 1/3/2022 | - | | COVID-19 | Yes | No | | Outreach Reason Flowsheet |
| | | Annual Colon Cancer Campaign | Text Message | | 3/23/2021 | - | | FIT Test | Unknown | Unknown | | Outcome Date |
| | | COVID-19 Antiviral Treatment - Community | Text Message | | 5/31/2022 | - | | COVID-19 | Yes | No | | Outcome Time |
| | | COVID-19: Unvaccinated Phone Calls | Telephone | | 10/28/2021 | VILLEGAS, LUZ P [PFELDX] | Call Center | COVID-19 | Unknown | Unknown | | All Outreach Results |
| | | Happy Birthday Letter FIT Kit | Mail | | 12/8/2022 | PHUN, KATHIE [KPHUN] | CCHP QUALITY MANAGEMENT | FIT Test | Unknown | Unknown | | Outcome Success |
| | | Happy Birthday Letter FIT Kit | Mail | | 12/28/2021 | PHUN, KATHIE [KPHUN] | CCHP QUALITY MANAGEMENT | FIT Test | Unknown | Unknown | | Outcome Additional Details |
| | | Annual Flu Shot Campaign | Text Message | | 10/5/2022 | - | | Influenza Vaccine | Yes | No | | # Times Person Contacted in Last Week |
| | | Automated Overdue Health Maintenance Alerts | Patient Portal Message | | 3/1/2023 | MYCCLINK ADMIN BG [MYCHARTG] | | Cervical Cancer Screening | Yes | Unknown | | # Times Person Contacted in Last Month |
| | | Automated Overdue Health Maintenance Alerts | Patient Portal Message | | 11/9/2022 | MYCCLINK ADMIN BG [MYCHARTG] | | Diabetes Control | No | Unknown | | # Times Person Contacted in Last 3 Months |

Lessons Learned

- Getting started is daunting but having a unified outreach/outcome data model helps report at the patient's perspective
- Now adding a new campaign is as simple as defining it in the Campaign table and adding as little as 1 line of code associating existing outreach with new campaign
- Standardizing outreach workflow in EMR brought complaints (e.g. "I think patients should fall off for 3 months not 2")
- EMR reporting tool can display stale results if 2 users working same list at same time
- Create user-facing documentation for outreach criteria

Outreach List Changes

- Incorporating more data sources than allowed by QIP, e.g. exclude A1c failing patients if only reason in QIP denominator is a medication and diabetes isn't on problem list
- Adding Race/Ethnicity filter and display column allows targeted outreach
- Filter that excluded patients with a future scheduled primary care appointment was broken

Future Enhancements

- Appointments still in the future are called "Success" (many will flip to No Show/Canceled)
- Implement score system for who should be reached first, i.e. first messaging could come from automated methods, then only those still with care gap could get staff call
- Still thinking about ways to improve correlation between outreach and outcomes



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Questions?

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Discussion

Discussion Questions

- How are you using data to measure the effectiveness of outreach, and what have you learned about its impact?
- Do you employ data stratification, for example by age, language, or race/ethnicity, to tailor outreach for specific populations?

Announcements

Announcements

- Next CIO/CMIO meeting: Thursday, July 27, 11am-12pm