



Advancing High Performance Health

AMGA Foundation

Adult Immunization (AI)
Best Practices Learning
Collaborative, Group 2:
Case Study

Mercy Clinic East
St. Louis, MO



Organizational Profile

Headquartered in St. Louis, Mercy is the fifth largest Catholic health system in the US, serving millions each year over a multi-state footprint through touchpoints including outreach ministries and virtual care. Mercy Clinic East Communities, a subset of the larger Mercy health system, is an integrated physician group composed of hospitals and clinics and is located in Eastern Missouri.

Mercy Clinic East Communities (Mercy Clinic) includes:

- Five acute care hospitals
- One heart hospital
- One rehabilitation hospital
- One children's hospital
- One virtual care command center
- 340 physician practices
- Four outpatient surgery centers
- 15 urgent care sites
- Four convenient care centers
- 20,000 co-workers including 800 integrated physicians

Mercy Clinic utilization totals in the most recent 2017 fiscal year included:

- 3,812,183 outpatient/office visits
- 182,321 emergency department visits
- 1,390 staffed beds
- 59,679 inpatient discharges
- 52,131 surgeries
- 10,134 births

Executive Summary

Each year, tens of thousands of Americans are hospitalized and die from pneumococcal disease and influenza.^{1,2}

Pneumococcal disease is a bacterial infection that can cause issues like pneumonia, sinus and ear infections, blood infection, and meningitis. Influenza (flu) is a respiratory illness caused by influenza viruses. The best way for people to protect themselves from pneumococcal disease and influenza is by getting vaccinated.

Acronym Legend

ACIP: Advisory Committee on Immunization Practices

AI Collaborative: AMGA's Adult Immunization Best Practices Collaborative

CDC: Centers for Disease Control and Prevention

EHR: Electronic Health Record

HP2020: Healthy People 2020

In 2016, the rate of patients aged 65 and older who had received one pneumococcal vaccination at Mercy Clinic was high at 87.5%; however, only 46.9% had received the second vaccination. Moreover, only one-third of at-risk and high-risk populations aged 19-64 had received a pneumococcal vaccination. Influenza rates were at 40.6% for patients aged 18 and older.

At the beginning of the AMGA Adult Immunization Best Practices Learning Collaborative (AI Collaborative), 93% of primary care clinics provided both pneumococcal and influenza vaccines. Only 10% of specialty clinics provided influenza vaccines; five percent provided pneumococcal vaccines.

Mercy Clinic elected to participate in AI Collaborative from April 2017 to October 2018 in an effort to increase pneumococcal and influenza vaccination rates. An advisory committee of industry and clinical experts provided guidance to the development of collaborative goals and educational content. Participating organizations also shared insights and best practices.

A team consisting of Mercy Clinic's primary care, quality department, and retail pharmacy personnel was commissioned to lead the initiative. Emphasis was placed on providing education, process tools, and increasing patient access to pneumococcal and influenza vaccines.

Program Goals and Measures of Success

Mercy Clinic's goals and measures of success were to increase adult pneumococcal and influenza vaccination rates within their primary care and specialty clinics. The AI Collaborative goals were set forth by the AMGA Foundation based on Healthy People 2020 goals from the federal office of Disease Prevention and Health Promotion (HP2020)³, baseline data for each group and with input from AI Collaborative advisors (see Appendix).

Data Documentation and Standardization

A bi-directional interface exists between Mercy Clinic’s electronic health record (EHR) and Missouri and Kansas State Immunization Registries. Current and historical immunization administration for both hospital and ambulatory is documented in the “Immunization Activity” section of the EHR.

Mercy Clinic utilized Optum One, Epic Clarity, Integrated Patient Data, and claims data to obtain internal immunization reports. Optum One was the tool used to identify population and overall measurements for the AI Collaborative. Baseline denominators for AI Collaborative metrics at Mercy Clinic are as follows:

Measures	Population
M1 – Patients 65+ eligible to receive pneumococcal vaccination	63,104
M2 – High-Risk Patients 19-64 eligible to receive pneumococcal vaccination	25,857
M2 – High-Risk Patients 19-64 eligible to receive pneumococcal vaccination	57,888
M2a – At-Risk Patients 19-64 eligible to receive pneumococcal vaccination	268,495

Population Identification

Mercy Clinic is comprised of 340 physician practices spanning across several urban, suburban, and rural communities. During office visits, ambulatory co-workers and providers are alerted in the EHR if a patient needs an influenza or pneumococcal vaccination. Many clinics follow a standard rooming process, enabling co-workers to administer an influenza or pneumococcal vaccination based on standard written, provider-approved protocols.

Intervention

Emphasis was placed on providing education, process tools, and increasing patient access to pneumococcal and influenza vaccines. Interventions included:

- Assessing availability of the three identified vaccines in primary care and specialty clinics
- Attending primary care and specialty meetings to introduce the AI Collaborative and provide educational materials on pneumococcal and influenza vaccines based on Centers for Disease Control and Prevention (CDC) and Advisory Committee on Immunization Practices (ACIP) recommendations
- Advocating a consistent message between primary care and specialty clinics on the importance for patients to receive needed vaccinations

Mercy conducted three outreach campaigns with Optum One and Emmi solutions. Each campaign targeted a specific portion of the population using interactive voice recording phone calls. Campaign 1 focused on patients > 65 years old who needed both vaccinations (pneumococcal naïve). Campaign 2 was directed to a customized subset of 19 – 64 year old, high risk patients, and campaign 3 focused on 19 – 64 year old at risk patients with at least 2 at risk conditions.

Calls were customized to identify the call as coming from Mercy, and to announce the name of the clinic where the patient receives care. Once connected, patients were told that a pneumonia vaccine was due, and given education about the importance of vaccination. The patient could then elect a soft transfer to schedule an appointment, make a note of provider contact information to schedule at a later date, or state that the vaccination had been received.

Population	# Patients Identified	# Engaged	% Engaged	Engaged Patients Vaccinated	% Engaged Patients Vaccinated
> 65 years old, pneumococcal naïve	8793	4239	47.6%	991	23.3%
19 – 64 years old, High Risk	8038	3746	47%	133	3.5%
19 – 64 years old, At Risk	17342	7738	47%	162	2.2%

- Developing an adult pneumococcal vaccination algorithm (age/timing) based on the CDC algorithm, and embedding it in the EHR for providers and co-workers to quickly reference during office visits⁴
- Piloting patient education tablets in waiting rooms and exam rooms
- Developing an influenza and pneumococcal vaccine poster and rack cards; these were placed in primary care clinics, at-risk and high-risk specialty clinics, urgent care clinics, convenient care clinics, front entrances, and in elevators
- Developing and distributing 10,000 “Preventative Screenings & Immunization” clings (removable/reusable vinyl stickers) that patients could hang on their home refrigerators
- Developing and embedding an immunization prescription in the EHR for clinics who do not immunize; the form is given to patients with gaps as a reminder to get immunized
- Conducting co-worker training to standardize where and how immunizations are documented, and how to pull immunizations into the EHR via the state registry interface
- Publishing a newspaper article to increase public awareness about the importance of vaccination and disprove myths
- Conducting three telephone campaigns targeting 34,173 patients with pneumococcal vaccination gaps
- Emailing annual flu shot reminders to 168,789 patients with influenza vaccine gaps

Outcomes and Results

Mercy Clinic experienced improvement in pneumococcal and influenza vaccination measures over the course of the AI Collaborative (see Appendix).

Lessons Learned and Ongoing Activities

In the future, Mercy Clinic plans to engage specialists from the outset to improve adoption. Incorporating these vaccines into a specialty clinic requires a significant change to workflow as many do not stock or administer vaccines.

Embedding resources such as the pneumococcal vaccine algorithm into the EHR allows easy access to providers and co-workers administering vaccines. In the near future, providers will be alerted via an *Encounter Guide* when either of the pneumococcal vaccines is due, including alerts for the younger at-risk and high-risk populations. This will not only guarantee sustainability of current practices but will result in continued increases in compliance.

References

1. Centers for Disease Control and Prevention. [cdc.gov/pneumococcal/about/facts.html](https://www.cdc.gov/pneumococcal/about/facts.html).
2. Centers for Disease Control and Prevention. [cdc.gov/flu/about/disease/burden.html](https://www.cdc.gov/flu/about/disease/burden.html).
3. Office of Disease Prevention and Health Promotion (ODPHP). Healthy People 2020. [healthypeople.gov](https://www.healthypeople.gov).
4. Centers for Disease Control and Prevention. [gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](https://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).

Collaborative Goals

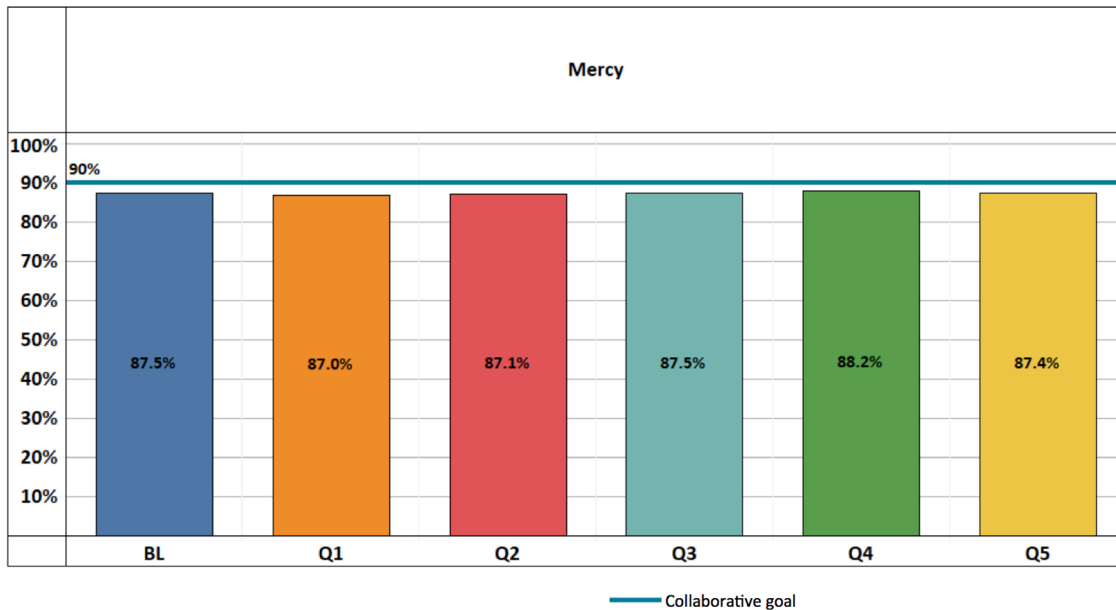
Measure	Healthy People 2020	Collaborative Goal
Measure 1 (65+) Any	90%	90%
Measure 1 (65+) Both PPSV and PCV*	90%	60%
Measure 2 (High-Risk)	60%	45%
Optional Measure 2a (At-Risk)**		
Measure 3 (Flu)	70%/90%***	45%

* Increasing “Both” is a good goal for Groups which are already doing well on “Any”

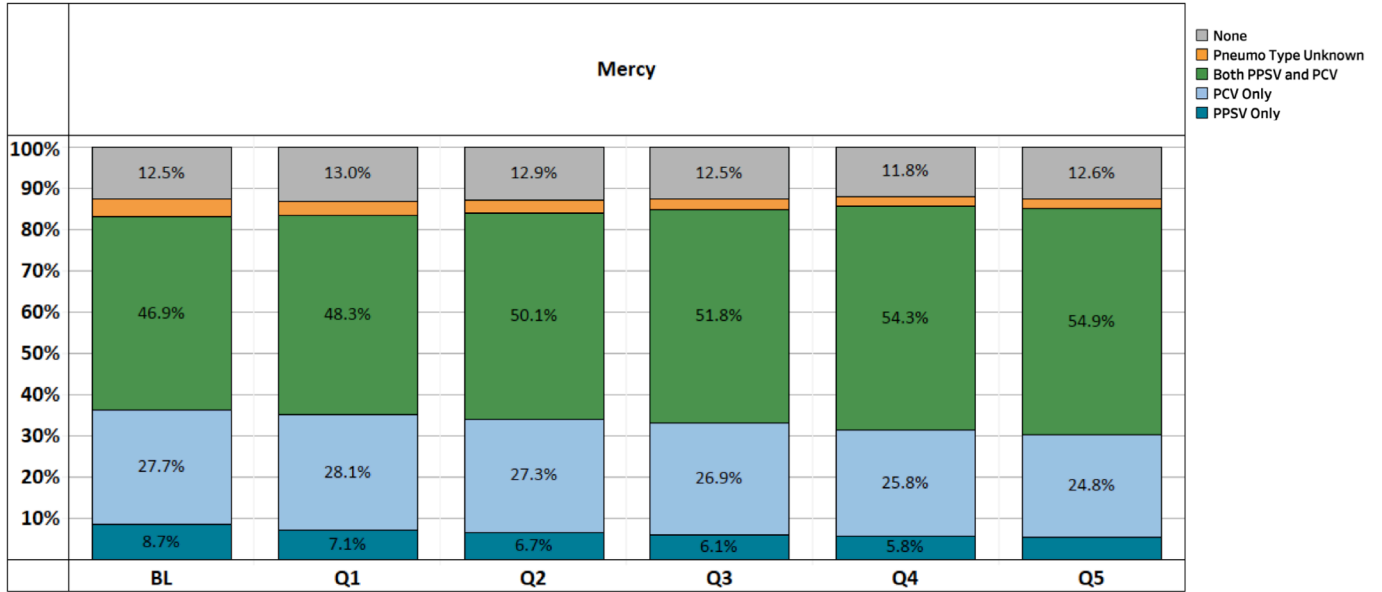
** According to CDC guidelines, it is not currently recommended that the at-risk population receive PCV. Therefore, “PPSV” or “Unknown pneumococcal vaccination” are numerator options for Measure 2a.

*** 70% for all patients, 90% for Medicare patients

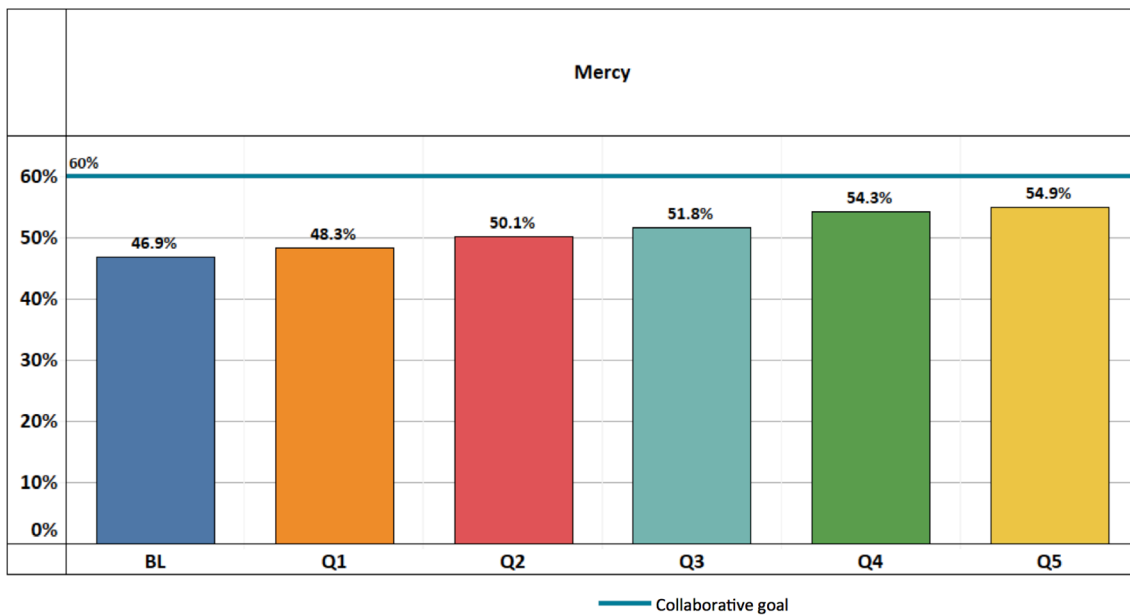
Measure 1 – Pneumococcal (Any) Immunization for Adults Ages ≥ 65



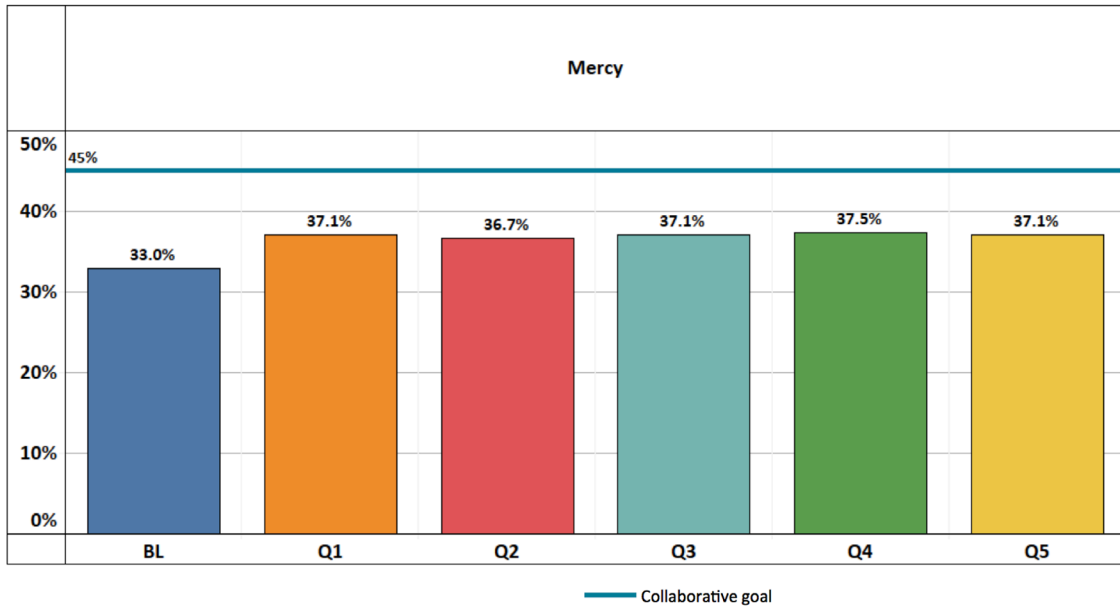
Measure 1 – Pneumococcal (Any) Immunization for Adults Ages ≥ 65



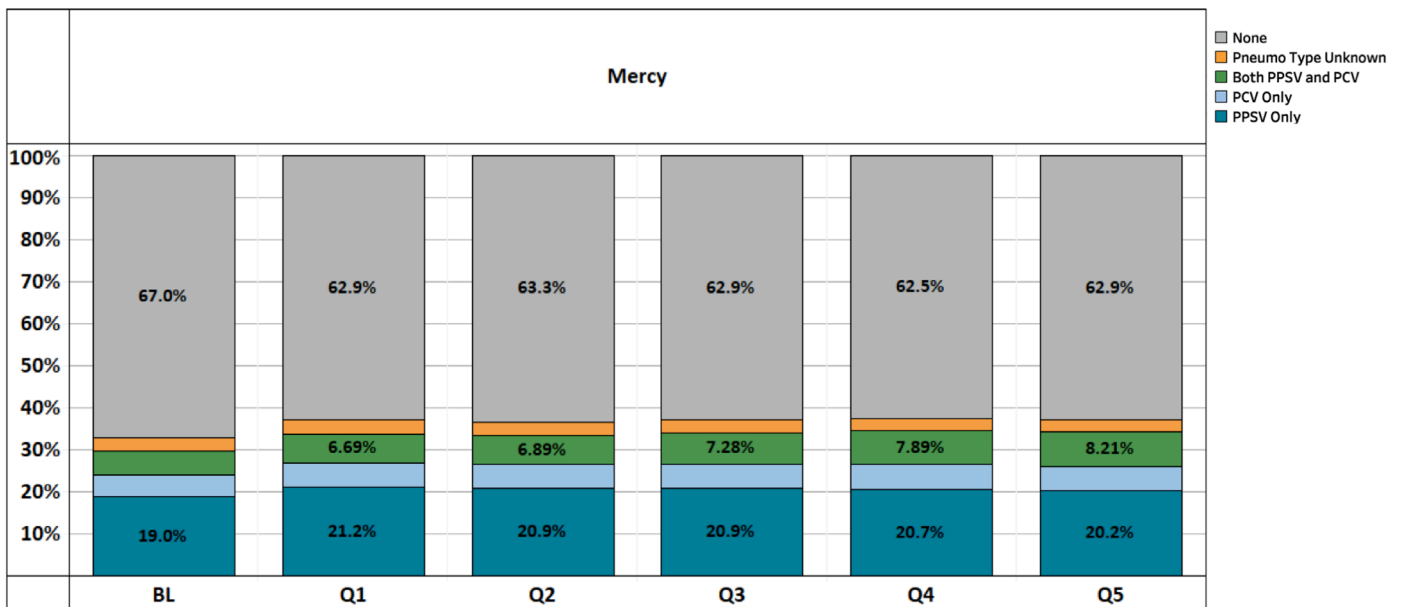
Measure 1 – Both PPSV and PCV Immunization for Adults Ages ≥ 65



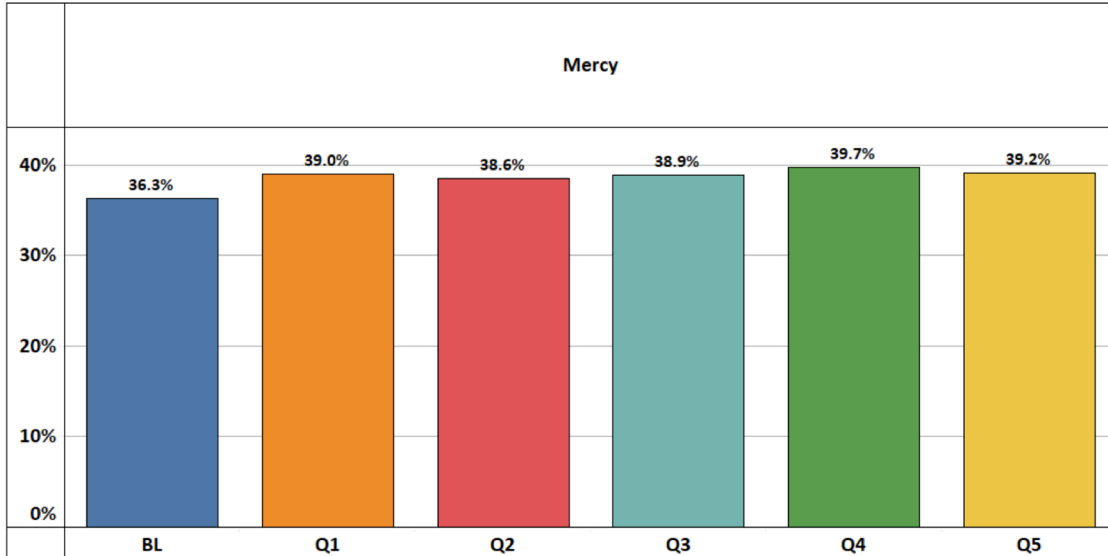
Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions



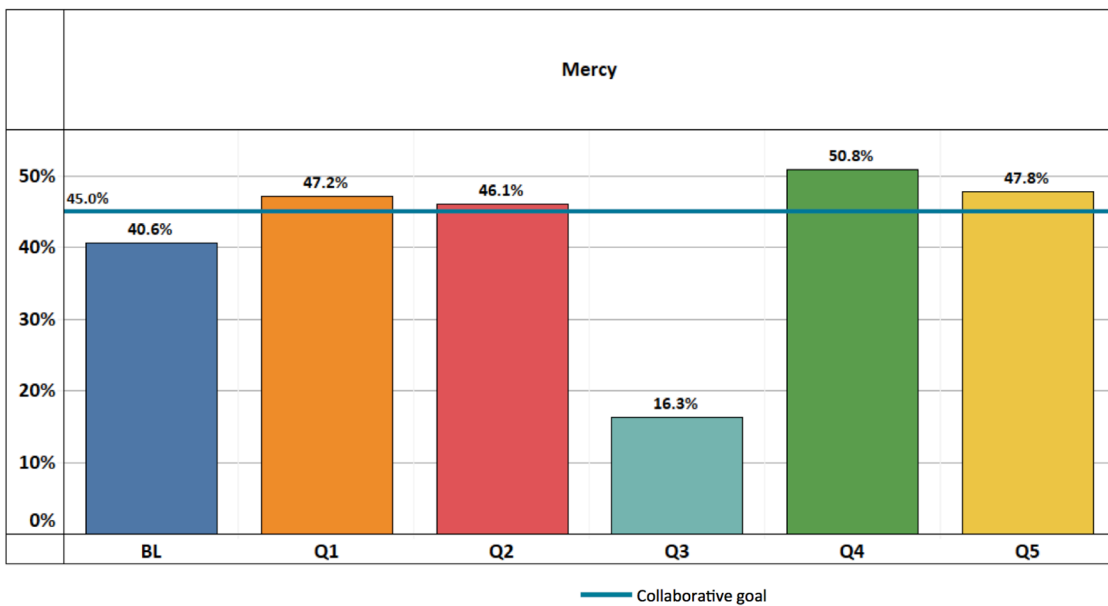
Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions



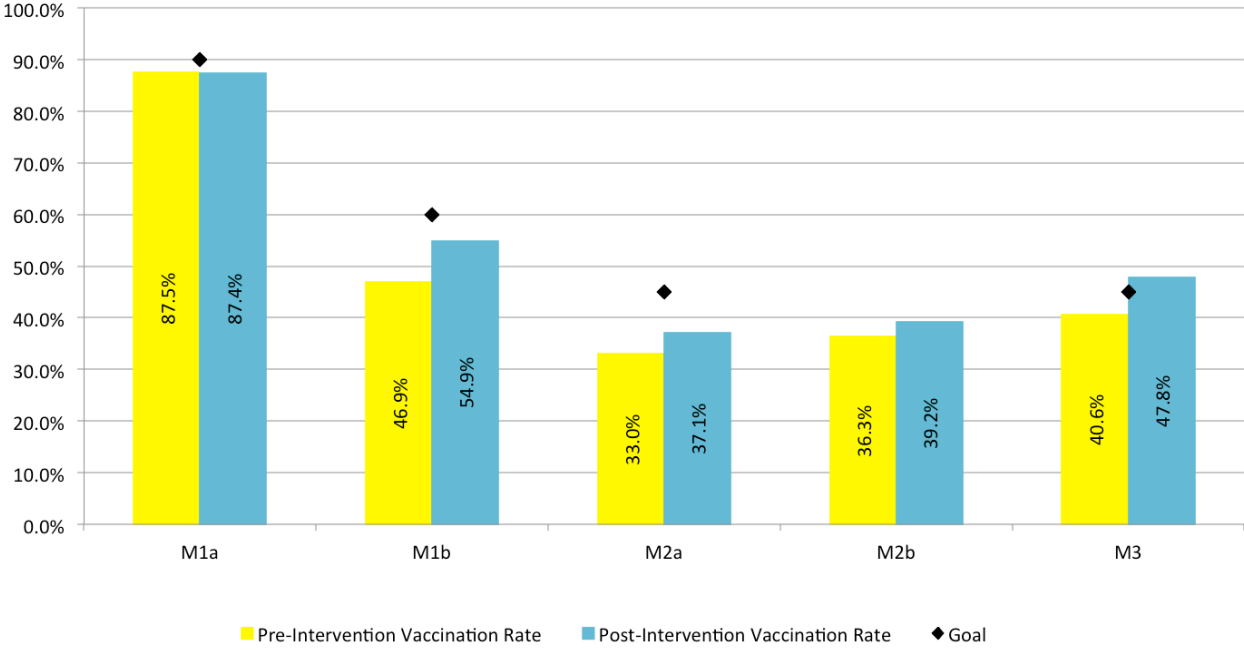
Measure 2A – Pneumococcal (Any) Immunization for Adults Ages 19–64 with At-Risk Conditions



Measure 3 – Influenza Immunization, Age ≥ 18



Mercy Clinic Adult AI Collaborative Pre-Intervention vs. Post-Intervention Rates



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