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Successfully decreased hydrocodone/APAP prescribing from 2.57% to 1.38% of total Rx claims → Reducing patient exposure & potential harms. This was accomplished by increasing prescriber awareness & implementing a system Ambulatory Opioid Stewardship Subcommittee.

BACKGROUND

Thirty years ago, pain was recognized as being under-treated with many suffering needlessly. As a result, the medical community increased efforts aimed at diagnosing and treating pain. Treatment favored opioid medications.

Over time, the pendulum swung to over-treatment as the rise in opioid-related overdose and deaths received national and local attention.

Hydrocodone/acetaminophen (APAP) (H/A) has been among the Top 5 most frequently prescribed medications in the United States for decades.

The Northwestern Medicine Physician Network (NMPN) Accountable Care Organization (ACO) includes >3,100 employed and aligned private practice (independent) physicians with approximately 400,000 managed care lives.

Purpose:

The goals of this program include educating providers on the potential risks of prescribing opioids and to encourage prescribing of non-opioids as first-line options, where clinically appropriate. In 2015, hydrocodone/acetaminophen (H/A) was the **second** most frequently prescribed medication in the NMPN ACO Blue Cross Blue Shield Illinois HMO member population. Unnecessary exposure to H/A and other opioids may result in patient harms including side effects, potential addiction, and death.

Methods:

Beginning in Q2 2016, the support of chief medical officers, senior quality leadership, senior administrative leadership, and practicing physicians was obtained. An Ambulatory Opioid Stewardship Committee was formed. Key template documents for the program included: *CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016* (March 2016), *Implementing the CDC Guidelines for Prescribing Opioids for Chronic Pain* (September 2018), and an internally-developed NM Safe Opioid Prescribing Clinical Guideline for use in the ambulatory space. The committee met initially on a monthly basis and then quarterly.

Ongoing collaboration between system inpatient and ambulatory opioid initiatives was required. A multimodal approach was used to educate ambulatory providers on pain management techniques including avoiding H/A use, where clinically appropriate. Prescriber education included the creation of a 5 minute, NM-produced *Avoiding Unnecessary Opioid Prescribing* video featuring a Northwestern Medicine physician subject matter expert having a conversation with a patient expecting treatment with an opioid. The video was circulated for provider viewing. Other deliverables included creation of a standardized opioid treatment agreement (OTA). EPIC enhancements including displaying total morphine milligram equivalents (MMEs) for opioids prescribed and a “button” indicating an OTA was in place.

METHODS

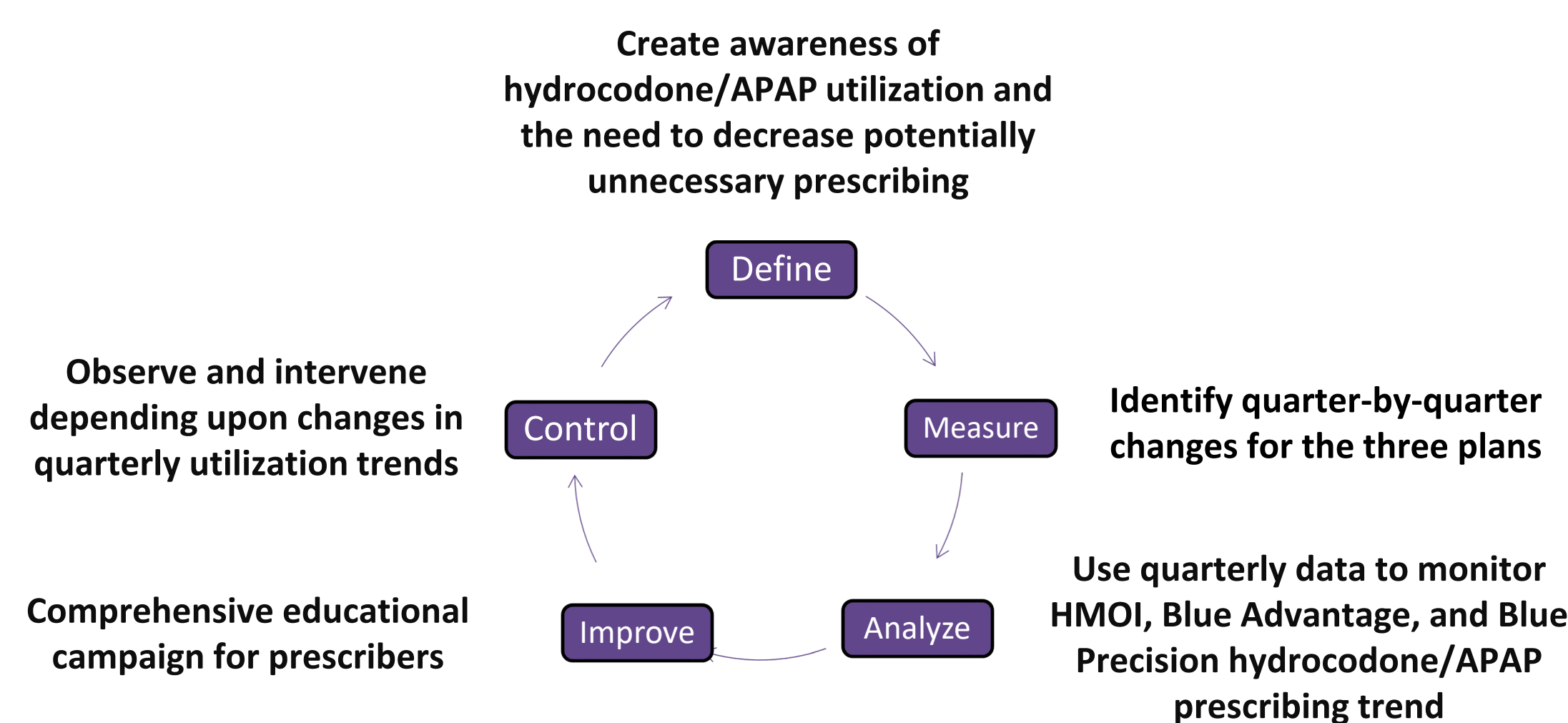
Methods: - continued

Quarterly BCBSIL prescription claims data as a percentage of overall prescription claims for Commercial Plans [HMOI and Blue Advantage (BA)] and Exchange [Blue Precision (BP)] plans were monitored beginning in Q2 2015 through the latest quarter of summarized data – Q2 2020. The BCBSIL commercial plans [HMOI and Blue Advantage (BA)] are offered by employers and generally represent a younger, healthier population. The Blue Precision plan is an exchange product and generally includes an older, chronically ill, and more difficult to insure population. These plans were selected because the claims data were the “cleanest” and easiest to track over time. In addition, H/A claims data as a percentage of overall prescription claims was chosen to account for membership growth within each plan over time. Tracking and reporting focused on H/A, duloxetine, gabapentin, pregabalin, tramadol, and venlafaxine ER because these are frequently used for pain management. Oxycodone use was also monitored to assess potential use as an alternative to H/A. Ibuprofen and other NSAIDs were not included in the comparison trend reporting nor were over-the-counter (OTC) ibuprofen and other OTC NSAIDs.

Project Approach:

This project was approached with DMAIC methodology:

- Define
- Measure
- Analyze
- Improve
- Control



Results:

For the **BCBSIL HMOI, BA, and BP** population (≈32,000 lives) as of Q2 2020, a decrease in H/A prescribing from 2.57% (Q2 2015) to 1.38% (Q2 2020) of total prescription claims – a **46.5%** (1.19 percentage point) decrease was observed. This corresponded to a decrease from the **#2** most frequently prescribed medication in Q2 2015 to **#12** in Q2 2020. Duloxetine, pregabalin, oxycodone, tramadol, and venlafaxine ER prescription claims data from Q2 2015 through Q4 2016 were not available and therefore not included in the Q2 2015 through Q2 2020 evaluation period.

For the **BCBSIL HMOI and BA** population (≈18,000 lives), a decrease in H/A prescribing from 2.11% (Q1 2017) to 1.27% (Q2 2020) of total prescription claims – a **40.0%** (0.84 percentage point) decrease was observed. This corresponded to a decrease from the **#3** most frequently prescribed medication in Q1 2017 to **#14** in Q2 2020. We observed an increase in the volume of quarterly gabapentin prescription claims from 0.68% (Q1 2017) to 0.90% (Q2 2020) – a 33.0% (0.22 percentage point) increase. No changes were observed in the percentage of claims volume for duloxetine, pregabalin, tramadol, and venlafaxine ER. Oxycodone claims remained flat at 0.20% (Q1 2017) to 0.22% (Q2 2020) of total prescription claims.

For the **BCBSIL Blue Precision** population (≈14,000 lives), a decrease in H/A prescribing from 2.09% (Q1 2017) to 1.46% (Q2 2020) of total prescription claims – a **30.0%** (0.63 percentage point) decrease was observed. This corresponded to a change from the **#3** most frequently prescribed medication in Q1 2017 to **#10** in Q2 2020. We also observed an increase in the volume of quarterly gabapentin prescription claims from 0.84% (Q1 2017) to 1.26% (Q2 2020) – a 50.0% (0.42 percentage point) increase. Oxycodone claims increased from 0.22% (Q1 2017) to 0.34% (Q2 2020) – a 55.0% (0.12 percentage point) increase. Quarterly oxycodone ranged from 0.21% (low) to 0.35% (high) as a percentage of total prescription claims. A total of 1,250 oxycodone claims out of 429,964 prescription claims were observed between Q1 2017 and Q2 2020 with an average of 89 (low 61; high 112) oxycodone claims per quarter. It is unclear whether this increase reflects prescribers moving from H/A to oxycodone or if the increase in oxycodone use may be explained by increasing numbers of chronically ill plan participants or those with a higher level of illness severity.

RESULTS

Through the DMAIC process, a consistent quarterly decrease in H/A prescription claims was observed.

HMOI, Blue Advantage, and Blue Precision (Figure 1)

- 2.57% to 1.38% of total Rx claims – a **46.5%** decrease
 - A decrease from **#2** in Q2 2015 to **#12** in Q2 2020
- ### HMOI and Blue Advantage (Figure 2)
- 2.11% to 1.27% of total Rx claims – a **40.0%** decrease
 - A decrease from **#3** in Q1 2017 to **#14** in Q2 2020
- ### Blue Precision (Figure 3)
- 2.09% to 1.46% of total Rx claims – a **30.0%** decrease
 - A decrease from **#4** in Q1 2017 to **#10** in Q2 2020

Figure 1:

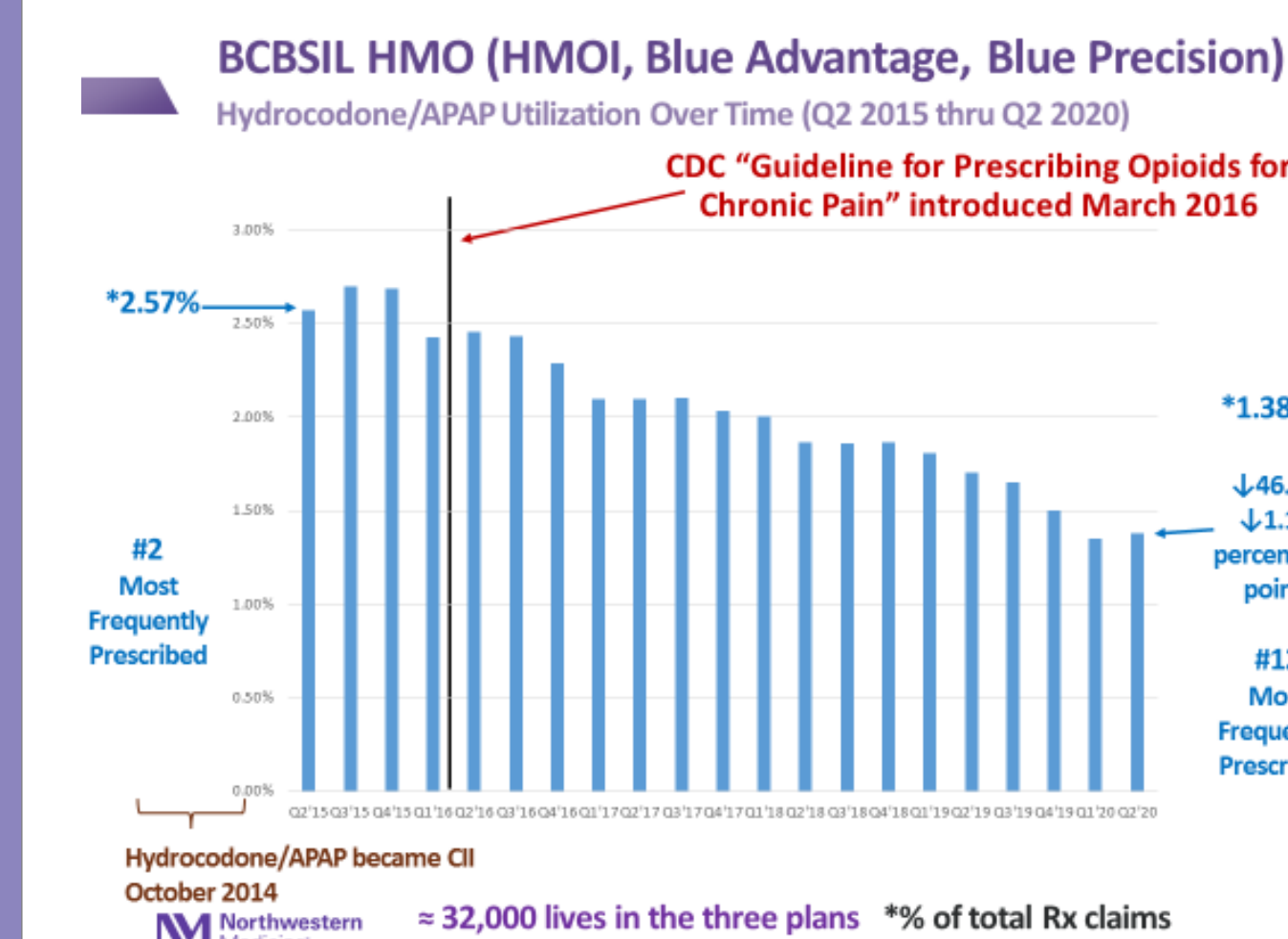


Figure 2:

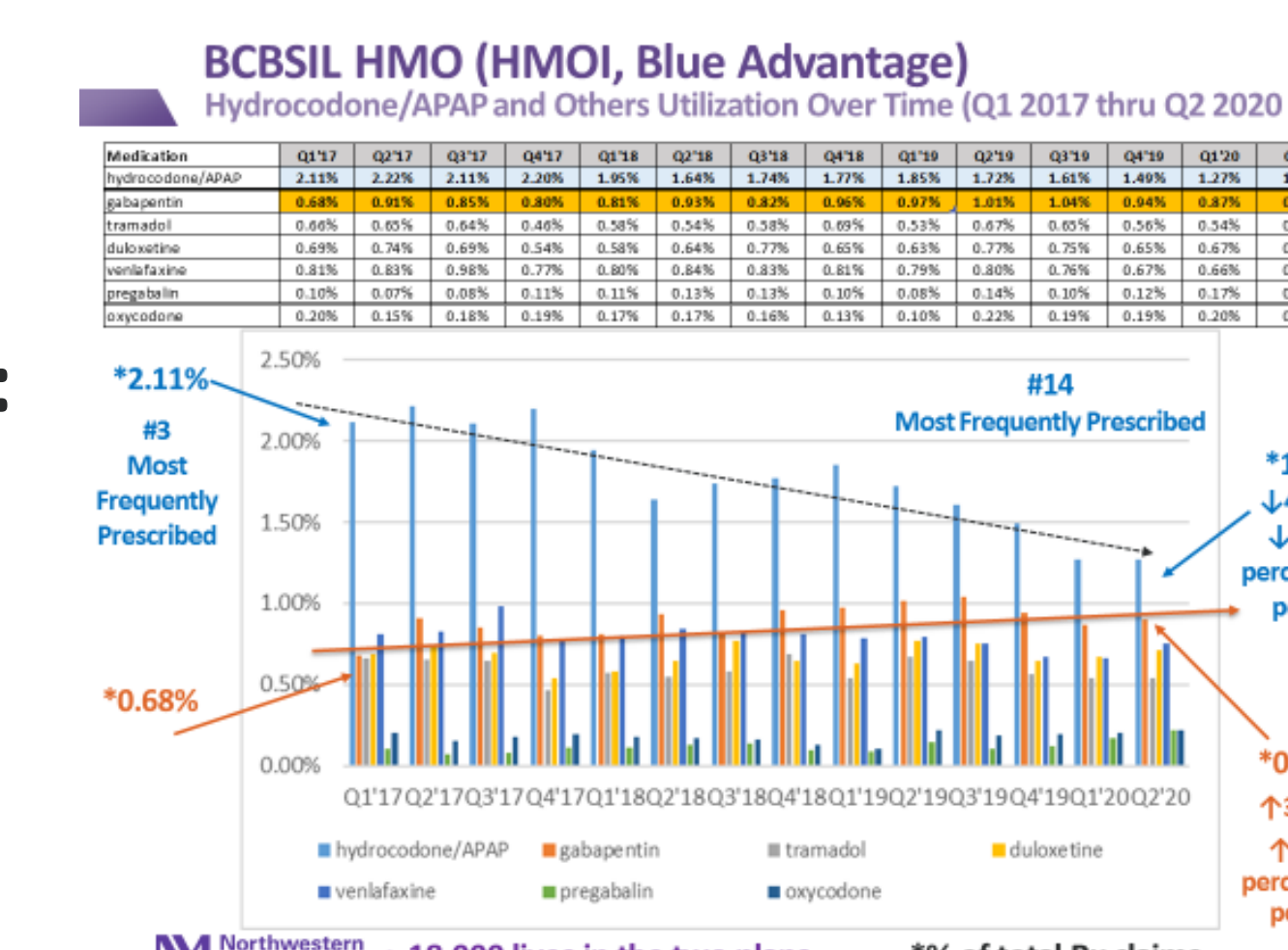
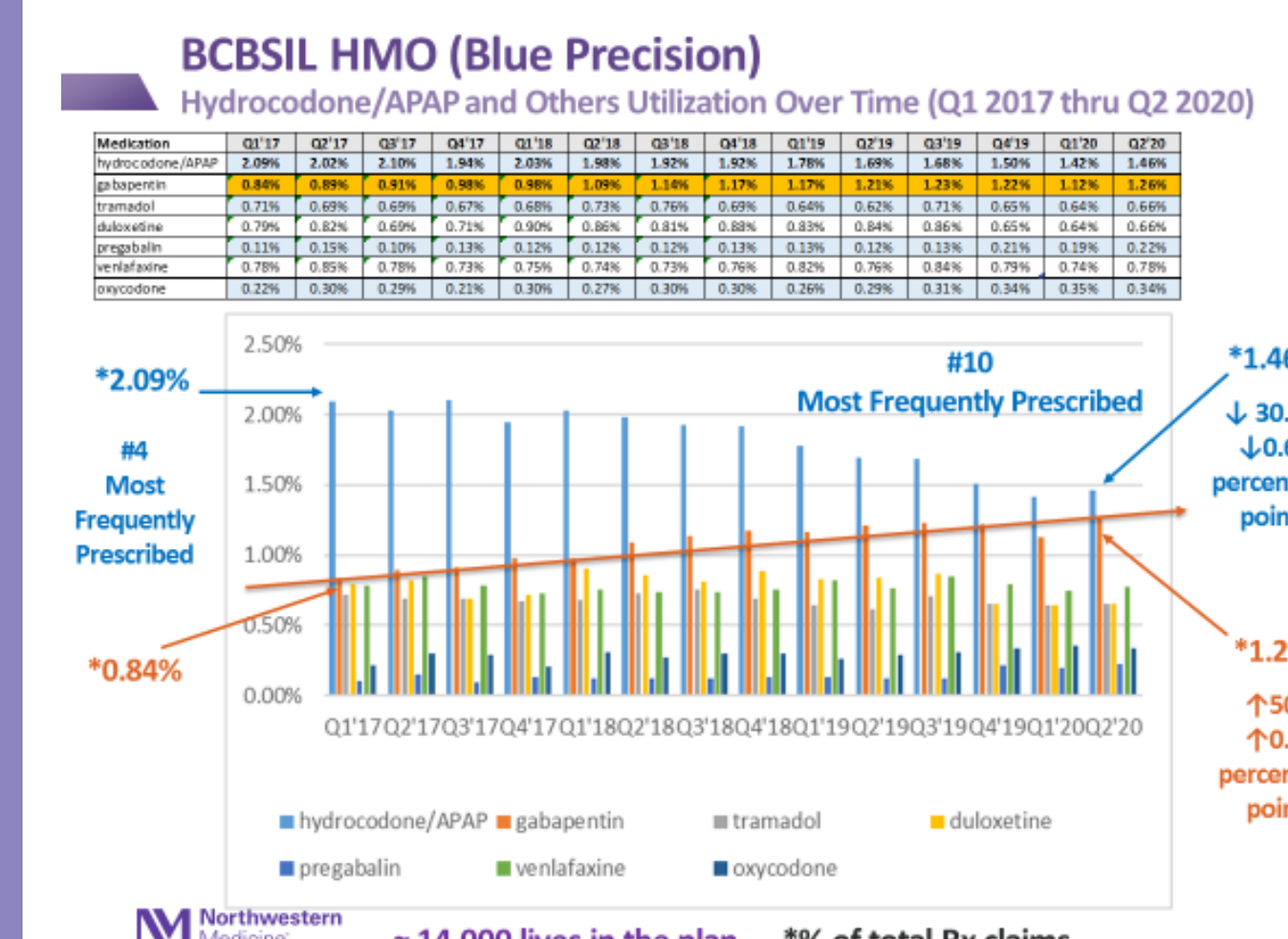


Figure 3:



Control Plan

Metric	Goal	Review Process	Frequency	Process Owner	Threshold for Action	Recommended Action Steps
Quarterly H/A Rx Claims Data (% Total Rx Claims)	Lower is better	Data pulled and summarized	Quarterly	Mark Greg	Increasing use of H/A	Ongoing prescriber awareness and education
Quarterly Ranking of Top Medications by Rx Volume	Presented to various NM and NMPN committees and communicated through multiple channels	Determined by the nature of the committee or audience				

CONCLUSIONS

- The program was effective as measured by decreases observed in the number of hydrocodone/acetaminophen prescription claims in the BCBSIL HMO, BA, and BP populations.
- An increased use of gabapentin was observed in all plans.
- No changes were observed in the volume of analgesic alternatives including duloxetine, pregabalin, tramadol, and venlafaxine ER. An increase in oxycodone claims was observed in the BCBSIL BP plan.
- We are confident a similar decrease in ambulatory hydrocodone/acetaminophen prescription claims for all payor plans in the NM health system would be observed if data were available.

REFERENCE

1. CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016 - <https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm>
2. Quality Improvement and Care Coordination: Implementing the CDC Guideline for Prescribing Opioids for Chronic Pain - <https://www.cdc.gov/drugoverdose/pdf/prescribing/CDC-DUIP-QualityImprovementAndCareCoordination-508.pdf>