The Health Care Improvement Foundation
2019 Delaware Valley Patient Safety and Quality Award
Entry Form

1. **Hospital Name**

   University of Pennsylvania Health System

2. **Title Of Initiative**

   A System-Wide, Data-Driven Initiative to Improve Opioid Stewardship

3. **Abstract (Please limit this description to 250 words.)**

   In response to the US Opioid Epidemic, health systems in the Delaware Valley and elsewhere have taken strides to improve opioid stewardship and promote effective prevention, diagnosis, and treatment of opioid use disorder. In 2017, our system convened an Opioid Task Force to gather key stakeholders, align ongoing efforts around the opioid epidemic, and catalyze collaborations to improve quality and outcomes. Key innovations of the Opioid Task Force include an emphasis on cross-disciplinary and cross-entity participation and learning; a focus on use of data and metrics to drive improvement via a system opioid dashboard; incorporation of behavioral economics principles via EMR-based defaults and nudges; and a commitment to improving care across all domains of the opioid epidemic, including both efforts to reduce excess prescribing and to build capacity for effective opioid use disorder treatment.

   Key accomplishments of the Task Force include marked, sustained, and statistically significant improvement over 20 months in key indicators including but not limited to: a 20% relative decrease in the rate of benzodiazepine-opioid co-prescribing for chronic pain patients; a 42% relative increase in the fraction of acute opioid prescriptions falling within a duration of 5 days or fewer; a 51% relative increase in adherence to routine urine drug screening standards; an over 250% relative increase in controlled medication agreement completion rates; development of a system-wide inventory of ongoing local opioid stewardship initiatives; support for naloxone distribution to clinical staff for use in their local communities; and dramatic expansion of buprenorphine prescribing capacity among system providers.

4. **What were the goals of your initiative?**

   The United States is in the midst of an epidemic of harm related to opioid misuse and abuse. Every day more than 115 people in the United States die after overdosing on opioids. There were over 1,200 people who died from drug overdoses in 2017 in Philadelphia. Approximately 80% of those overdoses involved opioids.

   Evidence points to excessive prescribing of opioids as a major potential contributor to the opioid epidemic. In the late 1990's, pharmaceutical companies reassured the medical community that patients would not become addicted to prescription opioids. As such, providers began to prescribe them at greater rates. This lead to widespread diversion and misuse of these medications before it became clear that these medications could be highly addictive.

*Selected observations highlight the relationship between opioid prescribing, opioid misuse, and opioid-related harm:

- 21 to 29 percent of patients prescribed opioids for chronic pain misuse them*
- 8 and 12 percent develop an opioid use disorder*
- 80 percent of people who use heroin first misused prescription opioids*
- Opioid overdoses in large cities increased by 54% in 16 states.
- 1 in 16 surgical patients who are prescribed opioids become chronic opioid users*

In 2017, we convened a system-wide Opioid Task Force with the goal of generating and promoting adoption of unified, evidence-based processes of care for opioid therapy based on both PA state and CDC guidelines, including uniform policies aimed at both the prevention and treatment of drug dependence. The multidisciplinary Task Force consists of physicians, nursing, APP's, pharmacists, social workers, psychiatry, legal, I.T., quality improvement, and administrative/financial representation. Expertise in these fields was gathered to develop foundational building blocks to address the issues surrounding the opioid crisis. Additionally, we worked with City and State officials in a collaborative effort to share findings and available resources in providing effective treatment.

Following its initiation, in 2018 the Opioid Task Force took on specialized projects with focuses on suboxone and opioid use disorder pathways, chronic prescribing, and acute prescribing. The goals of these workgroups are to bring together subject matter experts from the system to develop tools that will aid the system in its entirety through innovation, data collection, scaling, and aligning of processes.

5. **What were the baseline data and the results of your initiative?**

   Implementation of workflows and metrics for opioid management resulted in the following:

   - Rate of Benzodiazepine-Opioid Co-Prescribing for Chronic Patients reduced 20% from 28% to 21% (p<0.001)2
   - Acute Opioid Prescriptions Meeting the 5-day or Fewer Duration increased 42% from 53% to 74% (p<0.001)2
   - % of pts. with a Controlled Medication Agreements increased 284% from 15% to 64% (p<0.001)2
   - % of pts. compliant with Urine Drug Screening increased 51% from 41% to 64% (p<0.001)2
   - 85% ED Providers X-Waivered across 3 hospitals

6. **Describe the interventions that were instrumental in achieving the results for your initiative.**

   - Developed an opioid dashboard and chronic opioid registry for providers
     - The dashboard includes a variety of metrics for targeted improvement opportunities
   - Developed consensus guidelines for acute and chronic opioid prescribing

- Facilitated approval for medication assisted treatment (MAT) initiation for patients with opioid use disorder
- Developed an ED Pathway for patients who present with opioid use disorder
- Initiated EMR based prescribing defaults and system alerts to promote responsible prescribing behaviors
- Supported pilot projects in Orthopedics (Knee arthroscopy order set, sports medicine order set, foot and ankle order set, orthopedic trauma order set), OB-GYN (post-C/S prescribing)
- Facilitated PDMP (prescription drug monitoring program) integration in EPIC for provider adherence and convenience
- Facilitated and expanded E-prescribing for controlled substances
- Secured $1.5M in funding from the US Substance Abuse and Mental Health Services Administration (SAMHSA) to support opioid use disorder screening and treatment
- Facilitated establishment of drug take-back mechanisms in our facilities to prevent diversion or misuse of leftover opioids by patients
- Developed an intranet-based Opioid Stewardship Website to bring together internal and external resources for prescribers
- Facilitated targeted interventions to improve completion and documentation of urine drug screenings
- Initiated prescriber monitoring efforts for providers with chronic opioid patients

7. **Describe the key steps required to successfully replicate this initiative throughout the region. (Please limit this description to 100 words.)**

Our goal with this initiative is to serve as a model throughout our health system; not only for a specific inpatient or outpatient area, but cross the continuum of care. This included developing a framework that would not only be used in a single setting but across multiple hospitals and outpatient areas in our health system. This model of care can also be duplicated in other hospitals and settings throughout the region. Key elements to the success of replication include an electronic health record, a strong data analytics team, education, and leadership support.

8. **Explain how the initiative demonstrates innovation (Please limit this description to 100 words.)**

(1) Addressing the full spectrum of the opioid crisis. While many hospital initiatives target isolated aspects of opioid prescribing, we address the full spectrum of the opioid crisis via opioid stewardship and opioid use disorder treatment initiatives. (2) Utilizing novel metrics to drive change. We leverage a system-wide electronic medical record and detailed prescribing data to support improvement through feedback and benchmarking. (3) Combining top-down and bottom-up approaches. By maximizing input from key stakeholders and executive leadership, our approach has allowed us to set broad organizational improvement goals while maximizing opportunities to learn from front-line.

9. How does this initiative demonstrate collaboration with other providers within the continuum of care? (Please limit this description to 100 words.)
    1. Data sharing and collaboration across clinical divisions to identify high-performing practices and practices with opportunity for improvement. This includes individual meetings to raise awareness of opioid management metrics as well as to identify and share best practices.3
    2. Creating pathways to identify patients receiving medication assisted treatment prior to surgery and an evidence based standardized best practice to manage their pain before, during, and after surgery.
    3. Embedding clinical resource specialists (CRS) in the Emergency Department to initiate treatment for opioid use disorder. CRS's navigate patients into treatment and provide support to improve compliance after ED discharge.

10. Explain ways in which senior leadership exhibited commitment to the initiative (Please limit this description to 100 words.)

    This initiative started as a grass roots project but grew as the urgency for opioid management became our burning platform. The Chief Medical Officer charged and supported key stakeholders to set the expectations of this initiative.

    Key stakeholders in leadership and clinical positions were engaged, passionate, and committed. Stakeholders include clinical experts in Pain Management, Anesthesia, Emergency Medicine, Pharmacy, Surgery, and Primary Care. Additional leadership participants with decision making capacity include employees from operations, data, quality, social work, I.T., and data analytics.

11. Appendices (i.e., tables and graphs)
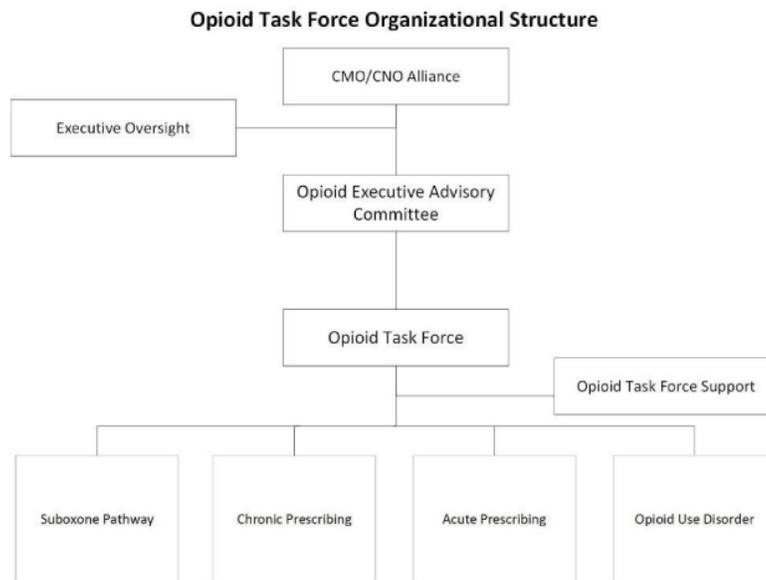
Figure 1 – Organizational Structure

Opioid Task Force Organizational Structure

Figure 2 – Opioid Dashboard Data and Results

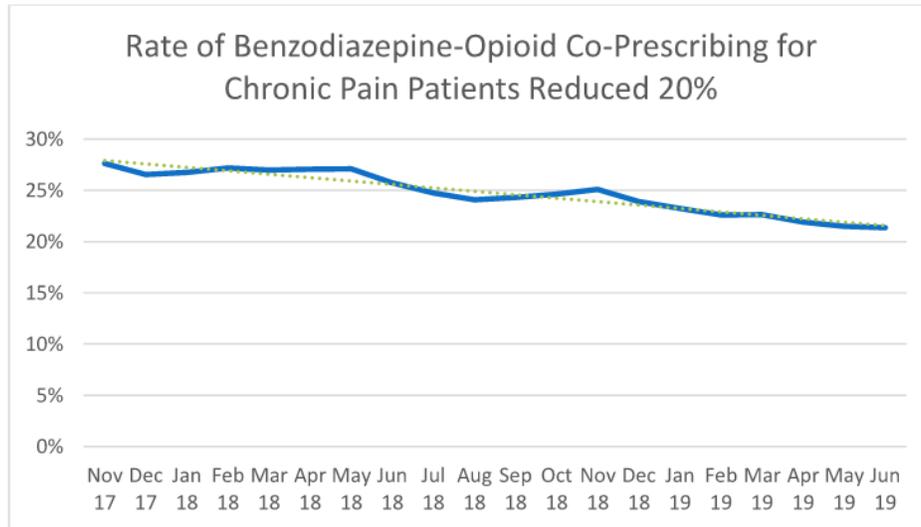Rate of Benzodiazepine-Opioid Co-Prescribing for Chronic Pain Patients Reduced 20%

Figure 3 – Opioid RX Measurement Metrics for Best-Practice Scaling & Opportunity

MME per New Opioid Rx in Opioid-Naive by Prescriber & Procedure

42% Increase in Acute Opioid Prescriptions With a Duration of 5 days or Fewer

284% Increase in Controlled Medication Agreement Completion Rates

51% Increase in Adherence to Routine Urine Drug Screening Standards