Cross-Agency Coordination on Healthcare Strategies and Measures: *Second Biennial Report: Initial Outcomes and Recommendations*

As Required by
2022-23 General Appropriations Act, House Bill 1, 87th Legislature, Regular Session, 2021 (Article IX, Health Related Provisions, Section 10.06)

Health and Human Services Commission
Department of State Health Services
Employees Retirement System of Texas
Texas Department of Criminal Justice
Teacher Retirement System
University of Texas Health Science Center at Houston

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TEXAS
Health and Human Services

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Executive Summary

The 2022-23 General Appropriations Act (GAA), House Bill (H.B.) 1, 87th Legislature, Regular Session, 2021 (Article IX, Section 10.06) authorizes the Cross-Agency Coordination on Healthcare Strategies and Measures project. This project, referred to as "The 5 Agencies Project," requires state agencies that pay for the health care of Texans to coordinate data to identify outliers and improvements for efficiency and quality that can be implemented within each health care system.

This report summarizes actions taken since the initial report to the Legislative Budget Board (LBB) and Office of the Governor, submitted on September 1, 2020. It includes the activities and outcomes during the second year of the initial two-year project period (initial biennium: fiscal year 2020–2021), as well as the first year of the renewed project cycle (renewed biennium: fiscal year 2022–2023).

Coordination Activities

The full 5 Agencies Workgroup, which includes representatives from the Health and Human Services Commission (HHSC), Department of State Health Services (DSHS), Employees Retirement System of Texas (ERS), Texas Department of Criminal Justice (TDCJ), and Teacher Retirement System (TRS), as well as the University of Texas Health Science Center at Houston Center for Health Care Data (UTHealth Data Center) met bi-monthly to review and refine analytic methods, discuss and interpret findings, and collaborate on project goals and objectives. Cross-agency representatives also participated regularly on two established standing subcommittees, i.e., the Data Subcommittee and the Strategic Governance Subcommittee. Further, two special-topic sub-workgroups (i.e., Self-harm Sub-workgroup and Cesarean Deliveries Sub-workgroup) were created for targeted discussions to select and develop value-based strategies and collaborate on recommendations to increase the use of value-based care within the agency health care systems. For more information on value-based care please see Appendix B, Background subsection.

Efficiencies Identified

After reviewing data findings, analyzing metrics, and examining trends across years, the 5 Agencies Workgroup (described as "workgroup" throughout the report) identified six key areas as important opportunities to increase efficiency among the five agencies [described as "agencies" throughout the report]:

1. Increasing value-based care programs leads to improved quality and patient satisfaction, and reduces costs;
2. Capitalizing on opportunities for collaboration and partnerships encourages innovative solutions and reduces redundancy of efforts;
3. Building cross-agency reports on quality metrics provides important information about effectiveness of care;
4. Benchmarking is essential for quality improvement initiatives, and expanded benchmarking will generate additional target goals;
5. Analyzing low-value care delivered through potentially preventable emergency room visits or hospital admissions will identify opportunities for decreasing low-value care; and
6. Monitoring the impact of the novel coronavirus (COVID-19) federal public health emergency (PHE) will provide opportunities to anticipate and moderate the disease's effects on utilization and costs.

Recommendations

Based on findings summarized below, the workgroup synthesized information into consensus recommendations for controlling cost and/or improving quality of care.

From fiscal year 2017 to 2019, incidence of self-harm events increased for most agencies and plans. The documented rising trend of suicide attempts and self-harm events prior to the federal PHE among beneficiaries across multiple agencies and settings, particularly adolescents and young adults, is indicative of an emerging major public health epidemic in the United States (U.S.). Currently, a lack of access to coordinated services and ineffective handoffs between primary care and behavioral health specialists present barriers to addressing the increasing trend.

Rates of cesarean deliveries among the agencies have remained relatively constant, accounting for approximately 30 percent of single baby deliveries over the past five years. A considerable number of low-risk cesarean deliveries are performed across agencies as approximately 15 percent of low-risk pregnancies result in cesarean deliveries. Though rates vary by agency, low-risk cesarean deliveries increase with maternal age for all agencies.

The Self-harm Sub-workgroup and the Cesarean Deliveries Sub-workgroup developed recommendations aimed at reducing self-harm events (a safety initiative) and improving maternal health overall, such as by reducing cesarean deliveries for low-risk pregnancies (a low-value care intervention), respectively. The

following recommendations from the sub-workgroups reflect consensus ideas from subject matter experts across the agencies:

1. Increase primary care visits to increase opportunities for early identification of mental health issues;
2. Support development of pathways to integrate behavioral health care with primary care;
3. Analyze data from the Texas Juvenile Justice Department (TJJD) to measure rates of self-harm events that are prevalent among younger TDCJ inmates;
4. Support the Department of State Health Services (DSHS) TexasAIM[1] safety bundles to improve maternal health and, in so doing, reduce cesarean deliveries associated with preventable severe maternal morbidity; and
5. Establish a system to share regular reports with providers and hospitals on relevant maternal outcomes to facilitate comparisons with peers on maternal safety indicators.

Next Steps

The 5 Agencies Project has the potential to drive meaningful improvements in health care outcomes, costs, and delivery models. Initial analyses of data presented on interactive health care information portals for specific agencies and across agencies have generated findings requiring more in-depth analytic, etiologic, and/or quality improvement work. These target areas for further exploration are as follows:

- Value-based strategies,
- Quality metrics,
- Benchmarking,
- Analysis of price/cost variation across agencies, geography, and plan design,
- High-cost claimants,
- Federal PHE impact, and
- Agency-specific requests originating from annual data portal review meetings between each agency and UTHealth Data Center.

[1] Established by SB 17, 85th Texas Legislature, 1st Special Session, 2017 (HSC 34).

1. Introduction

The 5 Agencies Project provided the five agencies named in Article IX, Section 10.06 of the GAA and UTHealth Data Center with a framework for undertaking an unprecedented and productive examination of the impact of their state-provided health benefit programs on the health of Texans.

This report summarizes actions taken since the first report to the LBB and Office of the Governor, submitted on September 1, 2020. Content includes the activities and outcomes during the second year of the initial two-year project (initial biennium: fiscal year 2020–2021), as well as the first year of the renewed project cycle (renewed biennium: fiscal year 2022–2023). It covers the period from September 1, 2020 to August 31, 2022.

During the past 24 months of the project, the agencies and UTHealth Data Center have met at least quarterly to coordinate activities. Coordination activities included consensus building on analytical topic areas, acknowledgement of the variations among the populations covered, and discussions of comparative findings. The workgroup conducted sessions to discuss value-based care during the second year of the initial biennium (fiscal year 2020–2021). One outcome of these discussions was the development of a ten-step process diagram (Figure 24) detailing the workgroup's plan to develop and implement value-based strategies. This biennial report describes the workgroup's accomplishments and identifies futures steps and recommendations.

2. Background

Texas identifies the rising cost of health care as a key issue affecting state finances. Over the 10-year period from 2009–2019, national health expenditures increased by 50 percent from $2.5 trillion to $3.8 trillion.[2] The 5 Agencies Project requires state agencies that pay for health services for Texans to coordinate data to identify outliers and improvements for efficiency and quality that can be implemented within each health care system. More specifically, Section 10.06 requires HHSC to coordinate with DSHS, ERS, TDCJ, and TRS to develop recommendations and a comprehensive plan for an ongoing integrated health care information system that can be used to compare data related to the health care systems funded by appropriations made to these agencies.

The project's initial legislative report, submitted September 1, 2020, contains a comprehensive background section and can be found online on HHSC's website.[3]

During the first biennium (fiscal year 2020–2021) the workgroup accomplished the following:

- Collected and aggregated data from 255 sources representing more than 405 million records, 9.4 million people, and more than $96 billion in total expenditures over three fiscal years;
- Standardized data collection processes that resulted in improvements to agency policies and practices related to data completeness and validity;
- Developed data warehouses and interactive portals for each of the four agencies contributing data[4] and a fifth interactive portal to show cross-agency data and facilitate meaningful comparisons;
- Submitted a report to the LBB and the Office of the Governor by September 1, 2019 describing coordination activities, efficiencies identified, improvements to policies and practices, and recommendations on ways to apply the project's data tools for future strategies and efforts;

[2] https://www.healthsystemtracker.org/chart-collection/u-s-spending-healthcare-changed-time/#item-usspendingovertime_2.
[3] https://www.hhs.texas.gov/sites/default/files/documents/laws-regulations/reports-presentations/2020/cross-agency-coord-healthcare-strat-measures-sept-2020.pdf
[4] DSHS can provide data as needed to supplement the new warehouses and support specific quality improvement and value-based strategies; however, the agency was not a data contributor in the initial phase of the project because DSHS is not a custodian of claims and electronic health records data in the same way as the other four agencies.

- Completed initial annual data portal reviews with each agency and UTHealth Data Center to provide an opportunity for collaboration on 1) how to ensure the data portals are a resource for each agency; 2) the metrics currently on the agency portals as well as findings to be explored further; 3) additional metrics that would be helpful to the agencies; and 4) any barriers agencies are experiencing with utilizing the portals;
- Expanded agency data portals and the cross-agency comparative portal to include fiscal year 2020 data and several new metric dashboards (Procedures, Wellness, Risk Status, Potentially Preventable Events, and Maternity); and
- Developed two value-based strategies, i.e., reducing self-harm events (a safety initiative) and improving maternal health, such as reducing cesarean deliveries for low-risk pregnancies (a low-value care intervention).

3. Project Output and Accomplishments

Interagency Coordination Activities

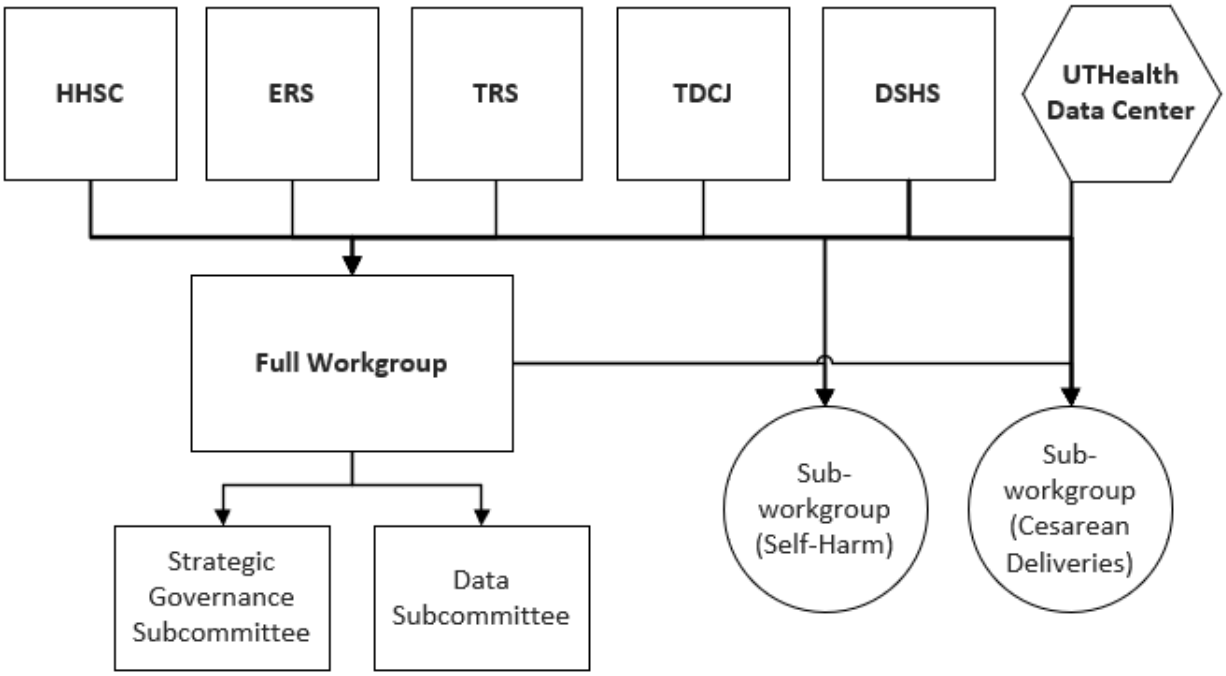
The full workgroup (representatives from all five agencies as well as UTHealth Data Center) met bi-monthly to facilitate analytics, discuss and interpret findings, and collaborate on project goals and objectives. Cross-agency representatives also participated regularly on two established standing subcommittees, i.e., the Data Subcommittee and the Strategic Governance Subcommittee. Further, two special-topic sub-workgroups were formed to select and develop value-based strategies. The goals for these sessions were to:

- Define the objectives and approaches for an investigation regarding value-based strategic development;
- Collaborate on the development and implementation of potential value-based payment strategies, including opportunities for episode-based bundling and pay for quality initiatives; and
- Explore potential improvements for efficiency and quality within each health care system.

The initial value-based strategies discussion sessions led to the selection of two focus areas for value-based strategies, i.e., reducing self-harm events (a safety initiative) and improving maternal health, particularly by reducing cesarean deliveries for low-risk pregnancies (a low-value care intervention). A special-topic sub-workgroup was created for each focus area, and the agencies invited representatives with content expertise to participate in the sub-workgroups. In addition, subject matter experts from UTHealth Data Center, from the agencies themselves, and external experts were invited to present and inform the sub-workgroups. More details related to the process undertaken to develop the value-based strategies are available in Appendices B and C.

Figure 1 illustrates the organization of the project committees and workgroups.

Figure 1. Organizational Structure



Efficiencies Identified

Through continued review of metrics calculated for each of the agencies, the workgroup identified several opportunities for improved outcomes. This work resulted in the innovative recommendations that follow to potentially control costs and/or improve value.

1. **Increasing value-based care programs leads to improved quality and patient satisfaction, and reduced costs.** The workgroup assessed local, state, and national value-based initiatives; current value-based strategies and efforts at each agency; and each agency's interest in metrics with potential to impact value. Workgroup efforts led to the creation of a process for developing and implementing value-based strategies, selection of two initial focus areas for improvements, and several recommendations to increase value-based care.
2. **Capitalizing on opportunities for collaboration and partnerships encourages innovative solutions and reduces redundancy of efforts.** The workgroup took advantage of collaborative meeting opportunities to invite speakers within and outside of the project to present initiatives from around the state and country that focus on providing high quality, efficient, and innovative programs for similar areas of interest. Collaboration and

partnerships provide opportunities to strengthen frameworks for identifying populations at risk and connecting beneficiaries with resources.

3. **Building cross-agency reports on quality metrics provides important information about effectiveness of care.** Initial quality metrics focused on comparisons within populations, such as costs per member, prevalence rates of disease states, incidence rates of health events, and rates of preventive screenings. Expanded quality metrics will focus on effectiveness of care and quality outcomes following treatment.
4. **Benchmarking is essential for quality improvement initiatives and expanded benchmarking will generate additional target goals.** Benchmarking has been adapted to provide expected rates for populations based on age distribution in comparison to similar groups, specifically for the commercial populations of ERS and TRS. Medicaid and Children's Health Insurance Program (CHIP) have been compared to these groups as well, though significant differences in populations and payment practices limit applicability. TDCJ has been benchmarked against Medicaid for cost purposes and against the commercial population for disease prevalence. Expanding the range of measures and data available for benchmarking will improve the ability of Medicaid/CHIP and TDCJ to identify quality improvement opportunities.
5. **Analyzing potentially preventable emergency room visits or admissions identifies opportunities for decreasing low-value care**. UTHealth Data Center acquired 3M™ Population-focused Preventables Software and applied it to the claims data of Medicaid/CHIP, ERS, and TRS to identify potentially preventable events (PPEs). TDCJ's data is not consistent with the algorithms. Initial analysis of PPEs identified various opportunities for further exploration and potential cost savings.
6. **Monitoring the impact of the federal PHE will provide opportunities to anticipate and moderate the disease's effects on utilization and costs**. The initial project period provided data through fiscal year 2020, which included early data on the federal PHE. The federal PHE and its impact on health, health care delivery, and health care costs have become unexpected and important concerns in this project.

For an expanded discussion on these identified efficiencies, see the Recommendations section.

Improvements in Practices

Three examples of improvements to practices resulting from the project include access to agency and cross-agencies data on secure portals for visualizing data, a refined federal PHE methodology, and improvements that have been made to specific agencies.

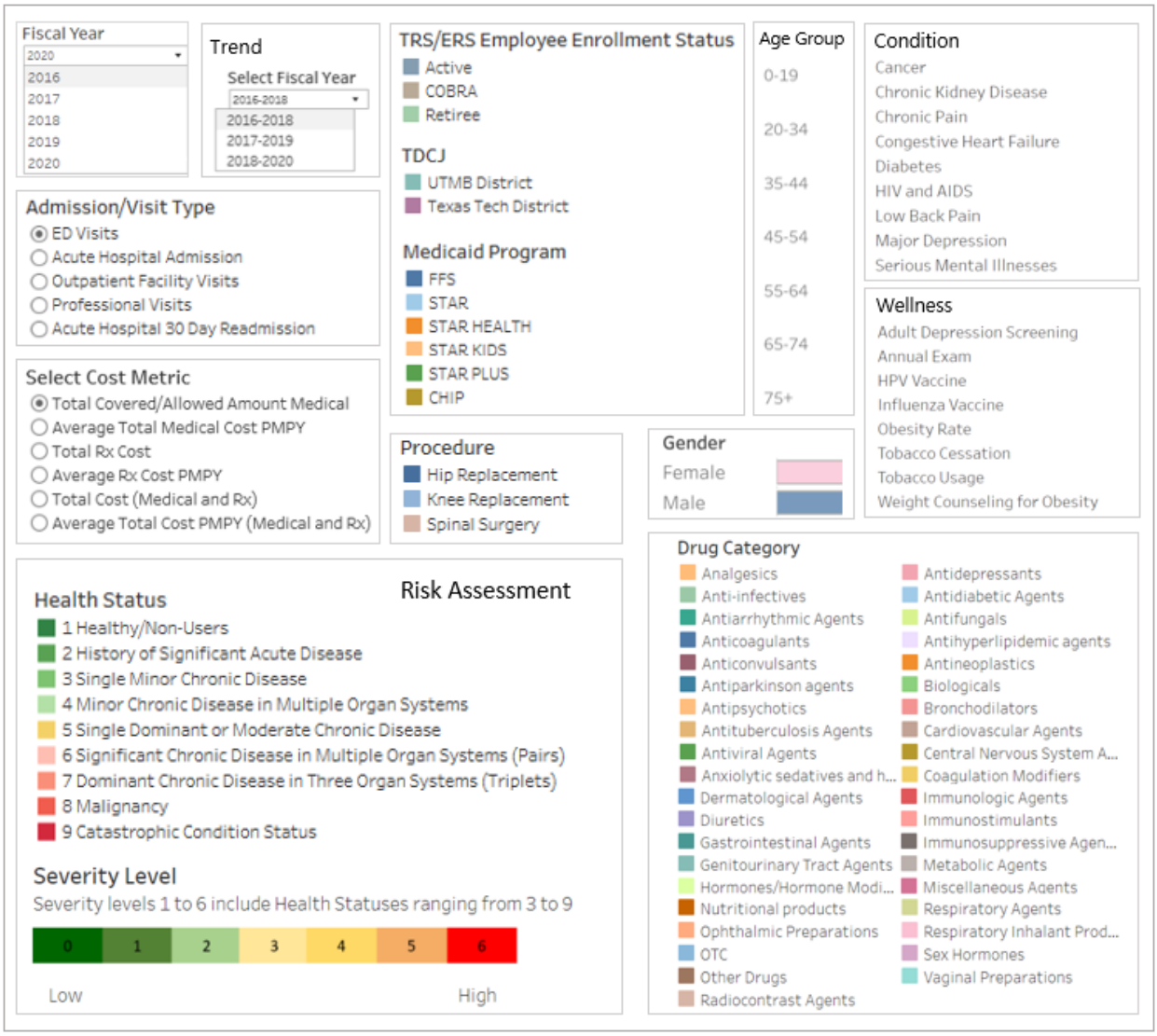
Access to agency and cross-agencies data on secure portals for visualizing data

The agencies can view detailed intra-agency data in their portal, as well as compare cross-agency metrics using a cross-agency data portal. Dashboard data includes:

- Population Descriptions
- Costs: Per Member/Inmate Per Year (PMPY/PIPY) by Populations
- Costs: by Population & Diseases
- Costs: by Population & Procedures
- Costs: by Population & Resource Use
- Quality Measures: Risk Assessment
- Utilization Analyses: Admissions, Emergency Department (ED) Visits, Procedures, Outpatient Services, and Prevalence Rates

Figure 2 below illustrates metrics available and various selection criteria for viewing the data on the agency and comparative data portals. For example, users can select year or three-year trend, gender, age group, plan type, health condition, and other metrics as appropriate. These selections enable the user to target queries to specifically address issues, compare trends across time, and assess variations.

Figure 2. Dashboard Selection Criteria

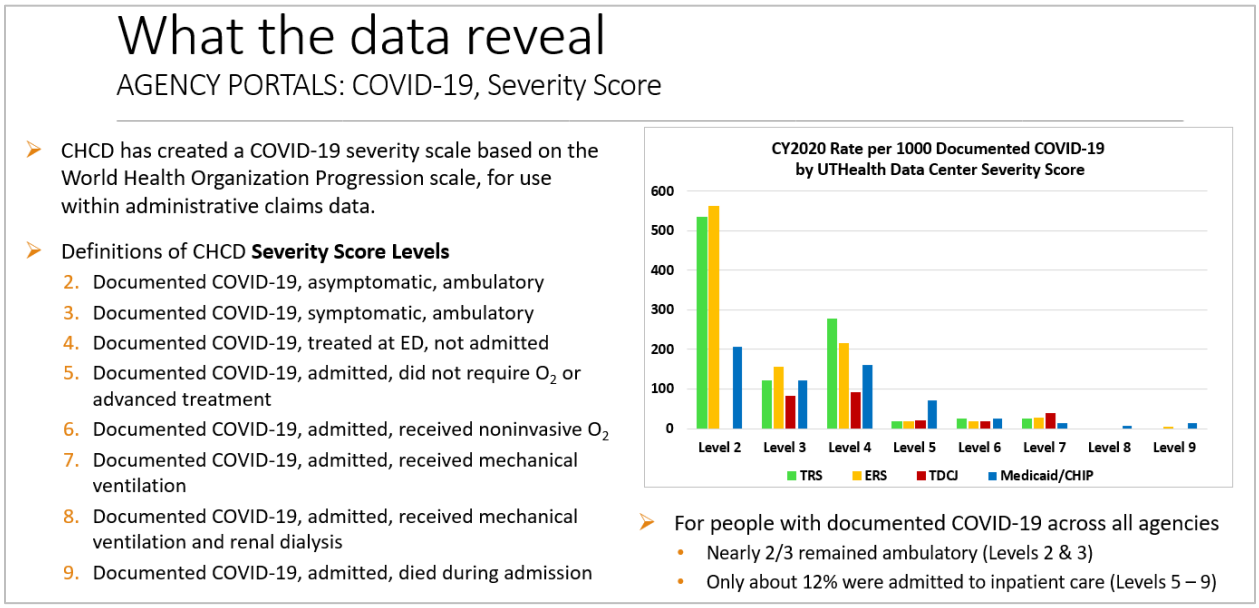


Refined federal PHE methodology

UTHealth Data Center, working with the Centers for Disease Control and Prevention (CDC), epidemiologists, and other COVID-19 researchers, have developed and shared with the agencies analytic approaches to support ongoing assessment of COVID-19 impacts. The methods used appropriate codes recorded in claims data (applicable to all agencies) and electronic health records (EHR) (applicable to TDCJ) to identify COVID-19 lab tests and confirm COVID-19 diagnoses. This step was needed as the federal PHE arose in the United States in January 2020, when no official diagnosis code existed and claims and EHR records used a variety of codes to indicate infection or suspected infection. The research team at UTHealth Data Center created a COVID-19 severity rating (Figure 3 and Table 15) designed for use

with claims data and modeled after the World Health Organization (WHO) progression scale.[5] The severity rating algorithm was developed and validated, resulting in a manuscript that will be submitted for publication promoting standardized application in claims data analyses. This COVID-19 severity scale was applied to the project data for the four participating agencies to stratify the impact and severity of the federal PHE on the populations covered by each agency. The UTHealth Data Center also shared the methodology with DSHS, the fifth agency.[4] With a standardized methodology of confirmed case identification, health plan costs associated with the federal PHE could be computed, and TRS used this method to identify COVID-related costs and apply for federal reimbursement.

Figure 3. COVID-19 Severity Score



Notes: Data as of December 31, 2020, active members. Data with values >0 and <10 are not reportable (NR). Thus, the rate for beneficiaries was NR for Level 8 ERS, TRS, and TDCJ and for Level 9 TRS and TDCJ. TDCJ had zero inmates with a Level 2 severity score.

Agency-specific improvements

Enhanced Data Resources for TDCJ

UTHealth Data Center, along with TDCJ leaders and analysts, held a series of meetings to collaborate on alternative metrics for TDCJ. Care provided by TDCJ is captured electronically but does not usually generate a claim, making comparisons

[5] https://www.who.int/docs/default-source/documents/emergencies/minimalcoreoutcomemeasure.pdf

with claims-based metrics from other agencies challenging. TDCJ and UTHealth Data Center are currently collaborating on data integration.

Alternative Metrics

Due to differences in the agency structure and types of data for TDCJ, not all dashboards developed for the agencies could be created for TDCJ. Therefore, UTHealth Data Center met with TDCJ leaders and analysts to discuss ways to customize the TDCJ data portal to provide useful information specific to their data. TDCJ leaders, including representatives from the correctional managed care (CMC) organizations, requested information about services rendered in off-site facilities referred to on the agency data portal as Community services. UTHealth Data Center added a unique Community Dashboard to provide TDCJ with information about types of visits, diagnoses, procedures, and locations used by inmates outside of the prison system. Additional details are in Section 4, subsection Texas Department of Criminal Justice (TDCJ).

Alternative Variables for Comparative Metrics

UTHealth Data Center and TDCJ leaders met, in part, to determine if alternative variables exist to yield information more comparable to other agencies. Before and after the meetings with UTHealth Data Center, TDCJ also met internally, including both CMC organizations, to collaborate on possible variables to improve data comparability.

4. Recommendations

The major analyses performed for the 5 Agencies Project highlight variation across the agencies' populations. Initial metrics concentrated on defining the populations by age, gender, and annual medical and pharmacy expenditures. Additionally, the prevalence rates of common and costly chronic conditions were defined to further contextualize drivers of overall costs. Analyses focused on utilization rates, high-cost claimants, drug utilization, and health risks to further distinguish cost drivers.

As the workgroup synthesized information into recommendations related to controlling cost and/or improving quality of care, six key areas emerged as important opportunities for the agencies:

1. Increasing the use of value-based care;
2. Capitalizing on opportunities for collaboration and partnerships;
3. Building cross-agency reports on quality metrics;
4. Expanding benchmarking;
5. Investigating the utilization of low-value care; and
6. Monitoring the impact of the federal PHE.

Recommendations reflect workgroup consensus across the agencies. The following details recommendations for each key area above.

Recommendation Area 1: Increasing the Use of Value-Based Care

The 5 Agencies Project directs the agencies to collaborate on the development and implementation of potential value-based payment strategies. In 2021, the workgroup focused on identifying target issues within the agencies that had an impact on value. Value was viewed broadly as impacting cost, quality outcomes, and/or quality of life for persons receiving state-sponsored benefits.

UTHealth Data Center developed and distributed a survey (Appendix D) to the agencies to assess their level of interest in specific measures. Based on survey results, the workgroup selected two measures with high levels of interest to the agencies and created two special-topic sub-workgroups. The high-interest measures include a) the incidence of self-harm events among members, and b) the rate of cesarean deliveries for low-risk pregnancies.

The Self-harm Sub-workgroup and Cesarean Deliveries Sub-workgroup included subject matter experts from the agencies and UTHealth Data Center. The groups met multiple times to:

- Review health care data and key metrics presented by UTHealth Data Center from both agency-specific and cross-agency project findings;
- Review information presented on programs and interventions used by health plans, state agencies, foundations, and other entities;
- Explore opportunities for interventions that could improve value; and
- Select strategies to recommend to the agencies for implementation.

Appendix B, Process subsection contains an overview of the 10-step process created by the workgroup to develop and implement value-based strategies (Figure 24). Recommendations follow that address specific improvement opportunities using evidence-based interventions.

Self-Harm Sub-Workgroup Recommendations

The observed rising trend of suicide attempts and self-harm events among beneficiaries across multiple agencies and settings (Figure 4 and Table 1), particularly adolescents and young adults (Figure 5 and Table 2), is indicative of an emerging public health epidemic in the U.S. Each year, suicide attempts and non-suicidal self-injuries and/or other self-harming behaviors result in significant morbidity and mortality.[6,7,8,9] Non-lethal self-harming behaviors may progress, if unaddressed or untreated, to lethal suicide attempts and serious injuries. At the present time, a lack of access to coordinated services, including ineffective handoffs between primary care and behavioral health specialists present barriers to fully address the crisis.

[6] Ivey-Stephenson AZ, Crosby AE, Hoenig JM, Gyawali S, Park-Lee E, Hedden SL. Suicidal Thoughts and Behaviors Among Adults Aged ≥18 Years — United States, 2015–2019. MMWR Surveill Summ 2022;71(No. SS-1):1–19. DOI: http://dx.doi.org/10.15585/mmwr.ss7101a1

[7] Fawcett J. Diagnosis, Traits, States, and Comorbidity in Suicide. In: Dwivedi Y, editor. The Neurobiological Basis of Suicide. Boca Raton (FL): CRC Press/Taylor & Francis; 2012. Chapter 1. Available from: https://www.ncbi.nlm.nih.gov/books/NBK107213/

[8] Nock, M., Hwang, I., Sampson, N. et al. Mental disorders, comorbidity and suicidal behavior: Results from the National Comorbidity Survey Replication. Mol Psychiatry 15, 868–876 (2010). https://doi.org/10.1038/mp.2009.29

[9] PAHO. The burden of suicide in the Region of the Americas. Pan American Health Organization. 2021

Self-harm rates were calculated for each of the agencies and by Medicaid/CHIP program from fiscal year 2017 to 2020 using the 10th revision of the International Classification of Diseases (ICD-10) to identify both inpatient and outpatient documented self-harm events, including suicide attempts, suicidal ideation, and intentional self-harm within the claims data (Figure 4). Incidence of self-harm events across most of the agencies were on the rise prior to the emergence of the federal PHE late in fiscal year 2019. Self-harm rates remained similar between fiscal year 2019-2020, a finding that could be explained by barriers to health care access during the federal PHE and a lack of documentation in claims.[10,11] While most inmates under 18 would be in the juvenile system, Figure 5 illustrates a high rate of self-harm events for inmates aged 0-19 who were treated by University of Texas Medical Branch (UTMB). Table 2 provides data values for Figure 5 and explains missing data by distinguishing no self-harm events from events that are not reportable (>0 and <10). Overall, higher rates of self-harm are seen among more vulnerable populations, such as TDCJ and three of the four primary Medicaid programs, specifically STAR Health which serves children and young adults in conservatorship or foster care; STAR Kids which serves children and young adults who have disabilities; and STAR+PLUS which serves adults who have disabilities or are age 65 or older. Figure 4 and Table 1 report the incidence rates by agency across all age groups, and Figure 5 and Table 2 report rates only for ages 0–19.

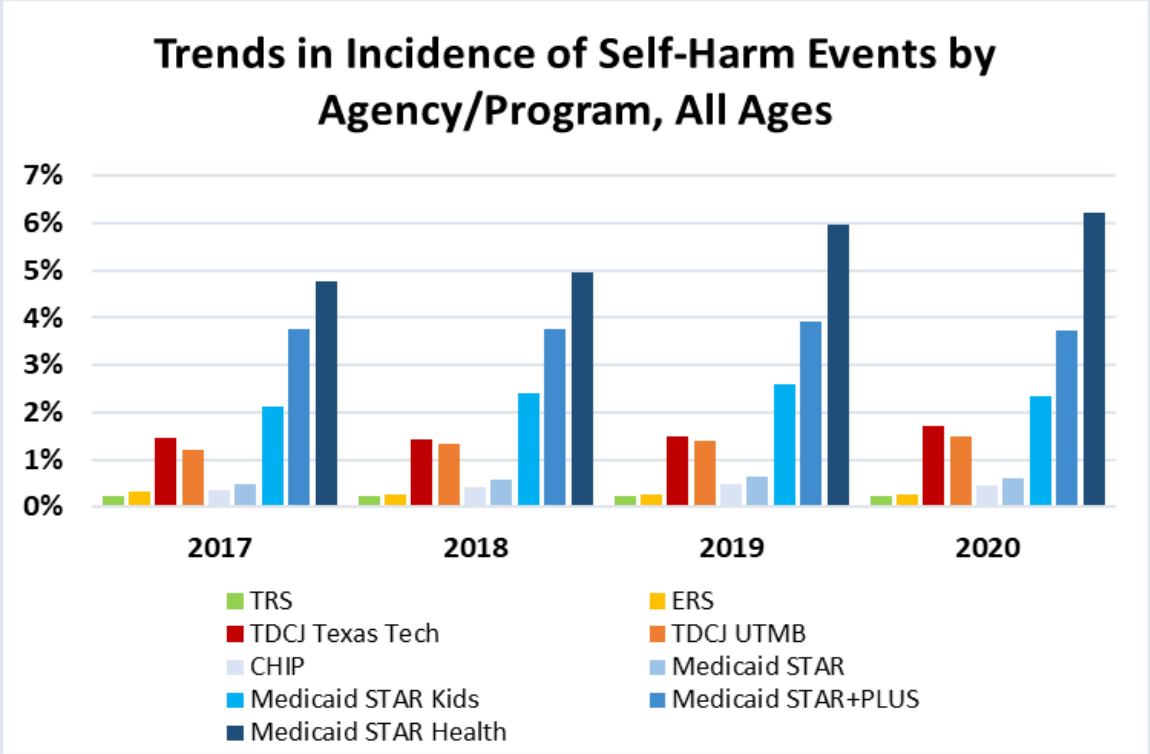
The annual prevalence of child and adolescent depression and anxiety symptoms during COVID-19 doubled, compared with pre-federal PHE rates.[12] At the time of this report, fiscal year 2021 data was not available for review and analysis. Therefore, the impact of the federal PHE on this trend remains to be assessed.

[10] John, A., Eyles, E., Webb, RT, et al. (2021, June 17). The impact of COVID-19 pandemic on self-harm and suicidal behaviour: update of living systematic review. *F1000Research*, 2021, 9:1097. https://doi.org/10.12688/f1000research.25522.2

[11] For all agencies, self-harm rates are calculated such that the denominator equals the member year count (total member months divided by 12) and the numerator equals the unique count of persons with one or more self-harm events in the reporting period.

[12] https://jamanetwork.com/journals/jamapediatrics/fullarticle/2782796

Figure 4. Trends in Incidence of Self-Harm Events by Agency/Program, All Ages

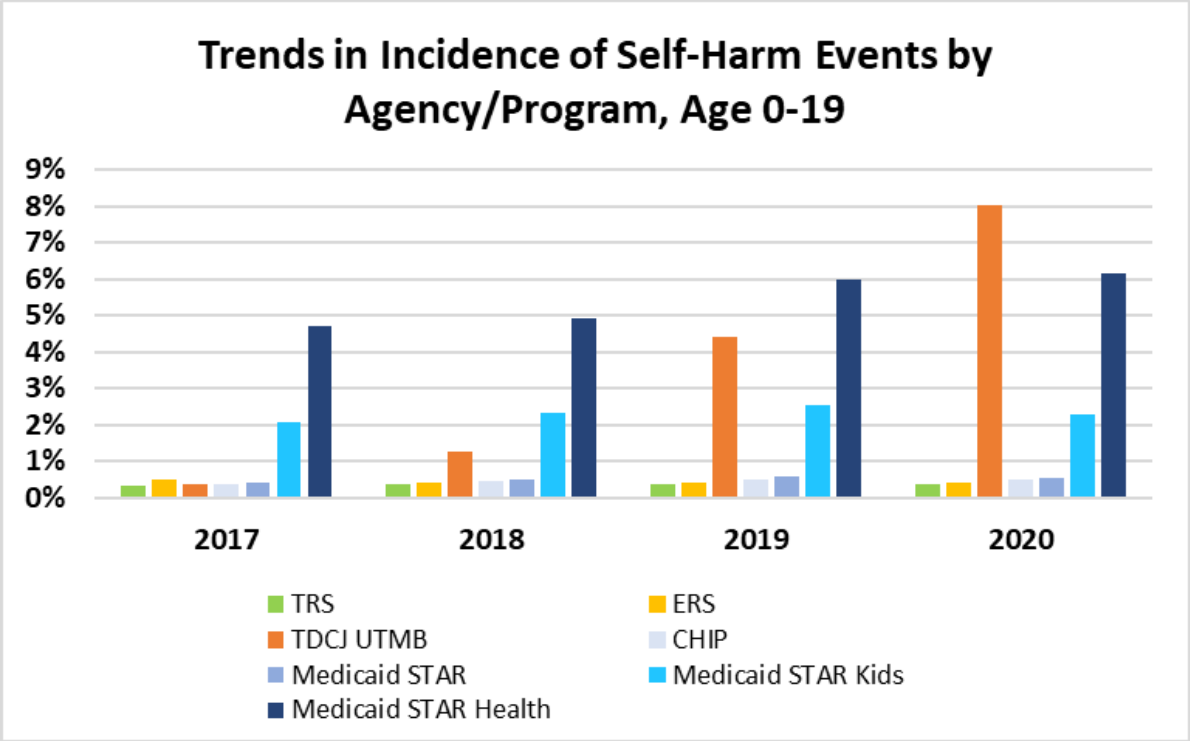


Note: Data as of August 31, 2020, active members.

Table 1. Data Table for Trends in Incidence of Self-Harm Events by Agency/Program, All Ages

Agency/Program	2017	2018	2019	2020
TRS	0.21%	0.23%	0.24%	0.24%
ERS	0.32%	0.26%	0.27%	0.27%
TDCJ Texas Tech	1.47%	1.44%	1.50%	1.71%
TDCJ UTMB	1.20%	1.32%	1.39%	1.49%
CHIP	0.36%	0.42%	0.47%	0.46%
Medicaid STAR	0.48%	0.56%	0.65%	0.60%
Medicaid STAR Kids	2.12%	2.40%	2.60%	2.35%
Medicaid STAR+PLUS	3.76%	3.76%	5.97%	3.73%
Medicaid STAR Health	4.76%	4.95%	5.97%	6.23%

Figure 5. Trends in Incidence of Self-Harm Events by Agency/Program, Age 0–19



Note: Data as of August 31, 2020, active members. Data with values >0 and <10 are not reportable (NR). Medicaid STAR+PLUS is not shown because of the age filter.

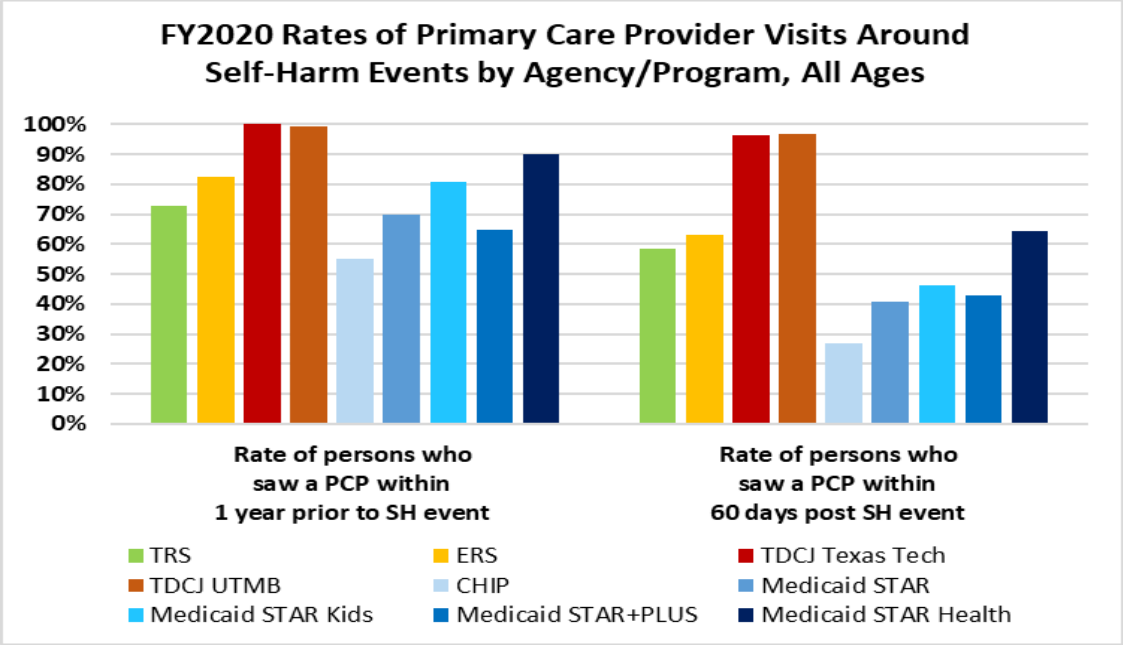
Table 2. Data Table for Trends in Incidence of Self-Harm Events by Agency/Program, Age 0-19

Agency/Program	2017	2018	2019	2020
TRS	0.34%	0.37%	0.37%	0.38%
ERS	0.49%	0.40%	0.40%	0.41%
TDCJ UTMB	NR	NR	4.42%	8.04%
TDCJ Texas Tech	0	0	NR	NR
CHIP	0.38%	0.45%	0.49%	0.48%
Medicaid STAR	0.41%	0.50%	0.59%	0.54%
Medicaid STAR Kids	2.05%	2.34%	2.52%	2.28%
Medicaid STAR Health	4.70%	4.90%	5.97%	6.17%

Increase primary care visits to increase opportunities for early identification of mental health issues.

A primary care provider (PCP) is identified as a provider with a General Practice, Family Practice, Gynecology, Internal Medicine, Obstetrics, Obstetrics/Gynecology, or Pediatrics provider specialty. UTHealth Data Center altered data collection methods to address the lack of standardization across agencies. For Medicaid, in addition to the above provider types, a PCP visit was identified as office/clinic if accompanied by HEDIS® wellness visit codes. Upon intake into a TDCJ facility, all inmates are examined by qualified healthcare personnel to determine medical and mental health care needs. And, by policy, all TDCJ inmates identified as at risk for suicide or self-injury are evaluated within seven days by a mental health or medical clinician. Figure 6 and Table 3 below report rates of PCP visits within a year prior to a documented self-harm event and within 60 days after the self-harm event. The chart shows high percentages of PCP visits as opportunities for early detection and/or a preventive encounter prior to the documented self-harm event, as well as opportunities for identifying a mental health issue in a reasonable timeframe after the event. Several collaborating experts emphasized the importance of primary care assessment and intervention to reduce self-harm events.

Figure 6. Fiscal Year 2020 Rates of Primary Care Provider Visits Around Self-Harm Events by Agency/Program, All Ages



Note: Data as of August 31, 2020, active members.

Table 3. Data Table for Fiscal Year 2020 Rates of PCP Visits Around Self-Harm Events by Agency /Program, All Ages

Agency/Program	Rate of persons who saw a PCP within 1 year prior to self-harm event	Rate of persons who saw a PCP within 60 days post self-harm event
TRS	73%	59%
ERS	82%	63%
TDCJ Texas Tech	100%	96%
TDCJ UTMB	99%	97%
CHIP	55%	27%
Medicaid STAR	70%	41%
Medicaid STAR Kids	81%	46%
Medicaid STAR+PLUS	65%	43%
Medicaid STAR Health	90%	64%

Support development of pathways to integrate behavioral health care with primary care.

Figure 7 reports low rates of follow-up visits with a mental health provider within 60 days after a self-harm event for several agencies and/or programs. A mental health provider was identified as a psychiatrist, a psychologist, a social worker, a counselor, a family therapist, a mental health provider, a behavioral health provider, or any specialty containing the term "behavioral" or "mental". ERS had capitated behavioral health services until fiscal year 2021, and most related claims were not included in the data.

According to Kara Hill, Director, Integrated Healthcare Initiative, Mental Health America of Greater Houston, barriers to integrating behavioral and primary health care can be addressed through:

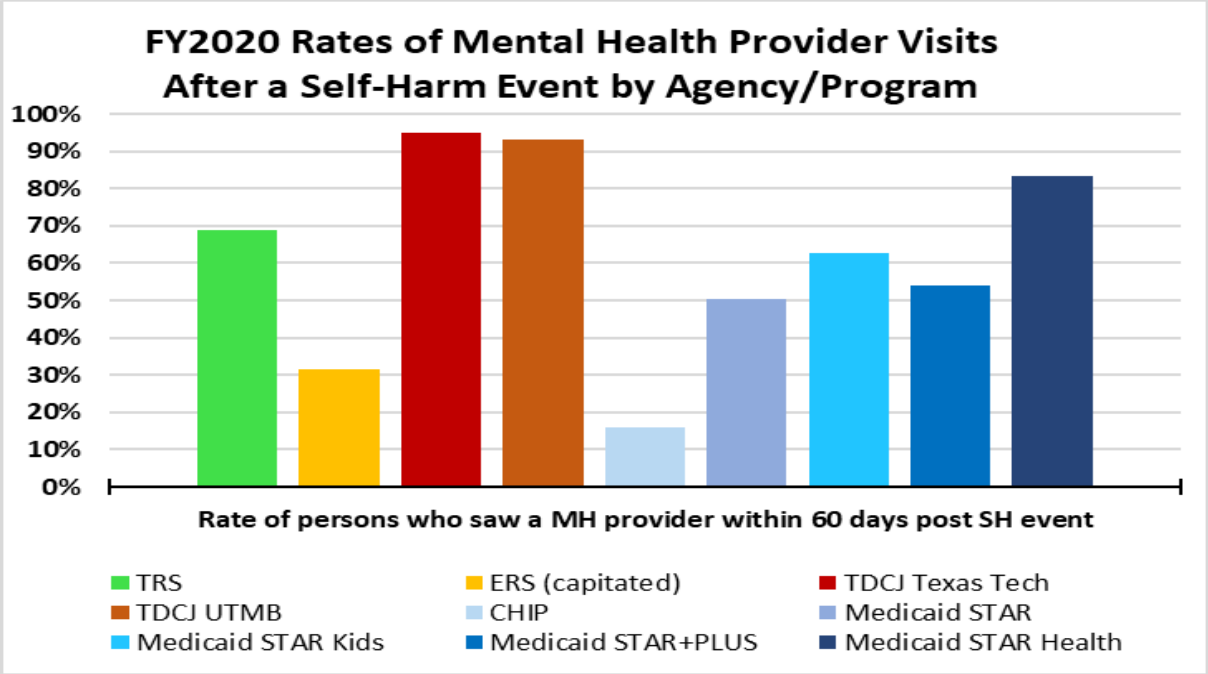
- Improving referral models to:
  - encourage more frequent referrals for mental health care;
  - encourage expanding the networks to include more mental health providers; and

- increase resources for mental health such as the Child Psychiatry Access Network (CPAN), part of the Texas Child Mental Health Care Consortium (TCMHCC).[13,14]

- Improving screening models to facilitate more screening for mental health during primary care, urgent care, and ED visits to support early identification of mental health issues.

Analysis of preventive services across agencies found low rates of depression screening for adults (Figure 13). As seen in Figure 7 and Table 4 below, TDCJ and Medicaid STAR Health had high rates of mental health visits. The time period to expect a mental health referral/visit is represented here by 60 days.[15]

Figure 7. Fiscal Year 2020 Rates of Mental Health Provider Visits After a Self-Harm Event by Agency/Program



Note: Data as of August 31, 2020, active members. ERS behavioral health services capitated until fiscal year 2021.

[13] https://tcmhcc.utsystem.edu/
[14] Established by SB 11, 86th Texas Legislature, Regular Session, 2019
[15] The 5 Agency Workgroup agreed to use 60 days for purposes of this analysis but understand that a shorter timeframe may be appropriate.

Table 4. Data Table for Fiscal Year 2020 Rates of Mental Health Provider Visits After a Self-Harm Event by Agency /Program

Agency/Program	Rate of persons who saw a mental health provider within 60 days post self-harm event
TRS	69%
ERS (capitated)	31%
CHIP	16%
Medicaid STAR	50%
Medicaid STAR Kids	63%
Medicaid STAR+PLUS	54%
Medicaid STAR Health	83%

Analyze TJJD Data for Self-Harm Events

Considering the high rate of self-harm events reported in Figure 5 for TDCJ inmates aged 19 years and under, Dr. Joseph Penn, Director, Mental Health Services, UTMB Correctional Managed Care, suggested TJJD data be analyzed using similar methods. Most inmates under 18 would be in the juvenile system, and it's possible these individuals could experience similar rates of self-harm as found among younger TCDJ inmates.

Cesarean Delivery Sub-Workgroup Recommendations

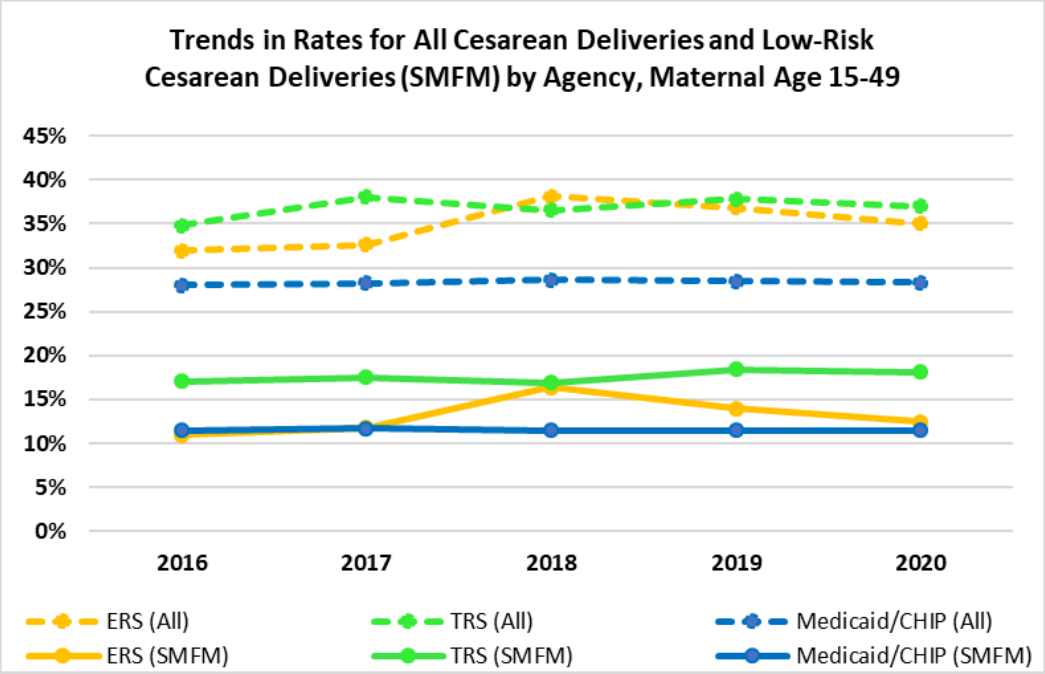
As a result of the analytical work shared with the agencies and their chosen priorities, a sub-workgroup convened to discuss how value-based care approaches could be implemented to improve maternal health and reduce low-risk cesarean deliveries. Each agency selected representatives for this group that had experience and knowledge of maternal health. UTHealth Data Center reviewed strategies implemented in other states to reduce low-risk cesarean deliveries, national strategies to improve maternal outcomes during deliveries, and current Texas state efforts to improve maternal outcomes. UTHealth Data Center met with the Texas Collaborative for Healthy Mothers and Babies (TCHMB) initiative and with DSHS to better understand current efforts in the state.

Data from three agencies (ERS, TRS, and HHSC's Medicaid/CHIP programs) were reviewed to assess different measures[16,17] of cesarean deliveries for low-risk pregnancies (a.k.a. low-risk cesarean deliveries). A commonly used measure developed by the Agency for Healthcare Research and Quality (AHRQ), the Inpatient Quality Indicator 33 (IQI-33)[17] is currently reported on the project data portals. However, after reviewing agency data, the sub-workgroup selected a metric developed by the Society of Maternal Fetal Medicine (SMFM)[16] because it excludes most "medically necessary" cases. Results by agency are shown below (Figure 8 and Table 5). The dotted lines represent agency rates for all cesarean deliveries for maternal age 15-49, and the solid lines represent rates of low-risk cesarean deliveries measured by SMFM. Rates have been relatively constant over the past five years. They are higher for ERS and TRS compared with Medicaid/CHIP, and a considerable number of low-risk cesarean deliveries are performed across agency populations. Though rates have varied between agencies, low-risk cesarean deliveries increased with maternal age for all agencies.

[16] Armstrong, J., Kozhimannil, K., McDermott, P., Saade, G., & Srinivas, S. (2016, February). Society for Maternal-Fetal Medicine (SMFM) Special Report: Comparing variation in hospital rates of cesarean delivery among low-risk women using 3 different measures. *American Journal of Obstetrics & Gynecology*. 153–163. https://www.ajog.org/article/S0002-9378(15)02292-9/fulltext

[17] Agency for Healthcare Research and Quality, US Department of Health and Human Services. (2019, July). Inpatient quality indicator 33 (IQI 33) primary cesarean delivery rate, uncomplicated. *AHRQ Quality Indicators™*, *v2019*, ICD-10-CM/PCS Specification. www.qualityindicators.ahrq.gov

Figure 8. Trends in Rates for All Cesarean Deliveries and Low-Risk Cesarean Deliveries (SMFM) by Agency[18], Maternal Age 15–49



Note: Data as of August 31, 2020, active members.

Table 5. Data Table for Trends in Rates for All Cesarean Deliveries and Low-Risk Cesarean Deliveries (SMFM) by Agency[18], Maternal Age 15–49

Agency	2016	2017	2018	2019	2020
ERS (All)	31.9%	32.6%	38.1%	36.9%	35.1%
ERS (SMFM)	11.0%	11.8%	14.5%	11.9%	14.1%
TRS (All)	34.8%	38.1%	36.5%	37.8%	37.0%
TRS (SMFM)	17.0%	17.5%	16.9%	18.5%	18.1%
Medicaid/CHIP (All)	28.0%	28.2%	28.6%	28.5%	28.3%
Medicaid/CHIP (SMFM)	11.4%	11.7%	11.5%	11.5%	11.5%

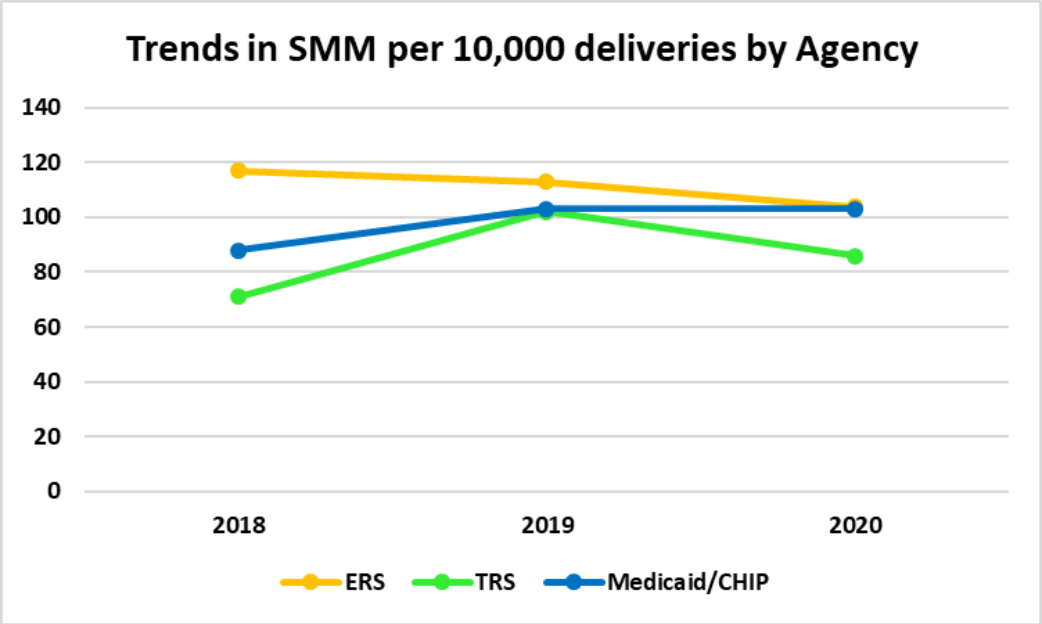
Data from three agencies were also reviewed to assess severe maternal morbidity (SMM) during deliveries. UTHealth Data Center generated SMM measures using codes specified by the by CDC[19] and the Alliance for Innovation on Maternal Health

[18] TDCJ inmates who deliver while in custody receive temporary Medicaid coverage; therefore, TDCJ delivery data is included in the Medicaid statistics.

[19] https://www.cdc.gov/reproductivehealth/maternalinfanthealth/severematernalmorbidity.html

(AIM).[20] Figure 9 reports overall SMM rates that exclude transfusion only cases, as recommended for this measure by the Maternal and Child Health Bureau.[21] Many women require blood transfusions, though due to significant under-reporting during the transition to ICD-10 coding, transfusion may not reflect severe morbidity in the absence of other indicators. SMM rates were estimated by grouping complications (e.g., hemorrhage, respiratory, cardiac, renal, sepsis, other obstetric, and other medical complications). Excluding transfusion-only episodes reduces the magnitude of SMM compared with prior national and state reports that include these cases. Results show rates across agencies between 104 and 86 SMM episodes per 10,000 deliveries for maternal age 15-49. Across the three years assessed, rates varied considerably, in some cases increasing (Medicaid and TRS between fiscal year 2018-2019), and others decreasing (ERS and TRS between fiscal year 2019-2020).

Figure 9. Trends in SMM per 10,000 Deliveries by Agency



Note: Data as of August 31, 2020, active members.

[20] https://safehealthcareforeverywoman.org/aim/resources/aim-data-resources/
[21] Maternal and Child Health Bureau. Federally Available Data (FAD) Resource Document. April 1, 2022; Rockville, MD: Health Resources and Services Administration. Available at: https://mchb.tvisdata.hrsa.gov/Admin/FileUpload/DownloadContent?fileName=FadResourceDocument.pdf&isForDownload=False (p.14)

Table 6. Data Table for Trends in SMM per 10,000 Deliveries by Agency

Agency	2018	2019	2020
ERS	117	113	104
TRS	71	102	86
Medicaid/CHIP	88	103	103

Analytical results and summaries of different state interventions were shared and discussed, and guest speakers representing providers as well as the DSHS TexasAIM program, which supports hospitals to implement maternal safety bundles from the national AIM program, presented to the group their experiences and challenges with the different interventions. After discussions on how the agencies could support efforts to improve maternal health, the following recommendations were decided.

Support the DSHS TexasAIM Initiative[1] safety bundles[22]

The sub-workgroup recommends agencies support the use of the DSHS TexasAIM safety bundles and implement the initiatives internally when feasible. The goal of the bundles is to improve maternal health and, in so doing, reduce cesarean deliveries associated with preventable SMM through:

- Incentives and resources to providers and hospitals for adopting TexasAIM safety bundles;
- Incentives to providers and hospitals to sustain the work accomplished with the initial bundles and ensure continuation of the work;
- Support for disseminating information about the program to providers and the community, e.g., collaborative learning events; and
- Encouraging engagement of physicians in learning events and practice improvement efforts.

Establish a system to share regular reports with providers and hospitals on relevant maternal outcomes

These reports would provide comparisons with peers on maternal safety indicators. Reported outcomes would include total and primary (initial occurrence only)

[22] TexasAIM safety bundles - https://safehealthcareforeverywoman.org/aim/patient-safety-bundles/

cesarean delivery rates[23,24] as well as indicators of severe maternal morbidity, such as postpartum hemorrhage and other morbidity indicators. Continuously measuring delivery outcomes at the provider and regional level could be used not only for quality improvement and value-based initiatives, but also for monitoring effects of specific quality improvement initiatives. Collaborative reporting efforts to improve maternal health across the state could be accomplished by:

- Regularly reporting cesarean delivery rates and morbidity indicators for: 1) provider rates (physicians/physician groups/hospitals), and 2) regional rates; and
- Sharing the de-identified reports with agencies, payers and providers to allow them to compare and benchmark their performance. Each physician would receive a unique, confidential code for identifying only their data.

Recommendation Area 2: Capitalizing on Opportunities for Collaboration and Partnerships

State agencies should continue to foster collaboration, dialogue, and alignment of agency initiatives utilizing comparable goals to identify opportunities for increasing quality and efficiency. Some examples are provided below.

- A presentation by Jeremy Triplett, Deputy Associate Commissioner of Community Health Improvement, DSHS, included a discussion about the AIM and TexasAIM programs, which provide support for implementing best practices to improve maternal safety outcomes. The workgroup intends to continue to explore how the agencies could collaborate to support the implementation of safety bundles through current TexasAIM initiatives, i.e.,

[23] Armstrong, J., Kozhimannil, K., McDermott, P., Saade, G., & Srinivas, S. (2016, February). Society for Maternal-Fetal Medicine (SMFM) Special Report: Comparing variation in hospital rates of cesarean delivery among low-risk women using 3 different measures. *American Journal of Obstetrics & Gynecology*. 153–163. www.ajog.org
[24] Agency for Healthcare Research and Quality, US Department of Health and Human Services. (2019, July). Inpatient quality indicator 33 (IQI 33) primary cesarean delivery rate, uncomplicated. *AHRQ Quality Indicators™*, *v2019*, ICD-10-CM/PCS Specification. www.qualityindicators.ahrq.gov

Severe Hypertension in Pregnancy[25] and Obstetric Care for Women with Opioid and Other Substance Use Disorders[26].

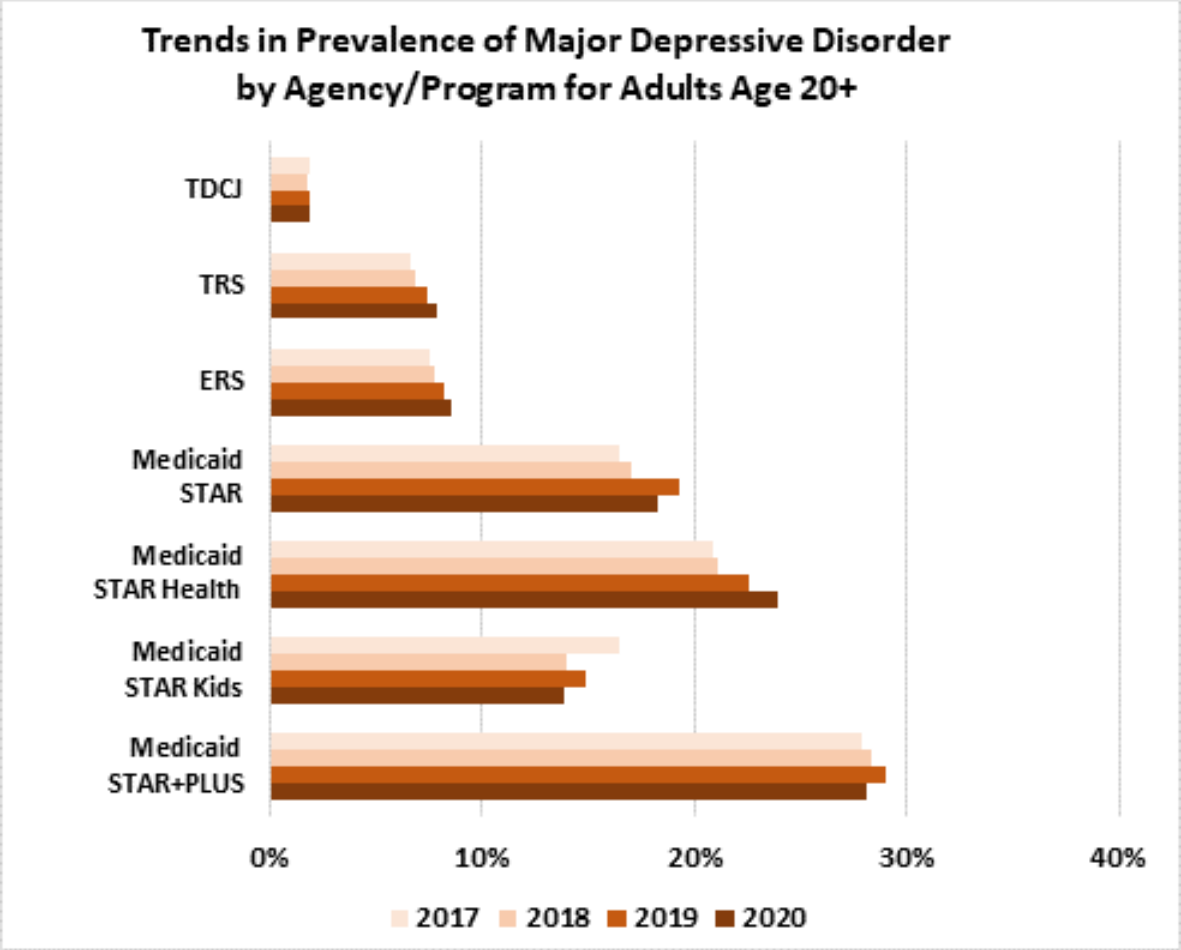
- Dr. David Lakey of The University of Texas System on the TCMHCC presented about the Texas Child Health Access through Telemedicine (TCHATT)[13] program. The workgroup intends to explore options for partnerships and linkages with school nurses, college and university health centers, psychologists, and other professionals within educational systems as a vehicle for identifying youth at risk and connecting them with primary and/or behavioral health care, including telehealth services.
- The 5 Agencies Project team explored approaches to implement education and awareness activities, including continuing education events, to help achieve project goals.

Recommendation Area 3: Building Cross-Agency Reports on Quality

Initial analysis of prevalence rates identified areas to improve quality of care. One specific example is related to four-year trends in the annual prevalence of Major Depressive Disorder (MDD). Major depression is defined through evidence of five or more symptoms causing significant distress or impairment for two or more weeks, including either depressed mood or loss of interest/pleasure. MDD rates were calculated for the agencies and by Medicaid/CHIP program from fiscal year 2017 to 2020 using ICD-10 codes to identify episodic and recurrent depression, excluding codes for manic depression and bipolar disorder (Figure 10 and Table 7). The data indicate that prevalence of MDD varies greatly by agency. The commercial adult population served by ERS and TRS have similar rates and trends for MDD. Medicaid/CHIP programs vary based on the populations they serve, with MDD prevalence rates for STAR+PLUS nearing 30 percent. Across all agencies, prevalence rates for MDD increased annually until the beginning of the federal PHE in fiscal year 2020

[25] https://www.dshs.texas.gov/mch/Severe-Hypertension-Bundle.aspx
[26] https://www.dshs.texas.gov/mch/Obstetric-Care-for-Women-with-Opioid-Use-Disorder-Bundle.aspx

Figure 10. Trends in Prevalence of Major Depressive Disorder by Agency/Program for Adults Age 20+



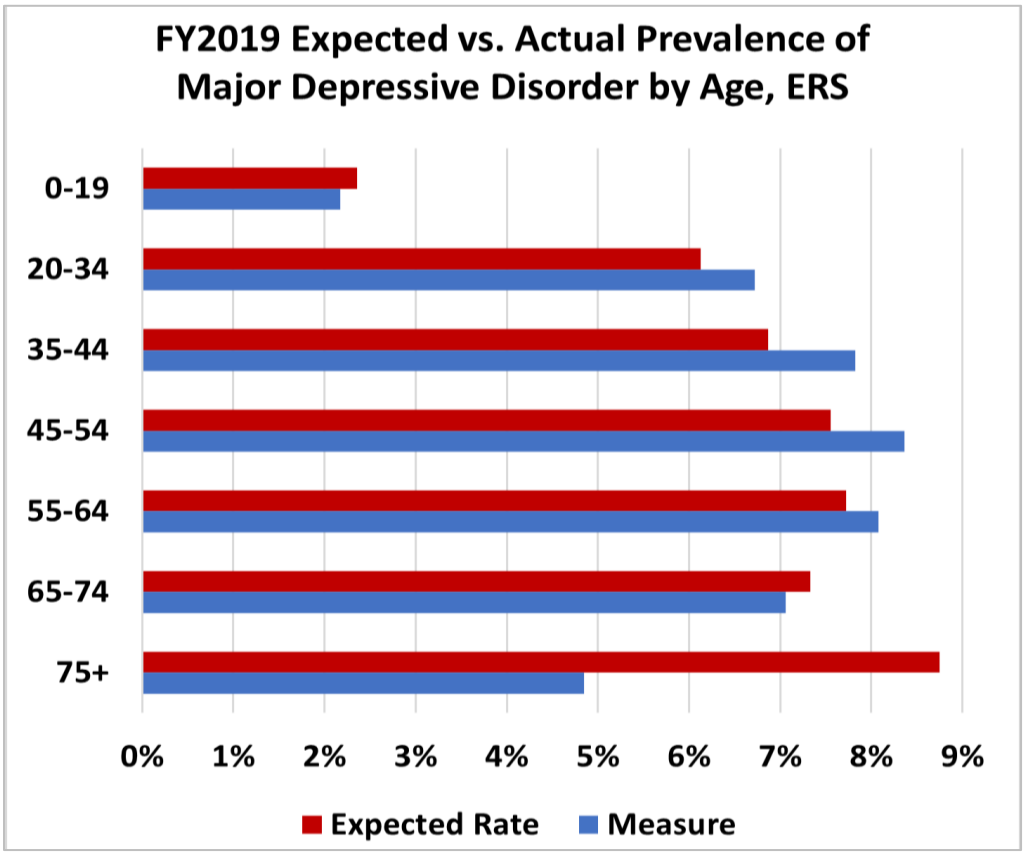
Note: Data as of August 31, 2020, active members.

Table 7. Data Table for Trends in Prevalence of Major Depressive Disorder by Agency/Program for Adults Age 20+

Agency/Program	2017	2018	2019	2020
TDCJ	1.9%	1.8%	1.9%	1.8%
TRS	6.6%	6.8%	7.4%	7.8%
ERS	7.6%	7.8%	8.2%	8.5%
Medicaid STAR	16.5%	17.0%	19.3%	18.3%
Medicaid STAR Health	20.8%	21.1%	22.6%	24.0%
Medicaid STAR Kids	16.5%	14.0%	14.8%	13.9%
Medicaid STAR+PLUS	27.9%	28.3%	29.0%	28.1%

In Figures 11 (Table 8) and 12 (Table 9) below, both TRS and ERS show higher than expected rates of MDD for adult ages 20-64 in their covered populations. The next subsection Expand Benchmarking contains details about how the UTHealth Data Center developed expected rates for TRS and ERS and plans for expanding to other agencies.

Figure 11. Fiscal Year 2019 Expected vs. Actual Prevalence of MDD by Age, ERS



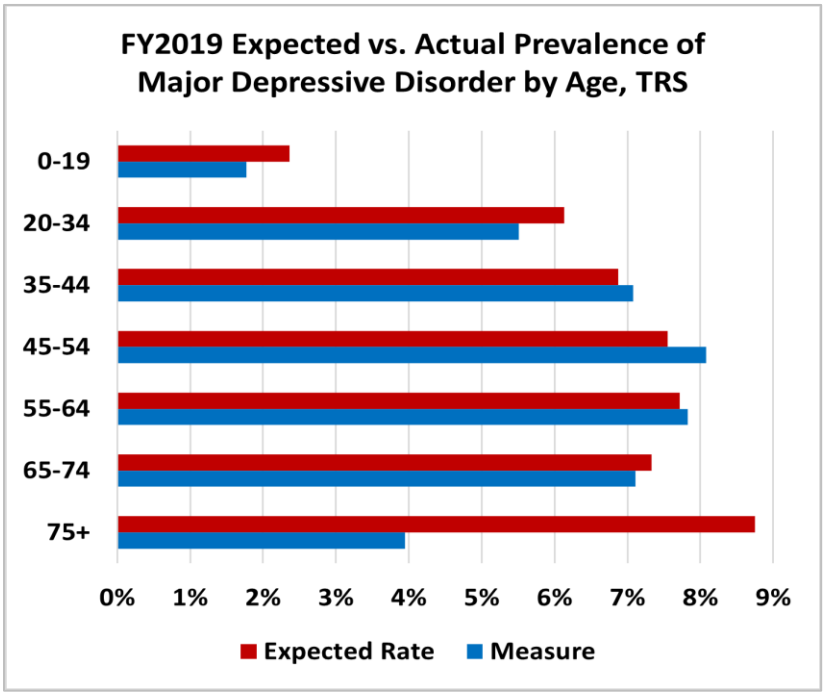
Note: Data as of August 31, 2019, active members.

Table 8. Data Table for Fiscal Year 2019 Expected vs. Actual Prevalence of MDD by Age, ERS

Age	Expected Rate	Measure
0–19	2.4%	2.2%
20–34	6.1%	6.7%
35–44	6.9%	7.8%
45–54	7.6%	8.4%
55–64	7.7%	8.1%
65–74	7.3%	7.1%

Age	Expected Rate	Measure
75+	8.8%	4.9%

Figure 12. Fiscal Year 2019 Expected vs. Actual Prevalence of MDD by Age, TRS



Note: Data as of August 31, 2019, active members.

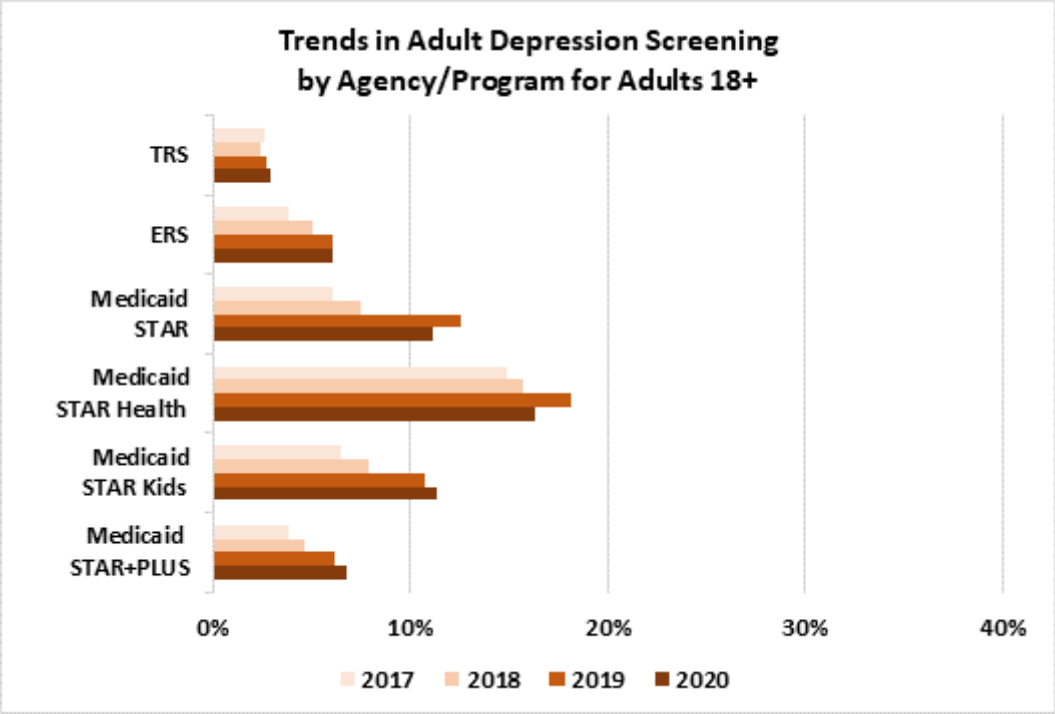
Table 9. Data Table for Fiscal Year 2019 Expected vs. Actual Prevalence of MDD by Age, TRS

Age	Expected Rate	Measure
0–19	2.4%	1.8%
20–34	6.1%	5.5%
35–44	6.9%	7.1%
45–54	7.6%	8.1%
55–64	7.7%	7.8%
65–74	7.3%	7.1%
75+	8.8%	4.0%

The next step was to look at a related quality metric. Figure 13 and Table 10 below show the rate of adult depression screening across years. UTHealth Data Center applied a list of Current Procedural Terminology (CPT®) and Healthcare Common Procedure Coding System (HCPCS) codes to define visits that included depression

screening, excluding people diagnosed with depression or bipolar disorder in the measurement year. TRS had a low rate of adult depression screening. ERS and Medicaid STAR+PLUS rates increased each year. Other Medicaid/CHIP programs generally had higher rates of depression screening for adults, though still below 20 percent.

Figure 13. Trends in Adult Depression Screening by Agency/Program for Adults 18+



Note: Data as of August 31, 2020, active members.

Table 10. Data Table for Trends in Adult Depression Screening by Agency/Program for Adults 18+

Agency/Program	2017	2018	2019	2020
TRS	2.6%	2.4%	2.7%	2.9%
ERS	3.8%	5.0%	6.1%	6.1%
Medicaid STAR	6.1%	7.5%	12.6%	11.1%
Medicaid STAR Health	14.9%	15.7%	18.1%	16.3%
Medicaid STAR Kids	6.5%	7.9%	10.7%	11.3%
Medicaid STAR+PLUS	3.8%	4.6%	6.2%	6.8%

The above MDD example demonstrates the value of matching select quality metrics with population health findings. Following the identification of rates, trends, and

variations among agency populations, efforts can be targeted to build cross-agency reports and review measures related to the quality of care. For the 5 Agencies Project overall, as a first step, the workgroup recommends expanding quality metrics to include standard Healthcare Effectiveness Information Data Set (HEDIS®) and Prevention Quality Indicators (PQI). Additional details can be found in Next Steps, Expanding Quality Metrics.

Recommendation Area 4: Expanding Benchmarking

The workgroup endeavors to provide each agency with expected utilization rates for key metrics. Expected rates were created by UTHealth Data Center analysts for commercial plans (ERS and TRS) based on statewide claims data from other sources. These rates were adjusted to mirror the age distribution of the state agency populations and then were compared against the observed rates for that agency.

Since beneficiaries (e.g., plan members) may not remain active throughout a full year, annual counts can be reported in two ways:

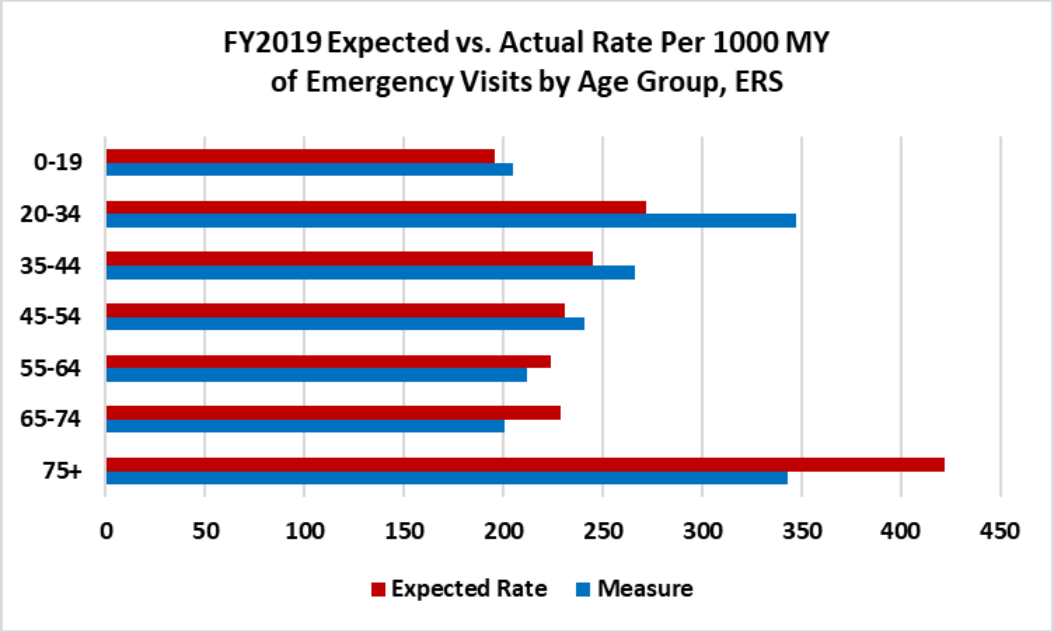
1. unique count of members during the year, or
2. count of "member years" which is derived by summing the unique members for every month of the year and dividing by 12, providing a proxy for an average member count referred to a member year (MY).

Some rates are reported "per 1000." A rate per 1,000 MY describes the total number of events or cases that occur in a population per 1,000 people. It is derived by dividing the total number of events or cases in a year by the total number of member years for the same time period and multiplying the result by 1,000.

Figures 14 and 15 and Table 11 below show expected versus actual rates per 1000 MY of emergency visits by age for ERS and TRS, respectively. Emergency visits were determined using revenue center codes for ED visits, one visit per person per day, excluding ED visits that resulted in an admission. Figure 14 illustrates a potential area of concern for ERS in the 20–34 age group, with higher than expected ED visits. A comparison with ERS' expected versus actual average ED visit cost (payer allowed amounts) by age (Figure 16 and Table 12) revealed that despite higher than expected ED utilization for ERS' 20-34 age group, the average ED visit cost for this group was lower than the expected amount.

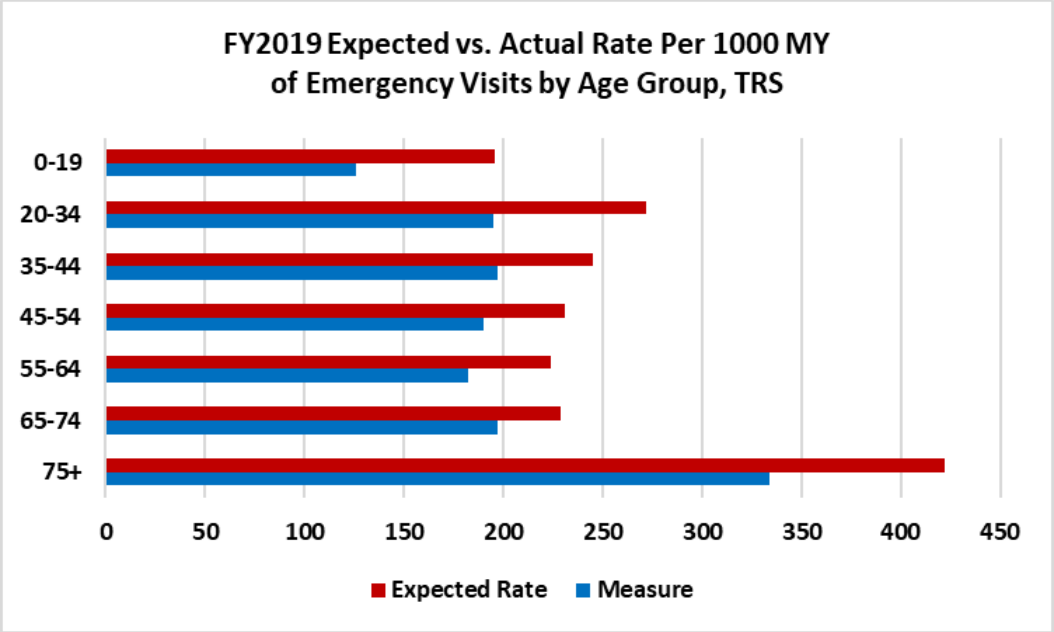
Figure 17 and Table 12 show the expected versus actual average ED visit cost by age for TRS.

Figure 14. Fiscal Year 2019 Expected vs. Actual Rate Per 1000 MY of Emergency Visits by Age Group, ERS



Note: Data as of August 31, 2019, active members.

Figure 15. Fiscal Year 2019 Expected vs. Actual Rate Per 1000 MY of Emergency Visits by Age Group, TRS

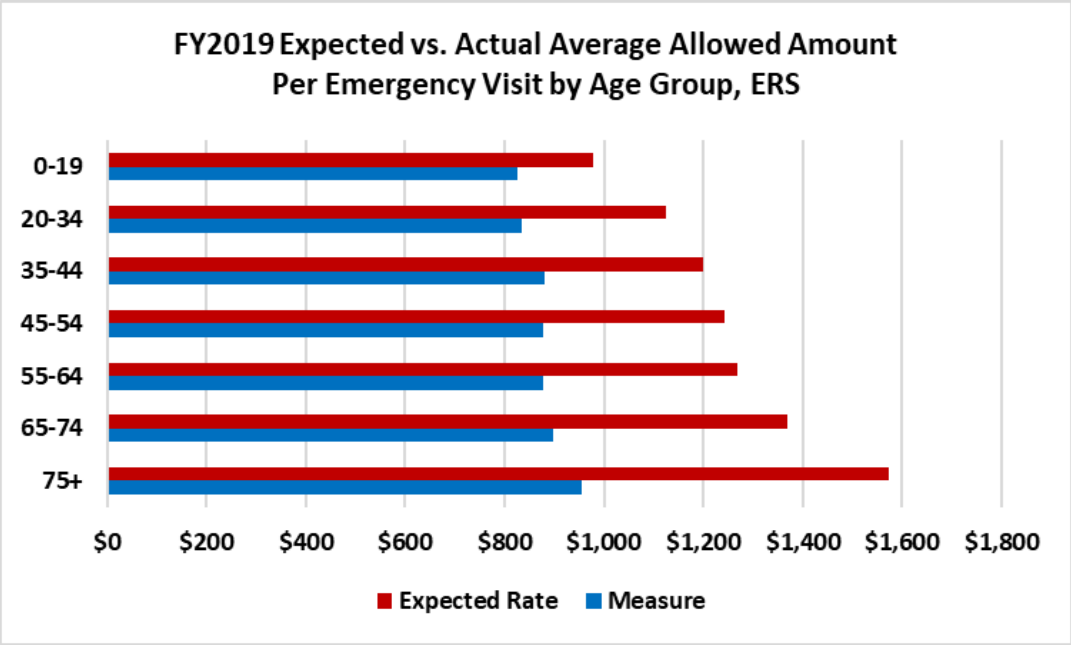


Note: Data as of August 31, 2019, active members.

Table 11. Data Table for Fiscal Year 2019 Expected vs. Actual Rate Per 1000 MY of Emergency Visits by Age Group, ERS and TRS

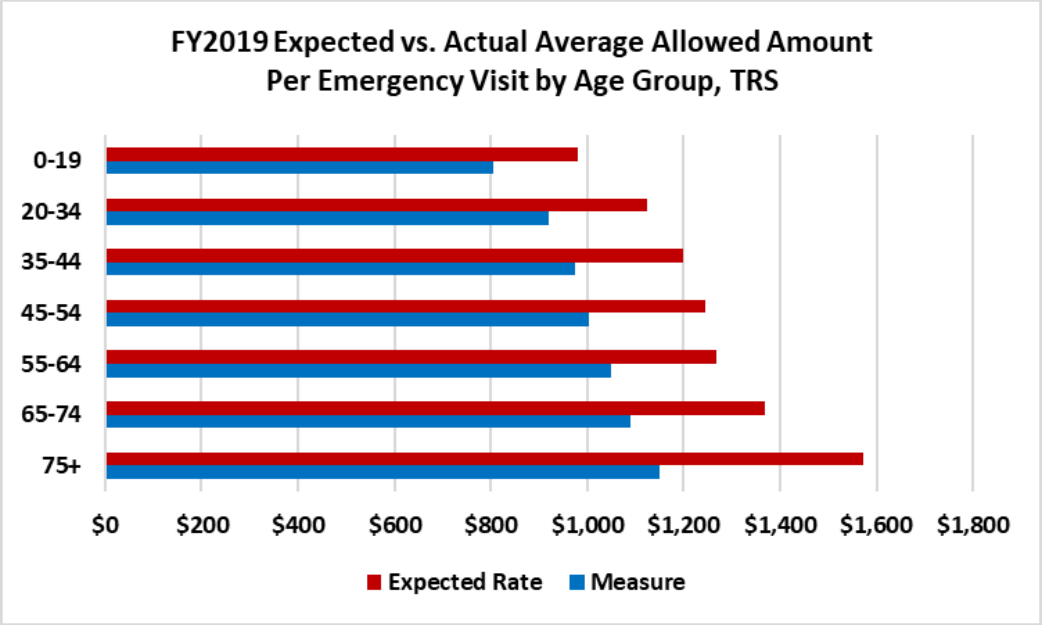
Age Group	ERS Expected Rate	ERS Measure	TRS Expected Rate	TRS Measure
0–19	196	205	196	126
20–34	272	347	272	195
35–44	245	266	245	197
45–54	231	241	231	190
55–64	224	212	224	182
65–74	229	201	229	197
75+	422	343	422	334

Figure 16. Fiscal Year 2019 Expected vs. Actual Average Allowed Amount Per Emergency Visit by Age Group, ERS



Note: Data as of August 31, 2019, active members.

Figure 17. Fiscal Year 2019 Expected vs. Actual Average Allowed Amount Per Emergency Visit by Age Group, TRS



Note: Data as of August 31, 2019, active members.

Table 12. Fiscal Year 2019 Expected vs. Actual Average Allowed Amount Per Emergency Visit by Age Group, ERS and TRS

Age	ERS Expected Rate	ERS Measure	TRS Expected Rate	TRS Measure
0–19	$979	$827	$979	$806
20–34	$1,125	$834	$1,125	$919
35–44	$1,199	$881	$1,199	$976
45–54	$1,244	$877	$1,244	$1,003
55–64	$1,268	$878	$1,268	$1,048
65–74	$1,368	$899	$1,368	$1,090
75+	$1,573	$955	$1,573	$1,151

Based on the analysis conducted, the workgroup recommends the following to improve benchmarking for the project and participating agencies:

- Extending participation in this project to the following organizations to broaden the comparative base:
  - Other state-based health plans, such as the university/colleges employee health plans;

    - TJJD; and
    - State psychiatric hospitals.
- Expanding benchmarking available for Medicaid/CHIP. Medicaid programs' cost and utilization can be compared to ERS and TRS, as well as other state commercial plans, though with limited applicability as Medicaid/CHIP program populations and payment practices differ significantly from commercial plans. While HHSC has some Medicaid benchmarks on National Committee for Quality Assurance (NCQA) quality measures, data are not available for benchmarking cost, risk, select utilization, or PPEs within the context of the Medicaid program. Additional nuanced benchmarking could be performed with more robust external Medicaid data. Acquiring other state Medicaid results would require UTHealth Data Center to purchase the data from either ResDac (for cost and utilization metrics) or from another state.
- Benchmarking price and outcomes of select TDCJ episodes of care against like services within Medicaid, Medicare, and commercial carriers. Community providers should be charging Medicare-equivalent rates to TDCJ, and this comparison could assess compliance.

Recommendation Area 5: Investigating the Utilization of Low-Value Care

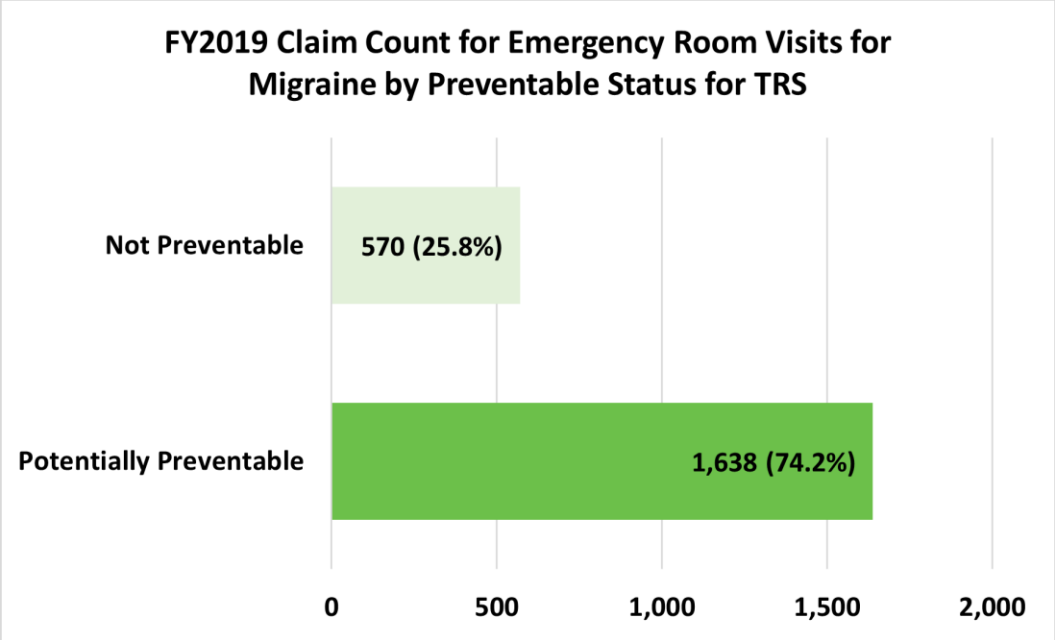
Low-value services are ones deemed unnecessary, more costly than alternatives with similar efficacy, and/or possibly harmful. PPEs are indicators of low-value care. Specifically, they are inpatient admissions or ED visits preventable through appropriate management. Their occurrence often leads to unnecessary services and avoidable costs and contributes to poor quality of care. Initial findings from analysis of project claims data demonstrated that the incidence of the costliest PPEs vary between ERS, TRS, and Medicaid/CHIP. Many of the PPE ED visits and inpatient admissions are directly related to chronic conditions, such as asthma and diabetes. The following examples provide data-driven indicators for identifying and reducing potentially preventable costs and services, common goals for improving health care efficiency and reducing costs.

Migraines

This year, TRS experienced a successful application from the analysis of PPEs and resulting project findings. Through an overall PPE review by UTHealth Data Center, a high rate of ED visits for migraines was discovered in fiscal year 2019. As seen in Figure 18 and Table 13 below, over 74 percent of the visits were potentially

avoidable through appropriate care. These visits amounted to a cost of over $1.9 million in a single year. As a result of this finding, TRS performed an investigation into migraine treatment and prevention, discovering that 22 percent of members experiencing migraines sought treatment through hospital EDs, and 45 percent of those visits included a computerized tomography (CT) scan. In comparison, only 5% of outpatient visits for migraines resulted in a CT scan, indicating a potential overuse of neuroimaging. TRS also found that during a 12-month period, 38 percent of their members were prescribed opioids for migraine treatment, either with or without additional migraine-specific medication. As part of the Choosing Wisely campaign, the American Headache Society[27] recommends that CT scans should not be used in a non-emergency situation as a diagnostic tool for migraine patients when magnetic resonance imaging (MRI) is available, and that opioids should not be prescribed as first-line treatment. TRS presented their findings at a project meeting, and the workgroup requested exploration of comparable data across agencies. The section on Next Steps, subsection Investigate PPEs has more details. As a result of these findings, TRS has implemented monitoring and education.

Figure 18. Fiscal Year 2019 Claim Count for Emergency Room Visits for Migraine by Preventable Status for TRS



Note: Data as of August 31, 2019, active members.

[27] American Headache Society. (2013, November 21). Five things patients and providers should question. *Choosing Wisely®, An initiative of the ABIM Foundation*. www.choosingwisely.org

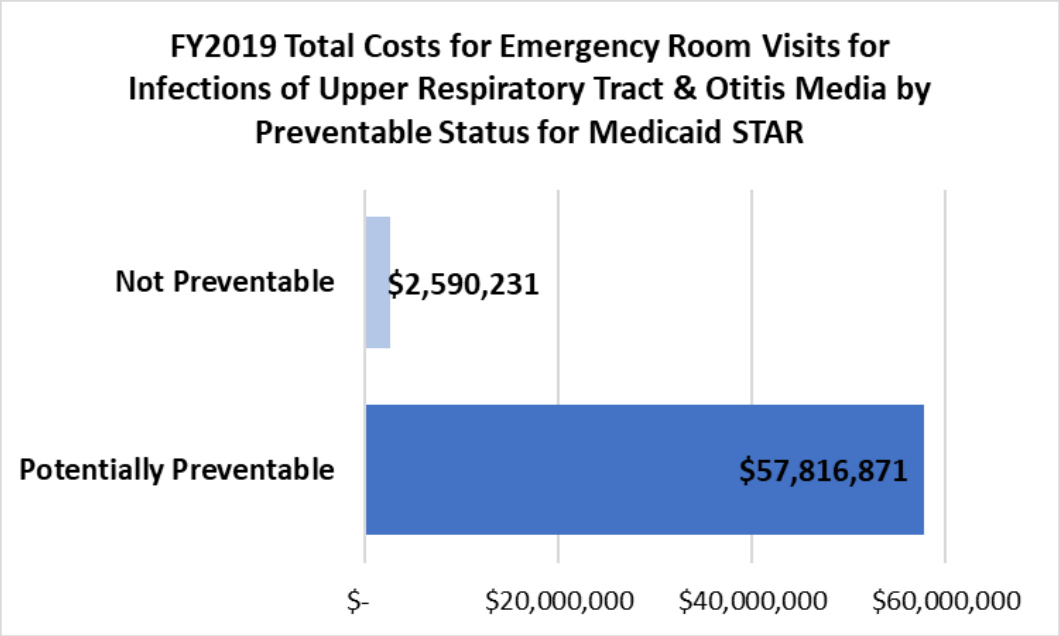
Table 13. Data Table for the Fiscal Year 2019 Claim Count for Emergency Room Visits for Migraine by Preventable Status for TRS

Preventable Status	Claim Count	Percent
Not Preventable	570	25.8%
Potentially Preventable	1,638	74.2%

Upper Respiratory and Ear Infections

In another example, analysis of PPEs demonstrated that Medicaid expended nearly $58 million on potentially preventable ED visits for upper respiratory and ear infections in fiscal year 2019 for Medicaid STAR (Figure 19 and Table 14). Treatments for these conditions can usually be administered in a less urgent setting that the ED. (Note: the UTHealth Data Center confirmed that the 3M™ Population-focused Preventables Software algorithm classifies COVID-19 as "not preventable." COVID-19 is primarily grouped with "Major Respiratory Infections & Inflammations," unless pneumonia is the primary diagnosis.) Exploration into possible drivers, implications, and opportunities for improvement is ongoing. For example, the CDC reports that breastfeeding during infancy provides primary prevention for these conditions among infants and children.[28]

Figure 19. Fiscal Year 2019 Total Cost for Emergency Room Visits for Infections of Upper Respiratory Tract & Otitis Media by Preventable Status for Medicaid STAR



[28] https://www.cdc.gov/breastfeeding/about-breastfeeding/why-it-matters.html

Note: Data as of August 31, 2019, active members.

Table 14. Data Table for Fiscal Year 2019 Total Costs for Emergency Room Visits for Infections of Upper Respiratory Tract and Otitis Media by Preventable Status for Medicaid STAR

Preventable Status	Total Costs
Not Preventable	$2,590,231
Potentially Preventable	$57,816,871

Further exploring the costliest PPEs may aid state agencies in assessing overutilization of low-value care in their healthcare systems and identifying areas with the greatest potential for intervention and improvement for PPEs.

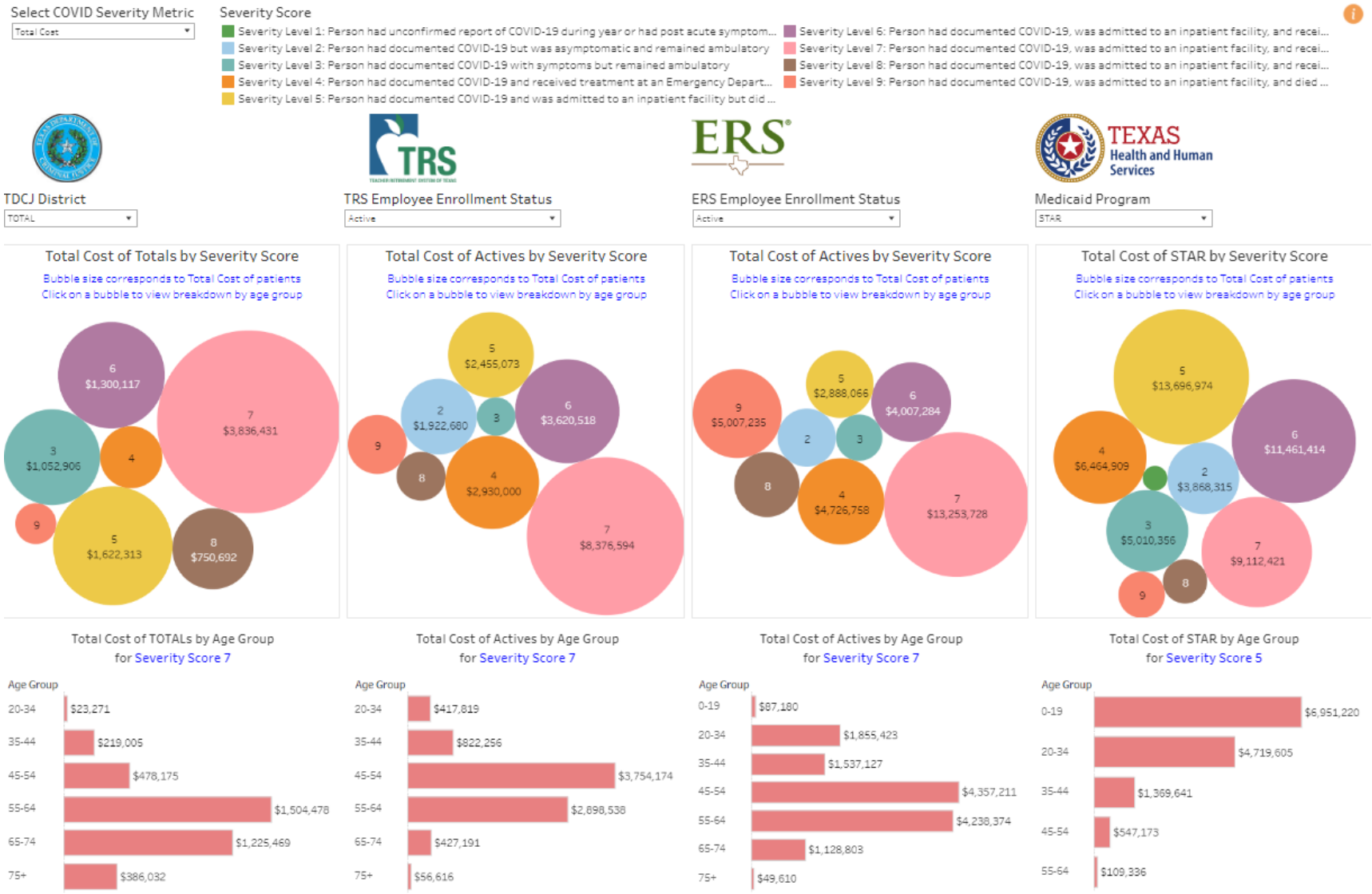
Recommendation Area 6: Monitoring the Impact of the Federal Public Health Emergency

The federal PHE began affecting health services early in 2020. Thus, information related to its impact is reflected in some of fiscal year 2020, all of fiscal year 2021, and potentially all of fiscal year 2022 (and beyond) claims data. This project to monitor the impact of the federal PHE uses four full years of pre-pandemic data from fiscal year 2016–2019 for baseline comparison. Fiscal year 2020 data provide approximately six months of affected claims from the early part of the federal PHE experience. Incorporation of fiscal year 2021 data is currently in progress at the time of this report.

Initial exploration of fiscal year 2020 data yielded important information for the agencies. First, UTHealth Data Center worked with agency analysts to standardize the methodology for identifying confirmed cases of COVID-19 across all agencies. Second, UTHealth Data Center used its internally created methodology to assign a severity score for persons with COVID-19 (details are in the previous subsection Refined COVID-19 methodology). Finally, this COVID-19 severity scale was applied to the data for four agencies to stratify the impact and severity of the federal PHE on the populations covered by each agency.

Figure 20 and Tables 15-17 below illustrate the COVID-19 severity ratings and how they apply to the project data, providing details for the reporting of related costs in calendar year (CY) 2020 for each agency. For each agency, the severity level with the highest total cost is broken out by age (Table 17).

Figure 20. CY2020 COVID-19 Severity Ratings[29] and Select Related Costs by Agency



[29] See Table 15 below for complete legend text.

Table 15. Definitions of COVID-19 Severity Levels

Severity Level	Definitions
1	Person had unconfirmed report of COVID-19 during year or had post-acute symptoms after unconfirmed COVID-19
2	Person had documented COVID-19 but was asymptomatic and remained ambulatory
3	Person had documented COVID-19 with symptoms but remained ambulatory
4	Person had documented COVID-19 and received treatment at an Emergency Department but no inpatient admission
5	Person had documented COVID-19 and was admitted to an inpatient facility but did not require oxygen or advanced treatment
6	Person had documented COVID-19, was admitted to an inpatient facility, and received non-invasive oxygen
7	Person had documented COVID-19, was admitted to an inpatient facility, and received mechanical ventilation
8	Person had documented COVID-19, was admitted to an inpatient facility, and received mechanical ventilation along with Renal Dialysis or ECMO (extracorporeal membrane oxygenation)
9	Person had documented COVID-19, was admitted to an inpatient facility, and died during admission

Table 16. Total Cost for Active Beneficiaries by COVID-19 Severity Score and Agency/Program

Severity Level	TDCJ	TRS	ERS	Medicaid STAR
1	0	0	0	$452,406
2	0	$1,922,680	$2,142,664	$3,868,315
3	$1,052,906	$493,284	$1,359,814	$5,010,356
4	$442,379	$2,930,000	$4,726,758	$6,464,909

Severity Level	TDCJ	TRS	ERS	Medicaid STAR
5	$1,622,313	$2,455,073	$2,888,066	$13,696,974
6	$1,300,117	$3,620,518	$4,007,284	$11,461,414
7	$3,836,431	$8,376,594	$13,253,728	$9,112,421
8	$750,692	$801,821	$2,677,540	$1,470,452
9	$192,181	$1,169,519	$5,007,235	$1,610,955

Table 17. Total Cost for Active Beneficiaries by Age Group and Agency/Program for Select Severity Scores

Age Group	TDCJ Severity Score 7	TRS Severity Score 7	ERS Severity Score 7	Medicaid STAR Severity Score 5
0-19	0	0	$87,180	$6,951,220
20-34	$23,271	$417,819	$1,855,423	$4,719,605
35-44	$219,005	$822,256	$1,537,127	$1,369,641
45-54	$478,175	$3,754,174	$4,357,211	$547,173
55-64	$1,504,478	$2,898,538	$4,238,374	$109,336
65-74	$1,225,469	$427,191	$1,128,803	0
75+	$386,032	$56,616	$49,610	0

The 5 Agencies Project team will continue analyzing the medical and financial impact of COVID-19 to provide critical information to the agencies and state for recouping costs and monitoring COVID-19 health consequences on covered populations. Claims data will be monitored for the potential impacts of post-acute COVID-19, sometimes referred to as "long COVID".

5. Next Steps for Further Exploration

Continued work on the 5 Agencies Project has the potential to drive meaningful improvements in health care outcomes, costs, and delivery models. Initial analyses of the data presented on the integrated and interactive health care information portals, both by agency and across agencies, have generated findings that require more precise data and/or further exploration into drivers and implications. These target areas for further exploration are described below.

Value-Based Strategies Initiative

For the initially selected target issues related to reducing self-harm events and improving maternal health outcomes, the workgroup will continue its process (Figure 24) with the next steps involving setting measurable goals for determining improvement (Step 5), selecting strategies (Step 6), and selecting metrics for measuring progress (Step 7). Once these steps are completed, the main activity for these initial topics will transition to the agencies to implement strategies (Step 8). UTHealth Data Center intends to collect agencies' data for measuring progress toward goal achievement (Step 9). As the workgroup moves through this process, they will collaborate on implementation, including assessing what is working and if changes are needed (Step 10). Additionally, the sub-workgroups have identified areas for expanded analysis, such as depression, addiction, SMM, prenatal care, and other mental health and maternal health topics.

A high priority is to explore opportunities to collaborate with communities, payers, providers, and other state agencies or institutions with similar goals and initiatives, especially as the workgroup continues evaluating opportunities and developing strategies to address identified issues. Moreover, as the work transitions to the agencies to lead implementation activities, the group will also begin a new cycle of developing strategies and start the process of selecting one or two new topics for increasing value-based care.

For many health care programs included in the project, health care providers are contracted through state agency vendors, (i.e., Managed Care Organizations and the commercial carriers that serve as third-party administrators [TPAs] for TRS and ERS). Therefore, any strategies that are developed should be in consultation with these carriers. Some strategies may require implementation directly by the carriers, as opposed to the state benefit plan administrators, and therefore, will require their support and commitment.

Expanding Quality Metrics

Based on current findings the following quality metrics are identified as candidates for further exploration:

1. **Standard HEDIS® measures** such as Antidepressant Medication Management; Follow-Up Care for Children Prescribed Attention Deficit Hyperactivity Disorder (ADHD) Medication; Follow-Up After Hospitalization for Mental Illness; Follow-Up After Emergency Department Visit for Mental Illness; Follow-Up After High-Intensity Care for Substance Use Disorder; and Follow-Up After Emergency Department Visit for Alcohol and Other Drug Abuse or Dependence.
2. Rates of **preventive screenings** for breast cancer, cervical cancer, and colorectal cancer; and
3. **Standard PQIs from AHRQ** such as Overall Composite of Inpatient Admissions (PQI 90); Composite of Conditions for Acute Admissions (PQI 91); Composite of Inpatient Admissions for Select Chronic Conditions (PQI 92); and Composite of Inpatient Admissions for Adult Diabetes (PQI 93).

Benchmarking

As expressed in the Recommendations section, the workgroup intends to expand benchmarking. Expected rates will be developed for additional measures; and, per the request of TRS, the expected rates will also be adjusted for gender because TRS has a high proportion of female members. Additionally, risk values can be applied to adjust expected rates for cost and utilization based on the overall risk level of the population covered by each plan. As UTHealth Data Center increases its store of commercial claims for comparative purposes, these expected rates can and will be refined to also reflect plan design.

Investigating PPEs

As expressed in the Recommendations section, the workgroup will explore the costliest PPEs and investigate possible ways to reduce potentially preventable costs and services. For example, after initial exploration of PPEs and TRS's investigation into migraine findings, the workgroup requested review of comparable data across agencies.

Analyzing Price/Cost Variation Across Agencies, Geography, and Plan Design

Health care costs or prices for similar or the same service can vary widely across regions and payers. Thus, reducing price or cost variation may offer a significant opportunity for health system improvement that can be studied in Texas using the comprehensive data system developed for cross-agency coordination. Since Medicaid typically reimburses below commercial rates, and TDCJ correctional managed care community hospital contracts are aligned with Medicare rates, the workgroup expects to see variations in overall pricing across agencies. However, pricing for like episodes of care may also vary across state regions and/or within a specific agency and payment structure. The questions identified for exploration in the coming project years are as follows:

1. How does pricing for like inpatient and ED visits vary across agencies with different payment structures?
2. Do regional variations in pricing for similar episodes of care exist in the state, and can possible drivers of those variations be identified? Some examples of possible drivers include:
    A. Regional contracting differences;
    B. Variations in resource utilization, e.g., length of stay and diagnostics;
    C. Variations in population or community factors, e.g., rate of uninsured and possible cost shifting; and
    D. Demographic differences such as age, gender, and comorbidities.

UTHealth Data Center analysts propose assessing a mixture of ED visit and inpatient admissions for a select group of episodes of care to begin the process. The health events proposed cross populations in all agencies, including TDCJ community utilization. The proposed regions for comparing median pricing are the major metropolitan areas of Dallas, Houston, Austin, and El Paso/Rio Grande Valley, which will also be compared with a statewide measure.

UTHealth Data Center also proposes targeted analyses to compare prices by episodes of care, procedures, admissions, or other health care events by geographic location of providers for each agency.

High-Cost Claimants (HCC)

High-cost claimants (HCC) are individuals whose total claim expenses exceed $100,000 during a benefit year. This threshold is seen as an indication of a potentially catastrophic health condition resulting in a large expense to the plan. Often, HCC experience results from catastrophic health events such as premature births, serious medical conditions, rare health conditions requiring specialty medications, or traumatic events. Although most of these medical situations can neither be predicted nor avoided, analysis of project data revealed that for Medicaid and ERS, the trend appears to increase over time. Additionally, fiscal year 2020-fiscal year 2021 may see an increase in HCC due to COVID-19 cases. As a next step, UTHealth Data Center plans to expand evaluation of HCCs to explore potential opportunities to improve outcomes and reduce costs, including looking at single events compared with repeat events.

COVID-19 Impact

UTHealth Data Center will continue assessing the clinical and financial impacts of the federal PHE as fiscal year 2021–2022 data is received, including the potential impact of post-acute COVID, sometimes referred to as "long COVID".

Agency-Specific Requests

UTHealth Data Center met with each agency separately for initial data portal reviews. The following recommendations were generated upon detailed review of the findings per agency, in collaboration with agency representatives, agency analysts, and UTHealth Data Center analytical team. While the items documented reflect agency-specific requests, some may be applied across multiple agencies.

Health and Human Services Commission (HHSC)

- Explore possible reasons for increased HCC costs in fiscal year 2020 for Medicaid (HCC Dashboard).
- Add a dashboard showing the procedures most frequently found in the Medicaid claims data (Procedures Dashboard).
- Use severity scores on the COVID-19 Dashboard to look at disparities and risk for long-term impact to Medicaid program; how severe has the impact of COVID-19 been for different groups, e.g., urban versus rural?

Texas Retirement System (TRS)

- Adjust expected rates by gender due to the larger proportion of female members (Expected Rate Dashboard).
- Adjust expected rates for plan design (Expected Rate Dashboard).
- Investigate high rates of ED visits per 1,000 MY for chronic pain and low back pain in 20–34 age group (Potentially Preventable Events).

Employees Retirement System of Texas (ERS)

- Investigate cost per drug prescription and geographical differences to assess the high rates for Average Total Cost of Pharmacy Per Member Per Year Cost (Cost Page of Expected Rate Dashboard).
- Investigate ED visits to assess the high rate per 1000 MY of ED visits in 20–34 age group (Utilization Page of Expected Rate Dashboard).
- Investigate high rates of ED visits per 1000 MY for chronic pain and low back pain in 20–34 age group (Condition Utilization Page of Condition Dashboard).
- Investigate high rates of low back pain and major depression in middle age groups and high rates of diabetes in the younger age groups (Condition Expected Rate Dashboard).
- Investigate high rates of injury and other consequences of external causes in the 0–19 age group (clinical classifications software refined [CCSR] Dashboard).
- Investigate growing use of specialty drugs (Drugs Dashboard).
- Investigate high rates of obesity in the older population (Wellness Dashboard).

Texas Department of Criminal Justice (TDCJ)

- Add a Community Dashboard for analysis of community hospitals providing services to TDCJ inmates.
    - UTHealth Data Center had two follow-up meetings with TDCJ leaders and analysts to collaborate on the development of the Community Dashboard. UTHealth Data Center programmers published an initial version to the TDCJ data portal and had nearly completed requested revisions at the time of this report pending an additional filter to compare data by Facility. For additional details, go to Section 4, subsection Alternative Metrics.

- Expand the Conditions Dashboard to include Hypertension and Hepatitis C, which are identified as key health conditions for this population.
    - This request has been completed for TDCJ, and Hypertension was also added to the Conditions Dashboard for all agencies' data portals as well as the comparison data portal.

6. Conclusion

From the collaborative process and cross-agency comparisons, agencies are gaining actionable insights into health services and outcomes that are neither independently obvious nor available to them individually. Moreover, they are leveraging clinical and data expertise across agencies and the state to identify ways to improve health care for Texans who receive health benefits from the state.

The agencies can now view detailed intra-agency data in their respective portal, as well as compare metrics across agencies using a cross-agency data portal. Initial metrics concentrated on defining the populations by age, gender distribution, and annual costs related to medical and pharmacy expenses. The data identified and highlighted variations among the populations served by the four agencies. Additionally, prevalence rates of common and costly chronic conditions provided further context for the drivers of overall costs. Utilization rates, high-cost claimants, drug utilization, and risk levels were explored to further examine key cost drivers. Review of data findings, analyses of metrics, and examination of trends across years has led to agreement on six key areas for the agencies to focus efforts aimed at reducing cost and improving quality within the agencies' health care systems. Developing consensus for interventions is a major accomplishment.

In 2021, the workgroup focused on identifying target issues within the agencies that had an impact on value. The workgroup created a 10-step process to develop and implement value-based strategies, selected two measures with high levels of interest among the agencies as initial targets, and formed two sub-workgroups to develop value-based strategies and collaborate on recommendations to increase the use of value-based care within the agency health care systems. The Self-harm Sub-workgroup and the Cesarean Deliveries Sub-workgroup developed recommendations aimed at reducing self-harm events and improving maternal health, such as by increasing access to integrated mental/physical healthcare providers and reducing cesarean deliveries for low-risk pregnancies, respectively.

In the coming project years, the agencies look forward to investigating additional target areas for implementing strategies to increase value-based care and improve health outcomes, providing opportunities to lessen the impact of COVID-19, exploring ways to reduce low-value care, and providing information for improving effectiveness of care. Continued work on this project has the potential to drive meaningful improvements in health care outcomes, costs, and delivery models.

List of Acronyms

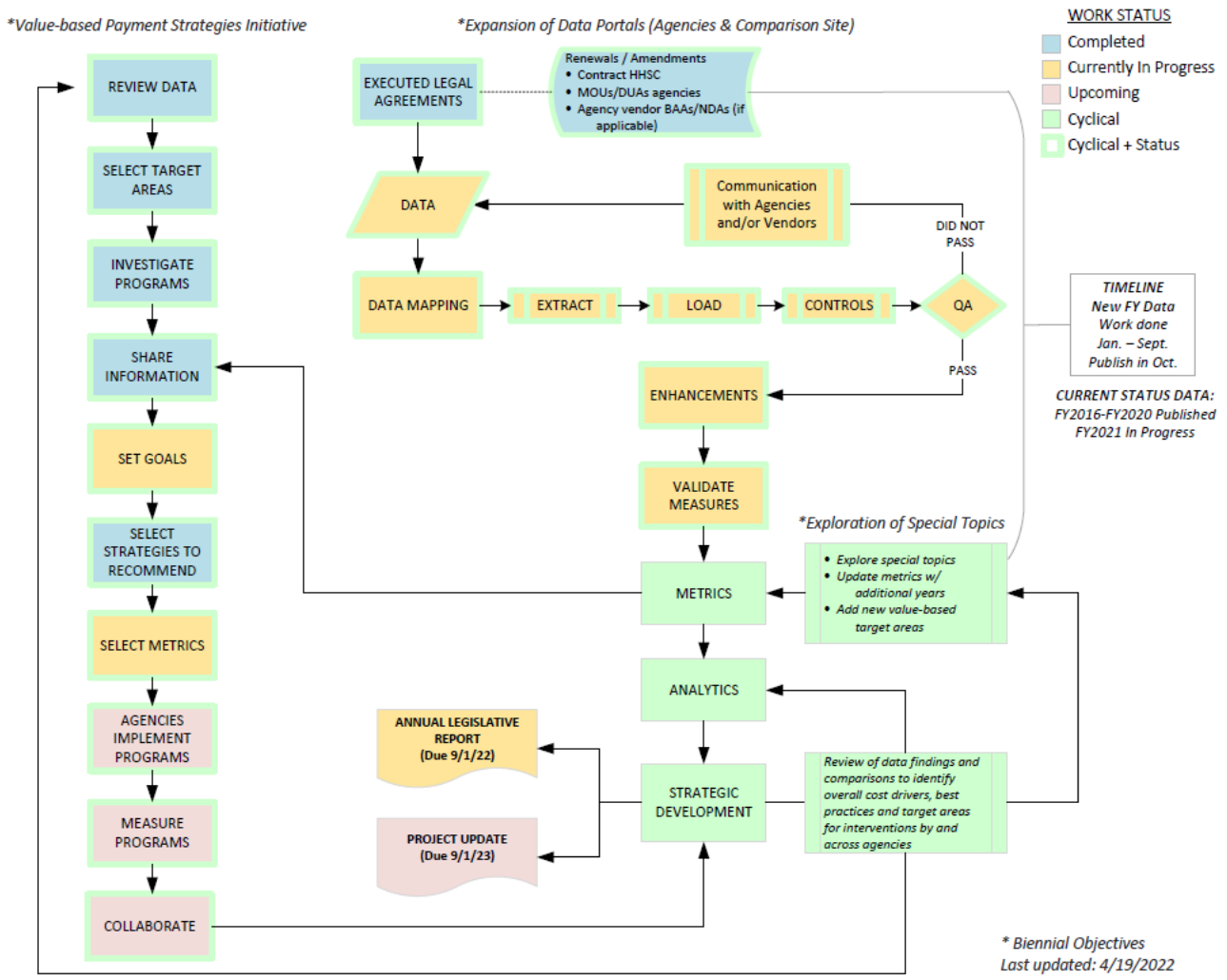
Acronym	Full Name
ACOs	Accountable Care Organizations
ASO	Administrative Services Only
AHRQ	Agency for Health Research and Quality
AIM	Alliance for Innovation on Maternal Health
APMs	Alternative Payment Models
ADHD	Attention Deficit Hyperactivity Disorder
BCBSTX	Blue Cross Blue Shield of Texas
BDCs	Blue Distinction Centers
BDC+s	Blue Distinction Centers+
BTE	Bridges to Excellence
CalPERS	California Public Employees' Retirement System
CCSR	Clinical classifications software refined
CDC	Centers for Disease Control and Prevention
CHIP	Children's Health Insurance Program
CMC	Correctional Managed Care
CMS	Centers for Medicare & Medicaid Services
COVID-19	Coronavirus Disease 2019
CPAN	Child Psychiatry Access Network
CPC	Comprehensive Primary Care
CPT®	Current Procedural Terminology
C-sections	Cesarean deliveries
CT	Computerized Tomography
CY	Calendar Year
DHS	Department of Health Services
DMOs	Dental Maintenance Organizations
DOC	Department of Corrections
DSHS	Department of State Health Services
DSRIP	Delivery System Reform Incentive Payment
ECG/EKG	Electrocardiogram
ED	Emergency Department
EEG	Electroencephalogram
EHR	Electronic Health Records
ERS	Employees Retirement System of Texas
ESRD	End-Stage Renal Disease
ETF	Employee Trust Funds
FY	Fiscal Year
GAA	General Appropriations Act
H.B.	House Bill
HCC	High Cost Claimants
HCPCS	Healthcare Common Procedure Coding System
HCP LAN	Healthcare Payment Learning and Action Network
HealthSelect	HealthSelect of Texas®

Acronym	Full Name
HEDIS®	Healthcare Effectiveness Information Data Set
HHSC	Health and Human Services Commission
HIT	Health Information Technologies
HMOs	Health Maintenance Organizations
HPA	Health Plan Administrator
HQID	Hospital Quality Incentive Demonstration
HRA	Health Reimbursement Account
ICD-10	International Classification of Diseases, 10th revision
ID	Identification
IHA	Integrated Healthcare Association
IQI-33	Inpatient Quality Indicator 33
IQR	Inpatient Quality Reporting
LBB	Legislative Budget Board
MCOs	Managed Care Organizations
MDD	Major Depressive Disorder
Medical hubs	Regionalized medical hub facilities
MMMRC	Maternal Mortality and Morbidity Review Committee
MRI	Magnetic Resonance Imaging
MY	Member Year
NCQA	National Committee for Quality Assurance
NR	Not Reportable
NSSI	Non-suicidal self-injury
PBMs	Pharmaceutical benefit managers
PCMH	Patient-Centered Medical Home
PCP	Primary Care Provider
PMPM	Per-member-per-month
PMPY	Per-member-per-year
PIPY	Per-inmate-per-year
PPEs	Potentially Preventable Events
PQRI	Physician Quality Reporting Initiative
PHE	Public Health Emergency
PQIs	Prevention Quality Indicators
P4P	Pay-for-performance
P4Q	Pay-for-quality
P4R	Pay-for-reporting
QPI	Quality and Program Improvement
RHPs	Regional Healthcare Partnerships
SB	Senate Bill
SIMs	State Innovation Models
SMM	Severe Maternal Morbidity
TCHATT	Texas Child Health Access through Telemedicine
TCHMB	Texas Collaborative for Healthy Mothers and Babies
TCMHCC	Texas Child Mental Health Care Consortium
TDCJ	Texas Department of Criminal Justice
Texas Tech	Texas Tech University Health Sciences Center

Acronym	Full Name
THLC	Texas Healthcare Learning Collaborative
TJJD	Texas Juvenile Justice Department
TPA	Third-party administrator
TRS	Teacher Retirement System
U.S.	United States
UTHealth Data Center	University of Texas Health Science Center at Houston Center for Health Care Data
UTMB	University of Texas Medical Branch
VBPQI	Value-based payment and quality improvement
WHO	World Health Organization
ZIP	Zone Improvement Plan

Appendix A. Project Flow Diagram

Figure 21. 5 Agency Project: Process Flow Diagram Fiscal Year 2022-2023



Process Flow Diagram

At the beginning of the second biennium, the workgroup collaborated on the development of the Process Flow Diagram fiscal year 2022–2023 to illustrate the major objectives of this biennium, milestones for achieving these, and progress toward achievement. The document, including progress updates, was reviewed at bi-monthly workgroup meetings. The workgroup agreed upon the following three biennial objectives:

1. **Value-based payment strategies initiative.** For the analysis of value-based payment strategies, the process flows linearly. Appendix B, subsection Process details the steps. Completion of each milestone is dependent on successful completion of those prior. The agencies selected two initial issues and are currently working on setting goals and selecting metrics. Section 3, subsection Increasing the Use of Value-Based Care includes details about this initiative.
2. **Expansion of the data portals.** For the analysis of new fiscal years of data across agencies, the process flows linearly, and completion of each milestone is dependent on successful completion of those prior. Each agency also flowed through the data cycle individually, and the status of each agency's data and analysis occurred at different points in the timeline depending on when prior milestones were completed. The milestones are as follows:
    A. **Executed legal agreements** with agencies leads to
    B. **Data transmission**, which starts the process of
    C. **Data mapping**, and then UTHealth Data Center must
        a. **Extract** the data;
        b. **Load** the data in the data warehouse; and perform
        c. **Controls** to ensure standardization
    D. **Quality Assurance (QA)** means determining if the data passed or did not pass controls
        a. If the data **DID NOT PASS**, then UTHealth Data Center communicates with agencies about issues and receives another Data transmission; this cycle keeps repeating until the Data passes
        b. If/when the data **PASSES**, then move on to
    E. **Enhancements**, and then

F. Validate measures

G. Now we have updated **Metrics** on the data portals to use for

   a. linked with exploration of special topics (see 3 below)

H. **Analytics** and

   a. (links to review of data)

I. **Strategic development** leads to producing the deliverables

J. **Annual legislative report** (due 9/1/22) and

K. **Project update** (due 9/1/23)

L. The **timeline** for adding new fiscal years of data goes from January (execute the legal agreements) to October (update the metrics on the data portals)

M. **Current status of data**: Fiscal year 2016–2020 published; fiscal year 2021 in progress

3. **Exploration of special topics.** Special topics are focus areas the workgroup decides to investigate as a result of major community events (e.g., COVID-19), value-based strategies (e.g., self-harm, cesarean deliveries for low-risk pregnancies), or analysis of annual agency data.

   a. Data generated from special topics including COVID-19, as well as the initial value-based initiative topics, produced metrics that were shared with the subcommittees and value-based initiative sub-workgroups. These data contributed to analytics, and some of these metrics were also added to the data portals.

Appendix B. Value-Based Strategies Initiative Process Overview

Background

With increasing costs, payers and policymakers in the U.S. are migrating away from fee-for-service payment mechanisms that reward volume but often fail to check over-utilization and inefficiencies. The early initiatives of capitation and payer risk-sharing with providers and patients, in the 1990's, focused on financial-risk sharing. Focusing on financial-risk sharing alone improved cost-containment but led to unintended consequences of reduced care provision, potential reduction in quality of care and patient health outcomes, and higher long-term costs.

Consequently, since the early 2000s, payers, providers, and policymakers have reoriented their strategies to integrate both financial-risk sharing and measures of patient outcomes/quality of care. This integration of quality and cost has led to the establishment of "value" based strategies and initiatives. Value-based strategies gained momentum in 2015, when the United States Department of Health and Human Services decided to move more than 85 percent of its traditional Medicare payments to quality or value-based payments within 2–3 years. Texas Medicaid has adopted a requirement that at least 50 percent of MCO payments to providers be in a value-based model by 2022.

HB 1, Article IX, Health Related Provisions Section 10.06, Cross-Agency Coordination on Healthcare Strategies and Measures, 86th Legislature, Regular Session, 2019, authorized five State agencies to work with UTHealth Data Center to use comparative data to develop strategies to improve outcomes and lower costs of providing care to covered persons.

The legislation stated, "As applicable, agencies shall collaborate on the development and implementation of potential value-based payment strategies, including opportunities for episode-based bundling and pay for quality initiatives."

Goals

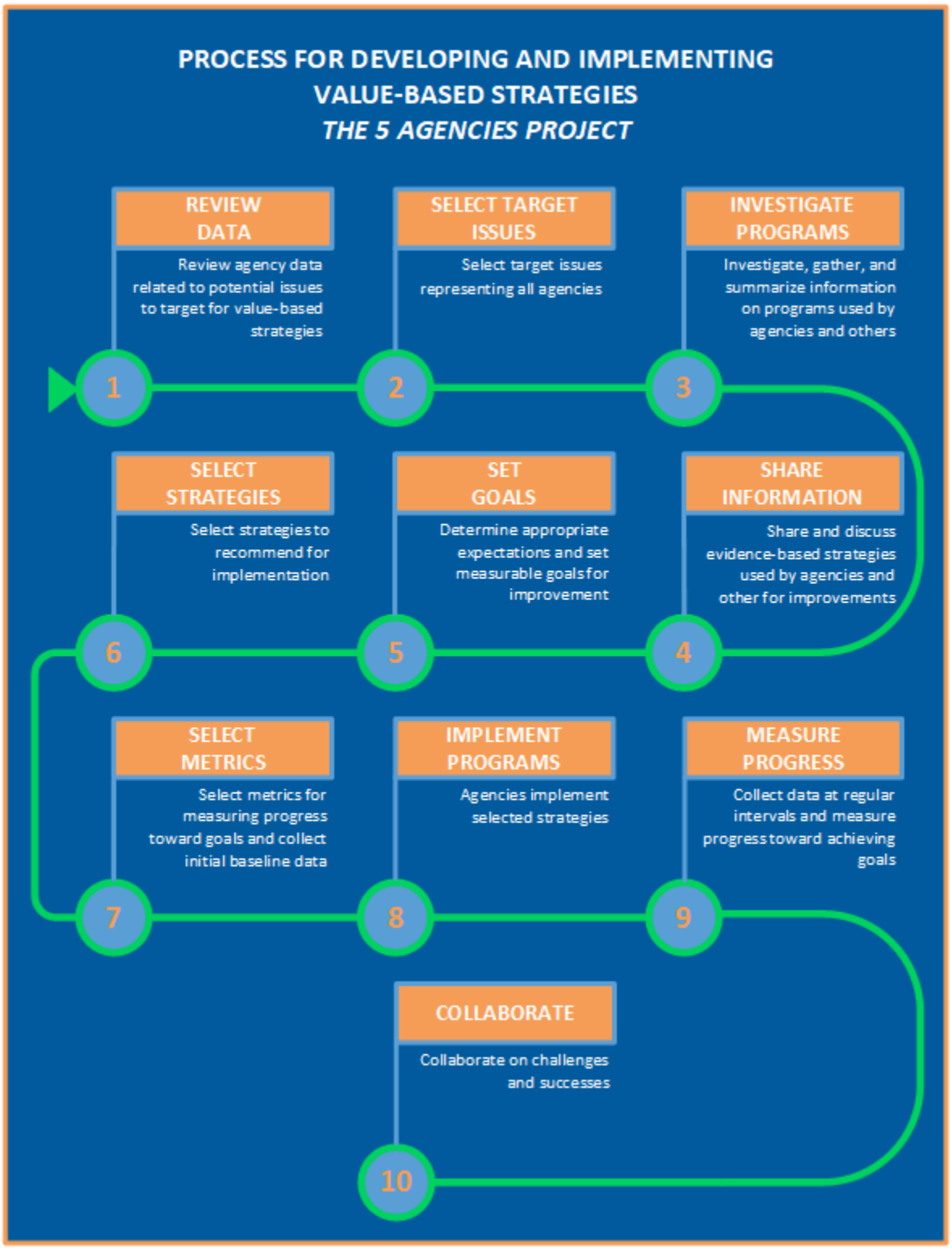
The workgroup decided to have several discussion sessions with a dual purpose: a) to provide a forum to collaborate on the development and implementation of potential value-based payment strategies, including opportunities for episode-based bundling and pay for quality initiatives, and b) to stimulate open discussion and

facilitate innovative exploration of potential improvements for efficiency and quality that could be implemented within each health care system.

Process

The workgroup held five 90-minute value-based strategies discussion sessions and devoted part or all of three prior planned workgroup meetings to discussion of value-based strategies and actions prior to developing focused sub-workgroups to continue the work. The initial value-based strategies discussion session took place on October 22, 2020, and the final one concluded on June 3, 2021. One of the outcomes of these initial discussions was the development of a process diagram with ten steps (Figure 24) that detailed the workgroup's plan to develop and implement value-based strategies.

Figure 22. Process for Developing and Implementing Value-Based Strategies



Brief summaries of the activities related to this initiative and how they relate to the process developed by the workgroup follow:

Step 1: Review Data

Review agency data related to potential issues to target for value-based strategies.

Activities:

- October 22, 2020 (Discussion Session 1): The group reviewed current value-based strategies efforts at each agency, discussed adoption of telehealth/telemedicine to provide value, and agreed that strategies must be informed by data both pre- and post-implementation to evaluate the effectiveness and efficiency of programs.
- January 20, 2021 (Discussion Session 2): The group further explored potential opportunities for value-based strategies such as telehealth, including a review of pre-federal PHE data from the agencies, and discussed targeting programs that address low-value care.

Step 2: Select Target Issues

Select target issues representing all agencies.

Activities:

- February 11, 2021 (Data Subcommittee meeting): UTHealth Data Center presented a detailed plan for the development of a survey to the agencies to be used in conjunction with expanded data analytics from the project's comprehensive, integrated information platform built to identify common issues and trends across different agencies' health care programs. The workgroup agreed to review metrics from the "Choosing Wisely" program and assess potential measures that could be quantified using 5 Agencies Project data. UTHealth Data Center created a value-based strategies/metrics survey (Appendix D) that included 33 measures, with six or seven measures in each of the following five categories: 1) Low-Value Care; 2) Never Events; 3) PPEs; 4) External or Self Injuries; and 5) Vendor or Provider Audit. The survey was distributed to the agencies to assess the level of interest in each of the measures.
- March 11, 2021 (Full Workgroup meeting): The workgroup discussed survey results including 10 measures of interest. The workgroup agreed UTHealth Data Center would review agency data and select two measures that included data

across agencies. UTHealth Data Center selected 1) Intentional Self-Harm, inclusive of suicide attempt (External/Self Injuries) and 2) ED visits or admissions for asthma, all ages (Preventable Events).

- March 31, 2021 (Discussion Session 3): The group reviewed self-harm data including agency findings, national prevalence rates, and the rationale for focusing on self-harm.
- April 23, 2021 (Discussion Session 4): The group reviewed additional agency self-harm data, as well as asthma data including agency findings.
- May 11, 2021 (Full Workgroup meeting): The workgroup began a discussion about an action plan for moving the initiative forward.
- June 3, 2021 (Discussion Session 5): The group reviewed maternity data including agency findings and agreed on an action plan.

A sub-workgroup was created for each focus area to complete steps three through six to review agency data along with local, state, and national programs to explore opportunities for interventions that would improve value. Content experts from UTHealth Data Center, the agencies, and the community were invited to participate.

Between July 2021 and February 2022, the Self-harm Sub-workgroup met five times and the Cesarean Deliveries Sub-workgroup met four times. As a result of these work sessions, both sub-workgroups accomplished the following steps.

Step 3: Investigate Programs

Investigate, gather, and summarize information on programs used by agencies and others.

Activities:

A subject matter expert with UTHealth Data Center performed two extensive literature reviews about evidence-based state and national programs for:

1. Reducing self-harm events, and
2. Reducing cesarean delivery rates for low-risk pregnancies and improving maternal safety.

Findings were presented to the sub-workgroups to explore relevant local, state and national programs and interventions from other agencies, states, health plans, etc., and to review benchmarks, measures, timeframes, outcomes, and other

information to assist with determining what might be feasible and effective for the agencies.

Step 4: Share Information

Share and discuss evidence-based strategies used by agencies and other for improvements.

Activities:

In addition to the literature reviews, the sub-workgroups invited guest speakers to present about specific programs. During Self-harm Sub-workgroup meetings, Dr. David Lakey (The University of Texas System) presented the work Texas Child Mental Health Care Consortium is doing to address urgent mental health challenges and improve the mental health care system for children and adolescents, and Kara Hill (Director, Integrated Healthcare Initiative, Mental Health America of Greater Houston), presented on the cost and outcome benefits of integrating primary and behavioral health care. The Cesarean Deliveries Sub-workgroup heard presentations by Dr. Michael Shabot (Former Executive VP & Chief Clinical Officer of Memorial Hermann Health Systems [MHHS]) about MHHS's Maternal Health / Perinatal Safety Program and his experience implementing this program to improve maternal health outcomes, and Julie Stagg (Healthy Texas Mothers and Babies Branch Manager at DSHS) presented on TexasAIM and other DSHS maternal health initiatives aimed at improving maternal health outcomes. The sub-workgroups are considering steps this project can take to support these endeavors. Details can be found in Section 3, subsection Capitalizing on Opportunities for Collaboration and Partnerships.

Step 5: Set Goals

Set measurable goals for determining improvement.

Activities: Details are provided in Next Steps, Value-Based Strategies Initiative

Step 6: Select Strategies

Select strategies to recommend for implementation.

Activities: Section 3, subsection Increase the Use of Value-Based Care has a comprehensive list of recommendations to reduce costs and/or increase the quality of health care for Texans.

Step 7: Select Metrics

Select metrics for measuring progress toward goals and collect initial baseline data.

Activities: Details are provided in Next Steps, Value-Based Strategies Initiative

Step 8: Implement Programs

Agencies implement selected strategies.

Activities: Details are provided in Next Steps, Value-Based Strategies Initiative

Step 9: Measure Progress

Collect data at regular intervals and measure progress toward achieving goals.

Activities: Details are provided in Next Steps, Value-Based Strategies Initiative

Step 10: Collaborate

Collaborate on challenges and successes.

Activities: Details are provided in Next Steps, Value-Based Strategies Initiative

Appendix C. Value-Based Strategies Discussion Document

Executive Summary

The State of Texas authorized five state agencies to work with the University of Texas Health Science Center at Houston Center for Health Care Data (UTHealth Data Center) to use comparative data and develop strategies to improve outcomes and lower costs of providing care to covered persons.

As stated in H.B. 1, 86th Legislature, Regular Session, 2019 (Article IX, Section 10.06) Health Related Provisions, Cross-Agency Coordination on Healthcare Strategies and Measures, "As applicable, agencies shall collaborate on the development and implementation of potential value-based payment strategies, including opportunities for episode-based bundling and pay for quality initiatives."

To initiate a productive discussion on options, it is important to set the conceptual framework. Value in health care combines a focus on maximizing patient outcomes, advancing quality in treatment, and minimizing cost. Therefore, value-based strategies for agency operations and health plan design must consider all aspects contributing to value.

Informed through the findings provided by integrated data analyses as presented by UTHealth Data Center, the agencies collaborated on the development and implementation of potential value-based payment strategies, including opportunities for episode-based bundling and pay for quality initiatives. This document defines strategic approaches, lists strategies adopted by entities outside of Texas, and identifies current efforts within the state agencies. Information within this document was offered to stimulate open discussions and facilitate innovative exploration of potential improvements for efficiency and quality that could be implemented within and across each health care system.

Process

The process followed the schedule below:

October 22, 2020: During the first discussion session the workgroup reviewed the findings on value-based strategies and the current efforts of each agency. An initial Discussion Document on Value-based Strategies was distributed to the Strategic

Governance Subcommittee of the 5 Agencies Project workgroup in advance of the meeting.

January 20, 2021: During the second discussion session the workgroup explored potential opportunities for value-based strategies in greater detail. Telehealth was discussed in depth, including a review of historical data from the agencies and a discussion about targeting low-value programs.

March 31, 2021: During the third discussion session, the workgroup reviewed Data Subcommittee comments added to the Discussion Document after the second session and reviewed self-harm data including findings from agencies' data.

April 23, 2021: During the fourth discussion session, the workgroup reviewed changes resulting from the third session and reviewed additional self-harm data, as well as asthma data, including findings from agencies' data.

June 3, 2021: During the fifth and final discussion session, the workgroup reviewed document changes from the previous session, reviewed maternity data including findings from the agencies' data, and came to a consensus on an action plan.

Background

The Texas Legislature adopted a budget rider in the 2019 regular session that directed five state agencies to work collaboratively with UTHealth Data Center to compare health care data and to identify opportunities for value-based strategies related to state funded health services and benefits. The rider, titled "Sec. 10.06. Cross-Agency Coordination on Healthcare Strategies and Measures," is summarized as follows:

> The Health and Human Services Commission (HHSC) shall coordinate with the Department of State Health Services (DSHS), the Employees Retirement System of Texas (ERS), the Texas Department of Criminal Justice (TDCJ), and the Teacher Retirement System (TRS) to compare health care data, including outcome measures, to identify outliers and improvements for efficiency and quality that can be implemented within each health care system. UTHealth Data Center shall administer the data comparison for data analysis, including individual benchmark and progress data for each agency. As applicable, agencies shall collaborate on the development and implementation of potential value-based payment strategies, including opportunities for episode-based bundling and pay for quality initiatives.

To begin a discussion on value-based payment strategies, it is useful to review the range of payment strategies from which relevant and effective strategies can be chosen, as well as the various definitions of value-based payment strategies across time and across approaches. The review also demonstrated that the terms "value-based payment" and "value-based purchasing" are used interchangeably and generally both refer to the linking of provider payments to improved performance by health care providers. "Purchasing" is the view from the payer who purchases services, and "payment" is the view from the provider who seeks reimbursement for service provision.

Overview of Payment/Purchasing Strategies

Payment strategies can be broadly categorized into the following four groups (Health Care Payment Learning & Action Network, 2017; Health Care Payment Learning & Action Network, 2018; Change Healthcare, 2019):

1. Traditional Fee-For-Service and other Legacy Payment methods: These methods reimburse providers on the basis of the number of services they provide or procedures they conduct, without accounting for health care quality or patient outcomes.
2. Strategies linking Fee-For-Service to Quality and Value-based payments:
    A. Direct foundational payments to providers for infrastructure and operations, which include reimbursement for added services such as care coordination and/or payments for Health Information Technologies (HIT) investments.
    B. Payment for reporting, including bonuses for reporting and penalties for lack of reporting quality and outcome information.
    C. Payment for performance, including bonuses and penalties based on health care quality demonstrated by improvements in health care processes and patient outcomes – these are often payments made to physicians, and other practitioners by health plans.
3. Alternative Payment Models (APMs) aimed to facilitate the reduction in historical costs of providing medical services:
    A. Shared savings with upside risk: Providers share in savings from a baseline budget. The savings are a result of their patient management. However, providers do not assume risk that would require reimbursement to payers if spending exceeds a certain limit.

B. Shared savings with upside and downside risk: Providers share savings from a baseline budget. They are also responsible for some portion of spending in excess of budgeted amounts.

C. Risk-based payments not linked to quality: These are traditional cost-sharing approaches based on spending but not based on patient quality and outcomes.

4. Population-based Payment Models:

   A. Condition-specific population-based payment, including per member per month payments, and specialty specific payments (e.g., mental health, and obstetrics and gynecology services).

   B. Comprehensive population-based payments: This often involves having single shared (global) budget between groups of providers (e.g., hospital and physicians) and a payer, for serving a target population. This mechanism is often used with Accountable Care Organizations (ACOs) and Patient-Centered Medical Homes.

   C. Exclusive Provider Organizations: A single provider or provider group is contracted by the payer for management of an identified population, which might be an employer group plan or a geographically based population. The payment model is generally a capitation-based model with a discount in exchange for volume.

   D. Integrated finance and delivery system: This involves global budgets in integrated systems where a single entity plays the role of both a payer and a provider. All members who receive care within this delivery system are part of the target population for the single entity.

   E. Population-based capitated payments not linked to quality (e.g., per member per month mechanisms not focusing on quality).

Value-Based Strategies – A National Perspective

With increasing costs, payers and policymakers in the U.S. are migrating away from fee-for-service payment mechanisms that reward volume but often fail to check over-utilization and inefficiencies. The early initiatives of capitation and payer risk-sharing with providers and patients, focused on financial-risk sharing. Focusing on financial-risk sharing alone improved cost-containment but lead to unintended consequences of reduced care provision, potential reduction in quality of care and patient health outcomes, and higher long-term costs.

Consequently, since the early 2000s, payers, providers and policymakers have reoriented their strategies to integrate financial-risk sharing and patient outcomes/quality of care. **This integration of quality and cost has led to the establishment of "value"-based strategies and initiatives.** Value-based strategies gained momentum in 2015, when the U.S. Department of Health and Human Services decided to move more than 85 percent of its traditional Medicare payments to quality or value-based payments within 2-3 years. Below are some important terminologies and mechanisms which can be used to discuss future strategies.

Value-Based Terms and Mechanisms

Pay-for-performance (P4P) Models

This mechanism, in its early stages as a value-based initiative, often incorporates fee-for-service payments with rewards (and sometimes penalties) based on patient outcomes and quality of care. The P4P mechanism reimburses providers for achieving or exceeding performance on certain quality and cost measures. The measures can be structural (e.g., HIT), process (e.g., preventive service and screening utilizations), or outcome (e.g., reducing readmissions within 30 days of discharge for hospitalized patients) measures. A commonly used methodology is the **Bridges to Excellence (BTE) Program** for provider quality metrics that mirrored health plan Healthcare Effectiveness and Data Information Set (HEDIS®) metrics. (HEDIS® is a widely used set of performance measures in the managed care industry, developed and maintained by the National Committee for Quality Assurance [NCQA]). BTE is a P4P program, which rewards physicians and other practitioners who meet performance measures for certain conditions. Another example is the **Medicare Premier Hospital Quality Incentive Demonstration** (HQID) programs, which provides bonuses to hospitals meeting pre-determined quality standards (Centers for Medicare & Medicaid Services, 2013a). Evaluation of HQID programs showed that hospitals eligible for larger incentives, hospitals in less competitive markets, and those with better financial health, had larger quality improvements under this program (Werner, Kolstad, Stuart, & Polsky, 2011). The design of future value-based purchasing programs may need to incorporate larger incentives, more frequent feedback, and greater focus on measurement of the individual clinician. Hospitals in poorer financial health may need greater upfront monetary investments before implementing quality improvement initiatives.

Pay-for-reporting (P4R) Models

This mechanism is the most basic value-based strategy. The mechanism incentivizes providers to report quality, price and cost data by rewarding them for complete reporting. Historically, this mechanism is used as a stepping-stone for more comprehensive value-based purchasing payments. Some well-known examples are the Centers for Medicare & Medicaid Services (CMS) based P4R for physicians (American Society of Clinical Oncology, 2008) called **Medicare's Physician Quality Reporting Initiative** (PQRI), and for hospitals (Centers for Medicare & Medicaid Services, 2017) called the **Hospital Inpatient Quality Reporting** (IQR) Program. These CMS P4R programs were implemented as first steps to promote reporting required for Medicare's more advanced value-based purchasing programs and ACOs. For more details about ACOs please refer to the subsection titled "Accountable Care Organizations (ACOs)" listed below.

Alternative Payment Models (APMs)

APMs are a broad group of value-based strategies ranging from payment for reporting, performance incentives, and bundled payment mechanisms, to full capitation and ACOs. These models involve reimbursement mechanisms that reward providers for providing high-quality and cost-efficient care. CMS and other payers now use advanced APMs. These include **Next Generation ACOs and Comprehensive Primary Care (CPC) Initiative**, among others. Next Generation ACOs, as defined by CMS, build on existing ACO models and extend it by setting predictable financial targets and higher quality standards of care (Centers for Medicare & Medicaid Services, 2020a). The Next Generation ACO Model allows providers to assume higher levels of financial risk and reward than current ACO arrangements. The CPC initiative is a four-year multi-payer initiative designed by CMS to strengthen primary care in collaboration with commercial and state health insurance plans (Centers for Medicare & Medicaid Services, 2020b). The initiative aims to provide opportunities to participating primary care practices to support the provision of:

- Risk-stratified Care Management;
- Access and Continuity;
- Planned Care for Chronic Conditions and Preventive Care;
- Patient and Caregiver Engagement;
- Coordination of Care Across the Medical Neighborhood.

The initiative aims to achieve improved care, better health for populations, and lower costs.

Value-Based Purchasing Models

These models predominantly fall under the risk-sharing category above, with an emphasis that goes beyond financial risk and integrates patient outcomes and health care quality metrics. These programs link provider payments to improved performance. These payment/purchasing strategies hold health care providers accountable for both the cost and quality of care they provide. The belief is that by reducing inappropriate care and using evidence-based treatment protocols, patient outcomes can be improved and costs can be contained. Hence, these strategies identify and reward the best-performing providers.

A successful example of value-based purchasing is **Maryland's State-Wide All Payer Inclusive Value-Based Purchasing program** (Calikoglu, Murray, & Feeney, 2012; Change Healthcare, 2019). It demonstrated the effectiveness of comprehensive alignment of value-based incentives across payers/health plans. The two programs implemented in Maryland were, first, the 2008 Quality-Based Reimbursement Program, which had financial rewards and penalties based on process measures, and in 2009 the Maryland Hospital-Acquired Conditions Program, which had rewards and penalties based on rate of preventable complications or hospital-acquired conditions for hospital-based providers. Evaluations of these two programs showed improved process and outcome measures, and cost-savings of more than $100 million. Another example is the **Medicare Hospital Value-Based Purchasing program**, which rewards or penalizes hospitals based on a Total Performance Score (Centers for Medicare & Medicaid Services, 2012; Centers for Medicare & Medicaid Services, 2013b; Wheeler, 2017). Providers receive a positive or negative reimbursement adjustment for inpatient services based on the score, which includes thresholds for patient experience, care coordination, patient safety, clinical care, and efficiency and cost reduction.

Value-Based Contracting Models

Value-based contracting, or results-based contracting, is commonly used for medical devices or pharmaceuticals. It is a payment mechanism that closely ties a health care product's price to its performance. Hence, a product's price becomes more dependent on real-world outcomes and less on controlled clinical trials. In case of pharmaceutical and medical device contracting, this mechanism translates to reimbursement dependent on whether or not a product delivers the desired outcome. Otherwise, the payer receives refunds or price reductions from

providers/manufacturers. Some common types of value-based contracting models are:

- Evidence-based Care Discounts provided by pharmaceutical or medical device manufacturers to providers, if the providers more strictly adhere to the evidence-based protocols laid out by the manufacturers while using their product.
- Product or Service Guarantee including money back guarantees by pharmaceutical or medical device manufacturers if a product fails.
- Risk Share by Product includes payments from pharmaceutical or medical device manufacturers to providers if there are higher than expected adverse-events/side-effects associated with their product.
- Risk Share by Alternative Payment Model, which is a value-based contracting model intended for hospitals, but currently uncommon in the U.S. health care.

In the U.S. the most prevalent use of value-based contracting is in the pharmaceutical and medical device markets. As pointed out by Cigna's senior vice president, the value-based contracting mechanisms ensure payment for drugs and devices based on performance in real-world, and not experimental settings. One recent successful cost-containment and high value example is the contract between Novartis, and Cigna, Aetna and Harvard Pilgrim for the drug Entresto approved for use in the U.S. in 2015 for heart failure management (Huron, 2019). Rebates and incentives were tied to hospitalizations for heart failure thereby considerably improving the population-level value added from the drug. Other examples of value-based contracting arrangements are those between Cigna, and Amgen, EMD Serano, Gilead and Regeneron (Huron, 2019).

Reference Pricing

This mechanism involves setting a reimbursement cap on expensive procedures (Robinson, Whaley, & Brown, 2017; Robinson, 2018). Actuarial analysis establishes the price that creates the greatest value while retaining the highest quality. This strategy is most commonly used by self-insured employers. The employer/payer contracts with providers who are willing to accept the procedure-specific reimbursement cap. If beneficiaries/employees pick providers who have not been contracted by the employer/payer, then any amount above the pre-determined cap is borne by the beneficiary/employee.

One successful example of reference pricing is the 2011 implementation of reference pricing by the California Public Employees' Retirement System (**CalPERS**) **for ambulatory surgery procedures** (Boynton & Robinson, 2015). An evaluation of the program demonstrated that the program led to the successful switch to less expensive ambulatory surgery centers by enrollees. The outcomes stayed the same, but cost savings were considerable for procedures such as colonoscopy, and knee and hip replacement surgeries. The cost savings were even greater for CalPERS programs that did not have any preexisting value-based purchasing mechanisms in place.

An example of pharmaceutical reference pricing in a health plan setting is its use by the **Reta Trust for outpatient services** (Robinson, Whaley, & Brown, 2017; Robinson, 2018). The Reta Trust is a national association of 55 Catholic organizations that purchases health insurance for its members' employees. Evaluation of the Reta Trust's outpatient drug-based reference pricing revealed that patients shifted their purchase of drugs to the lower priced drugs which are within the reference price for a given therapeutic class. In addition, the cost to the employer/health plan fell. However, the average out-of-pocket cost to the patients went up as some patients still chose drugs that were priced more than the reference-pricing cap within a therapeutic class.

Bundled Payments

This mechanism reimburses providers, hospitals, health care centers, and physicians a single payment amount to provide care to patients for a full episode of care. A single payment is intended to cover all the services, including the triggering procedure or diagnosis and all other subsequent care provided, for a specific amount of time. The single bundled payment is adjusted for geographic purchasing power parity and patient risk indices. The most common usage is among Total Knee or Total Hip Replacements. This mechanism can involve just upside, or both upside and downside risk-sharing.

The CMS's bundled payment program for management of **Medicare End-Stage Renal Disease (ESRD) patients** has been successful in reducing costs and wasteful utilization of drugs and facility visits since 2011. The bundled payment is used for reimbursing dialysis centers for ESRD patients who have initiated dialysis. Many **state Medicaid programs** have also implemented bundle payments (Change Healthcare, 2019). These include Washington and Arizona, which have already implemented these mechanisms in their Medicaid Managed Care Organizations (MCOs). In addition, Alaska, Nevada and New Mexico are considering incorporating bundle payments. The initiatives in Washington State are particularly noteworthy.

In 2017 the **Washington State Employee Program** adopted a bundle payment program for total joint replacements. Cost and outcomes of this program are yet to be evaluated.

One of the largest non-government multi-payer value-based purchasing programs is the **California Integrated Healthcare Association (IHA) program** (Integrated Healthcare Association, 2015a; Yegian & Yanagihara, 2013; California IHA, 2012). The IHA program has numerous value-based purchasing payment mechanisms including bundle payments for orthopedic and maternity care, and value-based P4P for commercial health maintenance organizations (HMOs) mostly based on a shared-savings models. An evaluation performed on the IHA a few years ago showed health care service delivery and performance improvements for physician groups which were initially in the lowest performance, but insignificant improvements for physician groups that were high performers prior to the program's inception.

Global Capitation Reimbursement

This mechanism often involves a per-member-per-month (PMPM) reimbursement to a provider system, physician network or hospital system. The system or network leaders then make administrative decisions with regards to paying individual physicians or departments. Financial and budgetary projections are made based on historic spending and utilization, in addition to changes in patient demographic and clinical characteristics, to determine the PMPM rates. This mechanism falls under population-based payment mechanism.

Accountable Care Organizations (ACOs)

These are groups of providers including physicians, hospitals, and other providers, who collaborate voluntarily to coordinate high-quality care provision to patients. Care coordination strives to ensure that patients receive timely and appropriate care, and reduces inefficient duplication of services, treatments and diagnostics testing. Care coordination also reduces missed diagnoses, diagnostic delays, and medical errors. Combining financial responsibility with quality and value of care leads to the alignment of financial benefits with population health outcomes. ACOs often use shared saving incentives with both upside and downside risk-sharing for reimbursing participating providers. CMS pioneered this program for groups of Medicare beneficiaries served by providers and managed care plans that contracted to participate in this initiative.

ACOs have been successfully implemented outside of Medicare as well. In California five **physician organizations – Altamed Health Services, Brown and Toland**

Physicians, HealthCare Partners, Monarch HealthCare, and St Joseph Heritage are successfully participating in ACO programs and working on expanding their initiatives (Integrated Healthcare Association, 2015b). Although these physician organizations are working on expanding the initiatives, one challenge they face is the need to contract with multiple health plans, each with a different set of process and outcome measures that need to be met.

Other examples are **Blue Cross Blue Shield of Massachusetts Alternative Quality Contract**, and **Dignity Health's** (a hospital system) collaboration with **Blue Shield of California and Hill Physicians Medical Group**, both of which use a global budget projected based on past spending (Blue Cross Blue Shield of Massachusetts, 2020; Integrated Healthcare Association, 2015b). Dignity Health's ACO serves more than 40,000 **CalPERS** members. Savings go back to CalPERS at the beginning of each year in the form of a premium credit. At the end of the year, each partner shares in any deficits or surpluses thereby making this an upward and downward risk-sharing plan. The large financial incentives have encouraged the partners to reduce costs and improve quality, leading to reduced inpatient use and overall health care costs.

A recent variation of the ACO model integrates with an all payer program (Calikoglu, Murray, & Feeney, 2012; Change Healthcare, 2019). **Maryland and Vermont** have established All-Payer ACO models. The **All-Payer ACO Model** establishes the same payment structure for Medicare, Medicaid, and commercial health payers for the majority of providers throughout the state's care delivery system. Massachusetts also formed the **Massachusetts Accountable Care Partnership Plan**, which is a multi-payer program that integrates ACO primary care practices into managed care plans statewide.

The Patient-Centered Medical Home (PCMH)

This model involves delivery of coordinated team-based care for patients, led by a health care provider, typically a physician, to ensure the patients receive timely and essential care, in a patient-centered manner. PCMH requires a centralized setting that facilitates partnerships between individual patients, their primary care and specialist physicians, and the patients' family. PCMH often involves coordination between disease registries, electronic medical records, health information technology, health information exchange and other data-driven technological resources. As emphasized by Agency for Health Research and Quality (AHRQ), the primary objective of PCMH is patient-centered, coordinated, comprehensive, accessible, high quality, safe medical care.

Numerous states have adopted the PCMH model for their Medicaid health plans (Change Healthcare, 2019). **Pennsylvania** uses the PCMH model and global payment mechanisms to provide enhanced primary care services. **Alaska's Department of Health and Social Services** contracted with the Providence Family Medicine Center to operate a PCMH model in the Anchorage area. In 2014, in a bid to contain health care costs, **Massachusetts** adopted alternative payment models across state programs, established an all-payer claims database, and empowered the state's Health Policy Commission to set a global cap on the state's health costs. The state used $44 million in federal State Innovation Models (SIM) Test grant funds to expand the use of PCMH with shared savings across multiple payers. **Michigan's PCMH** covers 350,000 beneficiaries. The state is one of 18 states that have a two-track primary care medical home model that seeks to reform care delivery and multi-payer payment. Among private initiatives for PCMH, a large physician led organization, **Group Health**, in Washington has seen cost and quality benefits through its PCMH initiatives (Reid, et al., 2010).

Co-Contracting

This purchasing strategy centers on the concept of volume-based discounting. When two or more purchasers (such as state agencies or allied employer groups) join together to negotiate health plan coverage from carriers and pharmaceutical benefit managers (PBMs), they can leverage the advantages of a large, combined population to receive discounted pricing. A key example is the experience of state agencies in Wisconsin that developed options that leverage the combined volume of each agency to reduce spending on pharmaceuticals by the Department of Corrections (DOC), Employee Trust Funds (ETF), and Department of Health Services (DHS) (Wisconsin Pharmacy Cost Study Committee, 2020).

Establishment of Registries

This value-based strategy incorporates consumer choice with quality reporting and transparency. A registry is established for the covered population that tracks costs and outcomes for a costly procedure such as back surgery. The registry will then report summaries of costs and outcomes by providers to allow for informed consumer choice. This is not a payment strategy but it is a consumer directed purchasing strategy. In 2017, the Texas Senate Bill 55 (SB 55) required ERS and TRS to investigate the benefits and disadvantages of establishing a patient-reported outcome registry for musculoskeletal care that would allow for comparison of the effectiveness of different treatments for musculoskeletal care.

Consumer Price Transparency Sites

Another consumer directed purchasing strategy related to transparency is the creation of a consumer price transparency site, where consumers can search for providers by price (and outcomes) prior to seeking services. These transparency sites generally provide a cost look-up based on procedure and Zone Improvement Plan (ZIP) code. Some sites will specifically identify the provider or hospital. Many carriers offer such sites to their covered members.

Relative Pricing

Relative prices for hospital inpatient services from employer sponsored health plans are reported in the RAND Relative Pricing study to be, on average, 241 percent of Medicare rates in 2017. Relative prices for hospital outpatient services were 293 percent of Medicare rates on average. The report recommends that employers exert pressure on their health plans and hospitals to shift from discounted charge contracts to contracts based on a multiple of Medicare or some other prospective case rates. This report has generated an uproar among employer associations, but the findings should be thoroughly reviewed to fully understand its limitations.

In tandem with this strategy, employers can use networks and benefit designs to move patient volume away from high-priced, low-value hospitals and hospital systems. Key to this strategy is access to reliable data sets for payments, utilization and patient outcomes across all payers in a state or region. Employers can encourage expanded price transparency by participating in existing state-based all-payer claims databases and promoting development of new ones.

Current Value-Based Strategies Among the State Agencies

Texas agencies responsible for paying for the health care of designated populations have all adopted value-based payment strategies. The following information is based on the self-reporting from each agency.

Employees Retirement System of Texas (ERS)

ERS established value-based care initiatives for participants in the HealthSelect of Texas® (HealthSelect) plan that covers approximately 80 percent of the participants in the Texas Employees Group Benefits Program.

- PCMH: Dating back to 2011, the PCMH initiative supports more than 65,000 HealthSelect participants with eight provider partners across the state. Value-

based care strategies at the PCMHs include emphasizing preventive care, such as cancer screenings, to improve long-term outcomes for patients; offering extended hours and walk-in appointments for urgent care visits; using electronic health records (EHR) to better coordinate care across the group; using care coordinators to better assist chronically ill patients; and identifying high-risk patients and proactively managing their care.

- Kelsey Seybold Limited Provider Network: This is a partnership between BlueCross BlueShield of Texas (BCBSTX) and Kelsey Seybold. The partnership provides in-network services for HealthSelect participants in the Houston area who select a Kelsey Sebold provider as their PCP. Kelsey Sebold manages care internally within their PCP and Specialist network. BCBSTX and Kelsey Seybold co-operate the various benefits and administrative services for this population. Kelsey Sebold is paid on a capitated basis.
- Episodes of Care Program: ERS worked with BCBSTX to create a value-based episodes of care program, effective September 1, 2019, to incentivize orthopedic surgeons performing hip and knee replacement surgeries. Incentives are based on performance in areas such as avoidable complications, hospital re-admissions, surgeon-controlled complications and/or expenses, and positive patient experience and outcomes. Currently, the two provider groups participate in the Episodes of Care program. INOV8 is in the Houston area, and OrthoLonestar operates in Austin, Dallas-Fort Worth, Houston, and Tyler.
- Bundled Payment Program: Working with BCBSTX, ERS created a program, effective September 1, 2020, that bundles payments through Austin area MUVE Health for knee and hip replacements. MUVE Health provides surgical services for knee and hip replacements at their Ambulatory Surgery Center in Lakeway, TX. Following surgery, patients are then released to onsite, outbound care similar to home health care. The flat fee includes claims submitted for professional, facility, urgent care, and emergency services rendered for, in connection with, or as the result of total knee and total hip replacements performed within a post-operative ninety (90) day period.
- HealthSelect ShoppERS: Effective September 1, 2020, ERS implemented a shared-savings incentive program for certain HealthSelect participants that focuses on comparing costs for health care procedures, assisting members with estimating out-of-pocket costs, and then allows participants to earn incentives for shopping for certain medical services and procedures. This program was the result of specific budget rider language for fiscal year2020-2021 indicating the Legislature’s intent that ERS implement a shared-savings

program that encourages HealthSelect active employees and their non-Medicare dependents to shop for lower cost, in-network health care services by sharing the savings with participants.

Teacher Retirement System of Texas (TRS)

TRS started implementing alternative medical services payment models in 2014. BCBSTX became the Health Plan Administrator (HPA) for TRS-ActiveCare on September 1, 2020 and became for TRS-Care Standard for non-Medicare retirees on January 1, 2021. This transition includes a reevaluation of all value-based initiatives. Current initiatives include the following:

- ACOs and Value-based Provider Networks: Prior to the transition to BCBSTX, TRS-ActiveCare had four product-model ACOs; however, the ACO product model was only available in select markets and created hard boundaries in which adjacent school districts and employees had different provider networks. With the transition to BCBSTX, TRS has implemented two physician-directed health plans with PCPs who coordinate participants' health care. This approach allows TRS to offer a statewide network in which PCPs refer participants to high-value specialists, ancillary providers, facilities and hospitals, thereby promoting better health outcomes and optimal use of health care dollars.
- Value-based Plan Design: As part of the two, physician-directed, health plans for TRS-ActiveCare, participants pay low copays for primary care, mental health care office visits, physical therapy, and generic medications designed to increase access to health care. TRS also tiers benefits for bariatric surgery to reduce participants' out-of-pocket costs when they have bariatric surgery at a preferred facility.
- Blue Distinction Network: Blue Distinction Centers (BDCs) and Blue Distinction Centers+ (BDC+s) are networks of providers recognized by BCBSTX who provide exceptional care and clinical results. TRS members receive enhanced benefits by going to either a BDC or BDC+ facility.
- Capitation Model: TRS-ActiveCare has a capitated payment arrangement with Kelsey Seybold in the Houston area to hold the providers accountable for managing both medical and pharmacy costs.
- Bundled Payment: TRS partnered with Dell Medical school in Austin to pilot a musculoskeletal bundled payment program to reduce orthopedic surgery rates and cost of care by eliminating or replacing unnecessary or harmful procedures.

- Virta Health: TRS partnered with Virta Health, a diabetes management company focusing on reversing type 2 diabetes, to pilot a program with the top 10 percent of diabetic members based on cost. The return on investment for Virta Health will be based on their ability to manage and reduce prescription drug costs for these members.
- Telemedicine: TRS provides free or low-cost access to virtual health visits through two providers, TelaDoc, and RediMD. Both organizations provide telephonic and virtual medical visits, and TelaDoc also provides virtual behavioral health visits.
- Shared Savings/Health Reimbursement Account (HRA): TRS is implementing a shared savings program where members receive a deposit into a health reimbursement account to be used to pay for other medical expenses when members actively shop for more cost-efficient providers.

Texas Health and Human Services Commission (HHSC)

Texas HHSC's long-range project to advance value-based health care through managed care consists of a multipronged and coordinated effort to more effectively link portions of health care payments to key metrics of value, including both HHSC premium payments to MCOs/Dental Maintenance Organizations (DMOs) and MCO/DMO payments to providers. Value is measured by a set of metrics that reflect higher quality (enrollee outcomes) and increased efficiency (cost). To this end, HHSC has developed a comprehensive Quality Strategy and a Value-Based Payment Roadmap. The Quality Strategy establishes priorities for improving health care outcomes for Medicaid and CHIP enrollees, while the roadmap outlines how current and planned initiatives align to support and incentivize providers and MCOs to advance value-based care throughout the Medicaid and CHIP managed care programs. Each year, HHSC also publishes an annual summary of key quality measures and value-based payment programs. The projects described in this annual report include a range of interconnected activities and initiatives listed below.

- MCO/DMOs APMs with providers: In 2012, HHSC began tracking payment methodologies between MCOs/DMOs and their providers. This review indicated that while MCOs/DMOs receive capitated premiums from HHSC, they still predominantly reimbursed providers using a fee-for-service approach, thus maintaining incentives for volume over value in the payment model. To help push value-based incentives to the provider level, HHSC created contractual requirements for MCOs/DMOs to connect their provider

payments to value starting in calendar year 2018. HHSC uses the nationally recognized Healthcare Payment Learning and Action Network (HCP LAN) APM Framework to help guide this effort. This framework provides a range of payment model concepts, encompassing varying degrees of risk on providers, from which MCOs/DMOs can develop value-based purchasing contracts with providers. An MCO/DMO that fails to meet the value-based purchasing targets must submit an action plan, and HHSC may impose contractual remedies, including liquidated damages. MCOs that demonstrate high performance on select quality metrics, such as preventable hospital stays and ED visits, can gain an exemption from the targets.

- Medicaid Value-based Enrollment: HHSC implemented a value-based enrollment algorithm beginning September 1, 2020 to automatically enroll a higher percentage of members who do not actively choose a Medicaid MCO into MCOs demonstrating better performance on metrics of quality, cost, and patient/member experience.
- MCO Medical and Dental Pay-for-Quality (P4Q): MCOs can lose or gain up to 3 percent of their capitated medical premiums based on performance across a range of quality metrics. DMOs can gain or lose up to 1.5 percent of their premiums. Because significant premium dollars are at risk, MCOs and DMOs generally center their payment reform activities with providers on the P4Q or related metrics that help ensure their success.
- Hospital P4Q: HHSC continues to administer the Hospital P4Q program focused on reducing avoidable readmissions and inpatient stay complications. Based on annual measurement, rate adjustments are built into MCO premium payments and flow down to hospitals.
- Directed Payments: Directed payment programs allow MCOs to make increased payments through adjustments to provider reimbursement rates or as incentive payments. The state develops the programs, specific to a type of provider, and directs MCOs to implement the associated provider payments. Directed payment programs help HHSC advance its quality strategy and require approval from CMS to authorize federal matching funds.
- HHS Quality Webpage and Texas Healthcare Learning Collaborative (THLC) Portal: Public reporting of measurement results can be an effective strategy to advance quality and efficiency in health care. HHSC continues to increase the information about quality initiatives and data available to MCOs, DMOs, providers, and other stakeholders through the HHS Quality webpage and the THLC portal.

- Evidence Development: Staff within the Quality and Program Improvement (QPI) Section and MCO's collaborate with stakeholders to develop evidence and consensus recommendations and activities to address barriers and advance-value-based health care throughout Medicaid and CHIP managed care. Key stakeholders include MCOs, providers, the Value-Based Payment and Quality Improvement (VBPQI) Advisory Committee, academic/analytic partners, public health programs, and community-based organizations.

Texas Department of Criminal Justice (TDCJ)

Texas Department of Criminal Justice (TDCJ) uses non-traditional, value-based strategies to improve care and decrease cost for the patients in its charge. These strategies include:

- Hospital Care: The Legislature, through specific rider instruction, has set hospital reimbursement rates for all hospitals providing inmate care as well as for the University of Texas Medical Branch at Galveston (UTMB) prison hospital (Hospital Galveston). TDCJ, through its partnership with UTMB and Texas Tech, contracts with over 100 hospitals throughout the state to provide emergency and inpatient hospital care. The quality of care provided at every hospital is reviewed by the Universities Quality Management Programs as well as in the Joint Quality Committees established through the Correctional Managed Care (CMC) contract.
- Regionalized Medical Hub Facilities (medical hubs): TDCJ uses specifically targeted correctional facilities that have 24/7 medical services as screening units to determine whether a trip to the local emergency room is warranted or if the situation can be handled onsite. The creation of medical hubs has resulted in a significant decrease in the number of inmate patients transferred off-site to community hospitals. Currently, the medical hubs can treat and return approximately 80 percent of the patients back to the unit of assignment, avoiding nearly $17.5 million in fiscal year 2021 in additional costs.
- Utilization of In-House Dialysis Services: TDCJ operates dialysis centers at the Estelle, Carole Young, and Montford correctional facilities. The Estelle center is one of the largest dialysis centers in the state. These centers have the ability to serve approximately 300 inmate patients. Operating 24 hours a day, six days a week, the ongoing use of these centers in lieu of an outside vendor resulted in cost avoidance of nearly $29 million in fiscal year 2021.
- Telemedicine: Telehealth has expanded the capacity of TDCJ to deliver health services and increased access to inmates across the state for almost two

decades. TDCJ's telehealth programs enable primary care, mental health, and sub-specialty providers to treat inmates remotely, bringing them responsible and timely care while also reducing security and transportation costs. TDCJ's use of telehealth has insulated them from much of the market pressures associated with securing on-site providers and psychiatrists. At the same time, it has enhanced access to an even greater variety of specialists, ultimately providing better inmate care. The universities conduct approximately 160,000 telehealth visits annually.

- 340B Drug Pricing Program: TDCJ through the UTMB CMC Pharmacy Program participates in the federal 340B Drug Pricing Program. The Program enables eligible covered entities that serve vulnerable patient populations to purchase outpatient covered drugs at substantially reduced prices. Prices are often up to 50 percent lower than typical market prices. Eligible entities are typically safety net providers such as UTMB. The intent of the program is to allow safety net providers to stretch scarce resources reaching more eligible patients or providing more services. Since the program began in 2002, the estimated total savings to the state through fiscal year 2021 exceeds $1 billion.
- Wholesaler Prime Vendor Program: TDCJ through UTMB has a prime vendor agreement with a pharmaceutical wholesaler. The pharmacy receives a volume discount from its prime vendor as a result of a combined agreement that considers the volume purchased by UTMB, CMC, and other University of Texas System pharmacies.
- Drug Reclamation: TDCJ provides drug reclamation services through its centralized pharmacy. By packaging medications in unit dose blister cards, pharmacy staff can reclaim unused medications for use by other inmate patients. This strategy significantly reduces medication waste and has reduced cost by about $4.6 million in fiscal year 2021.

Lessons Learned from Existing Value-Based Strategies

1. Financial incentives to providers need to be adequate – most evaluations showed low effectiveness if incentives were not sufficient. This was true for both hospital-based as well as physician providers (Werner, Kolstad, Stuart, & Polsky, 2011).

2. Providers in poorer financial health might need upfront financial assistance to help improve performance and avoid recurrent financial losses (Werner, Kolstad, Stuart, & Polsky, 2011).
3. Overly complex quality measurement systems often lead to no process or outcome effects, as they confuse the providers in terms of the best actions to improve these measurements (Chee, Ryan, Wasfy, & Borden, 2016).
4. Preventing delays in disbursement of financial incentives, including shared savings, bonuses and penalties, ensures that the performance and rewards are not decoupled and consequently lead to better outcomes, cost savings, and improved value of services (Chee, Ryan, Wasfy, & Borden, 2016).
5. Uncoordinated and numerous value-based purchasing and other value-based strategies implemented by different groups of payers/health plans are often less effective (Integrated Healthcare Association, 2015b; Calikoglu, Murray, & Feeney, 2012; Chee, Ryan, Wasfy, & Borden, 2016).
6. Initiatives by larger payers such as Medicare and state-wide all-payer value-based purchasing (such as those in Maryland and Vermont) are more effective in bringing about performance changes among providers (Calikoglu, Murray, & Feeney, 2012).
7. ACOs require considerable commitment from providers to be successful. The more successful examples are partnerships initiated by providers/hospital systems (Integrated Healthcare Association, 2015b).
8. Studies show that reference pricing could be ineffective if providers who have higher demand and brand-value among patients do not lower their costs. In such situations reference pricing will only result in cost shifting from payers/employers to patients (Robinson, Whaley, & Brown, 2017; Robinson, 2018).
9. Having outreach initiatives to help consumers understand the choices associated with cost and quality might assist them in making informed decisions, especially for mechanisms like reference pricing, which are dependent on prudent patient choices for overall cost reduction (Robinson, Whaley, & Brown, 2017; Robinson, 2018).
10. Reference pricing works best when used for select high cost procedures, pharmaceutical products with considerable options within the therapeutic class, and medical devices (Robinson, Whaley, & Brown, 2017; Robinson, 2018).
11. Data analyses is key for developing strategies and evaluating the effectiveness of implemented strategies.

Discussion Notes

Summary of Discussion Sessions

Value-Based Strategies Discussion Session 1 – October 20, 2020

The 5 Agencies Project Strategic Governance Subcommittee workgroup met on October 22, 2020 and began a discussion about how the agencies could collaborate on the development and implementation of potential value-based payment strategies, including opportunities for episode-based bundling, evidence-based reference pricing, and pay for quality initiatives.

The current value-based strategies and initiatives for each agency were central to the discussion, as they demonstrated that much is already happening, albeit independently. The distinction between value-based purchasing and value-based payment became evident as most existing strategies were viewed as payment-oriented, or from the provider perspective of what they might get paid. The agencies clarified a view of value-based purchasing as what the state (as the payer) might purchase. A purchasing-orientation may have some possibilities as a collaborative approach that merits further discussion. It was also noted that a third value-based strategy category for process-oriented strategies relates to adaptations to processes and technology that provide cost savings and value. Examples of process-oriented value-based strategies came from TDCJ and included the increased application of telehealth services and the installation of on-site dialysis services.

Telehealth services proved to be of great interest to all agencies and were deemed especially relevant during the federal PHE of 2020, where regulations and payment methods were relaxed to allow telehealth to reach confined and home-based patients. Numerous benefits of telehealth services were mentioned. Telehealth services potentially expand a plan's network and increases the rate of network adequacy. Additionally, telehealth services are able to reach rural communities where access to primary care may be limited and access to specialists possibly unavailable. Patients with chronic conditions, such as asthma, diabetes, hypertension, etc., are especially likely to benefit from telehealth management of their routine care. In addition to prospective improvements for rural health and chronic care, other areas mentioned that could potentially benefit from expanded telehealth services were mental health, maternal health, and episodic care. Due to increased use and acceptance in 2020, telehealth is also experiencing greater

consumer comfort as patients learn to navigate the process. It eliminates the need for transport and no additional technology is generally required.

Another option related to telehealth is telemedicine whereby specialists are able to provide support to local health care providers through a "virtual clinic." Patients are able to remain in their community, continue with their local provider, yet benefit from the clinical expertise provided through telemedicine consults. The agencies expressed an interest in evaluating the relative effectiveness and cost-savings associated with various telehealth initiatives.

At the conclusion of this discussion, it was agreed that the workgroup should explore specific opportunities to adopt and expand telehealth and telemedicine to provide value. The questions identified for further exploration included:

1. Are there opportunities to co-contract for telehealth/telemedicine services across agencies?
2. What can be learned from the experience of TDCJ?
3. Are there opportunities to receive funding from grants or other sources to initiate a cross-agency telehealth initiative?
4. Are there funding opportunities aimed at evaluating the effectiveness and cost-savings of telehealth initiatives in the areas of mental health, maternal health, and episodic care?
5. How can telehealth/telemedicine support initiatives to improve chronic care and/or rural health?

It was further agreed that value-based strategies must be informed by data prior to implementation and post-implementation to evaluate the effectiveness and efficiency of programs. Once the workgroup identifies and agrees upon value-based strategies with potential for collaborative efforts, UTHealth Data Center would be able to develop common metrics for baseline analyses and ongoing measurement.

In advance of the second discussion session in January 2021, UTHealth Data Center worked with the existing, historical data to assess the utilization of telehealth within each agency. Once the fiscal year 2020 data are received from the agencies, additional analyses will be completed to assess the impact of the COVID-19 pandemic on telehealth services.

Value-Based Strategies Discussion Session 2 – January 20, 2021

The 5 Agencies Project Strategic Governance Subcommittee workgroup met on January 20, 2021, and further explored potential value-based strategies such as telehealth, including a review of historical data from the agencies.

UTHealth Data Center introduced Drs. Gretchen Gemeinhardt and Suja Rajan who are both Associate Professors in UTHealth Department of Management Policy and Community Health and serve as subject matter experts on behalf of UTHealth. In addition to pre-pandemic baseline data from the agencies related to telehealth, Drs. Gemeinhardt and Rajan also provided national inter-pandemic telehealth data trends. The national data reported telehealth services increasing substantially during the pandemic. Agency baseline data showed telehealth services increasing over time and that it was most often used for behavioral health and primary care which is similar to national trends. The group discussed case management, extending specialized provider care, and an emergency department alternative for urgent care as potential areas of opportunity for use of telehealth services. Points were made that looking at sustainability would be important and that there is still limited evidence about the effectiveness of telehealth, especially for studies that compare telehealth visits with traditional in-person care.

The agencies discussed how the COVID-19 pandemic provides a unique opportunity to look at the use of telemedicine. Many expressed an interest in gaining a better understanding of where telehealth is most effective. There was agreement that the evidence-base for assessing quality of telehealth is currently weak, and more exploration and research is needed. The questions considered for further exploration include:

1. How should telehealth performance be measured?
2. What information could the measures provide?
3. How should appropriateness of visits be assessed?

In addition to the idea of a telehealth related value-based initiative, the group also discussed targeting low-value programs. The group expressed interest in looking at the measures used by the "Choosing Wisely" initiative aimed at reducing low-value programs by better engagement between physicians and patients. The agencies were united on their interest in determining the best outcome measures to assess programs (e.g., telehealth, maternal and child health, antibiotic and vaccine stewardship, etc.) and hold MCOs, health plans, or providers accountable.

In advance of the third discussion session in March 2021, UTHealth Data Center reviewed metrics from the "Choosing Wisely" program for potential measures that could be assessed in the 5 Agencies Project data.

Interim Value-Based Strategies Discussions

Data Subcommittee meeting – February 11, 2021

UTHealth Data Center presented the following categories for consideration, each including possible assessment measures:

1. **Low Value Care:** The value of the service is low, indicating that the practice is generally not recommended under most circumstances and is considered likely "wasteful" (Choosing Wisely);
2. **Never Events:** Events in medical care and treatment that should never happen, such as patient safety issues or medical errors; "adverse events that are serious and largely preventable" (Leapfrog);
3. **Preventable Events:** Expansion on Preventable Events identified in the PPEs measures for preventable admissions, and preventable ED visits (3M PPE);
4. **External or Self Injuries:** The adverse effects to health from events and circumstances that cause injury such as accidents and injuries related to alcohol and/or violence, or intentional self-harm, or suicidal ideation or attempt; and
5. **Vendor or Provider Audit:** Claim submission and adjudication.

UTHealth Data Center created a value-based strategies/metrics survey with 33 measures. Each of the five categories described above had either six or seven measures. The survey was distributed to the agencies to assess the level of interest in each of the measures. Survey results were discussed at the Full Workgroup meeting on March 11, 2021.

Full Workgroup meeting – March 11, 2021

Surveys were received from all agencies. The measures and survey results were discussed during the meeting. The measures with the highest interest were as follows:

- Low-Value Care
  - Imaging for low back pain within the first 6 weeks without red flags
  - Antidepressants as monotherapy in bipolar 1 disorder

    - Antibiotics for upper respiratory infection or ear infection
- Never Events
    - Any stage 3, stage 4, or un-stageable pressure ulcers acquired after admission to a health care facility
    - Maternal death or serious injury associated with labor or delivery in a low-risk pregnancy
- Preventable Events
    - ED visits or admissions for childhood asthma
    - Infection following a procedure, sepsis
    - Readmission post-surgery for behavioral health condition; anxiety, depression, substance abuse
- External/Self Injuries
    - Intentional self-harm, inclusive of suicide attempt
- Vendor/Provider Audit
    - Specialty hospital payments versus acute care hospital payment for same services (maternity)

The workgroup agreed that UTHealth Data Center would select two measures that included data across agencies. UTHealth Data Center selected 1) Intentional self-harm, inclusive of suicide attempt (External/Self Injuries) and 2) ED visits or admissions for asthma, all ages (Preventable Events). For the third value-based session on March 31st, UTHealth Data Center agreed to provide detailed data across agencies for at least one of the measures.

Value-Based Strategies Discussion Session 3 – March 31, 2021

The 5 Agencies Project Strategic Governance Subcommittee workgroup met on March 31, 2021 and discussed in greater detail the self-harm data included in the project database. UTHealth Data Center presented slides on:

1. the rationale for focusing on self-harm;
2. definitions and codes used for analyzing the claims data;
3. national prevalence rates; and
4. findings from the agencies' data.

It is important to focus on self-harm because self-harm behaviors pose a public health concern, result in treatment costs, and may be potentially preventable. The prevalence of self-harm varies by age and is much less common in adults — about a 5 percent lifetime rate compared with 15 percent of college students and 17 percent of adolescents who report having engaged in non-suicidal self-injury (NSSI) at least once (APA, 2015).

UTHealth Data Center presented data from the agencies showing the incidence of self-harm generally increased across years from fiscal year 2016–2019 and included significant differences across plan groups with Medicaid STAR Health (foster care youth) having the highest rates. Total costs of treatment for self-harm events included all claims with one of the identified self-harm diagnosis codes (regardless of order) and, therefore, could include costs related to other diagnoses. The decline seen in ERS self-harm costs starting in 2018 was due to a capitated vendor managing behavioral health claims fiscal year 2018–2020. On September 1, 2020, BCBSTX began managing these claims; therefore, future reporting will include more accurate self-harm data for ERS.

The group agreed that the agencies' self-harm data could help demonstrate the importance of focusing on self-harm programs, elevate the need for services, and educate MCOs about the depth of the problem. There was a suggestion that groups who focus on child psychiatry would likely be interested in the data (e.g., Managed Care Medical Directors and Texas Child Mental Health Consortium).

In advance of the value-based session on April 23rd, UTHealth Data Center: 1) explored removing costs associated with diagnoses not related to treatment for self-harm events; 2) assessed follow-up with mental health professionals with the caveat that recommendations could have been made and not acted on; and 3) presented detailed data for ED visits or admissions for asthma, all ages (Preventable Events).

Value-Based Strategies Discussion Session 4 – April 23, 2021

The 5 Agencies Project Strategic Governance Subcommittee workgroup met on April 23, 2021 and discussed additional self-harm data and discussed detailed data for ED visits or admissions for asthma, all ages. UTHealth Data Center presented data related to 1) costs associated self-harm events; 2) follow-up with mental health professionals; and 3) ED visits or admissions for asthma, all ages (Preventable Events).

The costs of PPEs associated with self-harm events did not change much since self-harm was addressed during visits, preventing further self-harm that could have led to potentially preventable hospital admissions. Total cost of PPEs associated with asthma for fiscal year 2019 is approximately $28 million.

In advance of the value-based session on June 3rd, UTHealth Data Center was asked to: 1) present detailed data for cesarean deliveries in a low-risk pregnancy; and 2) present detailed data for maternal death or serious injury associated with labor and delivery in a low-risk pregnancy (Never Events).

Interim Value-Based Strategies Discussion

Full Workgroup meeting – May 11, 2021

UTHealth Data Center proposed the following list of next steps: 1) select 2–3 common areas to target; 2) set measurable goals for improvements; 3) review possible value-based strategies previously discussed; 4) each agency choose at least one strategy to implement; and 5) going forward the workgroup reviews data and progress toward goals as well as share successes and challenges. For the meeting on June 3rd, agencies were challenged to 1) think about conditions they want to focus on; and 2) think about strategies they might adopt to improve these conditions.

Value-Based Strategies Discussion Session 5 – June 3, 2021

The 5 Agencies Project Strategic Governance Subcommittee workgroup met on June 3, 2021 and selected two focus areas for targeting value-based strategies, i.e., self-harm events and cesarean deliveries for low-risk pregnancies. UTHealth Data Center presented a proposed action plan for how to move the initiative forward. The group agreed on the following next steps: 1) UTHealth Data Center will present maternity data at Data Subcommittee meeting next week; 2) Finalize process for developing and implementing value-based strategies; 3) Create sub-workgroups for each focus area and set up initial meetings; 4) Agencies to invite subject matter experts to the sub-workgroups; 5) UTHealth Data Center will investigate interventions that have been done by other agencies, states, and/or health plans, and provide information to the sub-workgroups to assist with setting achievable goals.

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Appendix D. Survey of the 5 Agencies Project Measures for Consideration for Value-Based Strategies

To identify potential intervention opportunities, UTHealth Data Center presented five distinct categories with potential for intervention, each one a source of possible measures to assess value-based care. These categories and measures are described below.

Categories and Possible Measures

Low Value Care/Waste

Low-Value Care: A health care service that is generally not recommended under most circumstances and is likely to be considered "wasteful;" possible measures include:

- Antibiotics for upper respiratory infection or ear infection
- Opioids for acute low back pain within first 4 weeks
- Imaging for low back pain within the first 6 weeks without red flags
- Electroencephalogram (EEG) for uncomplicated headaches
- Electrocardiogram (ECG/EKG) without significant systemic disease indication
- Antidepressants as monotherapy in bipolar 1 disorder
- Two or more antipsychotic medications concurrently

Never Events

Never Events: Events in medical care and treatment that are serious, largely preventable and should never happen, such as patient safety issues or medical errors; possible measures include:

- Unintended retention of a foreign object after surgery or other procedure
- Patient death or serious injury associated with intravascular air embolism
- Patient death or serious injury associated with a medication error
- Maternal death or serious injury associated with labor or delivery in a low-risk pregnancy

- Death or serious injury of a neonate associated with labor or delivery in a low-risk pregnancy
- Patient death or serious injury associated with a fall while in a health care setting
- Any stage 3, stage 4, or un-stageable pressure ulcers acquired after admission to a health care facility

Potentially Preventable Events (PPEs)

PPEs: Expansion on PPEs identified in the PPEs measures specific to preventable acute care inpatient admissions, and preventable ED visits are encounters with the health care system which could be prevented through appropriate management and which lead to unnecessary services, avoidable costs, or contribute to poor quality of care; possible measures include:

- ED visits for Dental Caries
- ED visits or admissions for childhood asthma
- ED visits or admissions for alcohol poisoning
- ED visits for migraines
- Infection following a procedure, sepsis
- Adverse effect of drugs, medicaments, and biological substances
- Readmission post-surgery for behavioral health condition; anxiety, depression, substance abuse

External/Self Injuries

Causes of Injury – External or Self: Events and circumstances that are a threat to the safety of an individual and cause injury and adverse medical outcomes such as accidents, alcohol-related impairment, violence, intentional self-harm, suicide ideation or attempt; possible measures include:

- Adult and child abuse, neglect and other maltreatment
- Anaphylactic reaction
- Injuries due to falls, age related
- Injuries due to assault
- Injuries due to a vehicular accident
- Intentional self-harm, inclusive of suicide attempt

Vendor/Provider Audit

Vendor or Provider Audit: This may include further analysis of claim submission and adjudication accuracy, questionable billing practices, and/or evaluation of disease management effectiveness. Because these services are more agency- and even vendor-specific they may be additional out-of-scope services to the agency; possible measures include:

- Administrative services only (ASO) adjudication accuracy (orphan claims)
- ASO adjudication accuracy (claims paid > charged)
- ASO adjudication accuracy (claims paid more than 3 months past date of service)
- Specialty hospital payments versus acute care hospital payment for same services (Maternity)
- Specialty hospital payments versus acute care hospital payment for same services (Cancer)
- Specialty hospital payments versus acute care hospital payment for same services (Psychiatric)

Survey Instructions

For each of the measures, please select the option below that most accurately reflects your agency's level of interest in that measure.

Response Options

1. High value and interest
2. Has relevance
3. Acceptable measure
4. Might explore at a later date
5. Not relevant to my agency
6. No interest