Using Risk Stratification to Identify and Address NMDOH Needs in Rural Communities

2024 Texas NMDOH Consortium

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Disclaimer

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About Burke

Burke is the **Local Mental Health Authority** (LMHA) and **Local Intellectual Developmental Disability Authority** (LIDDA) for 11 counties in eastern Texas.

We provide the following services to both adults, youth, and children:

- Outpatient Mental Health
- Outpatient Substance Use
- Crisis Behavioral Health
- Intellectual and Developmental Disabilities
- Early Childhood Intervention
- Primary Care

We serve on average **13,000 unduplicated individuals** per year.

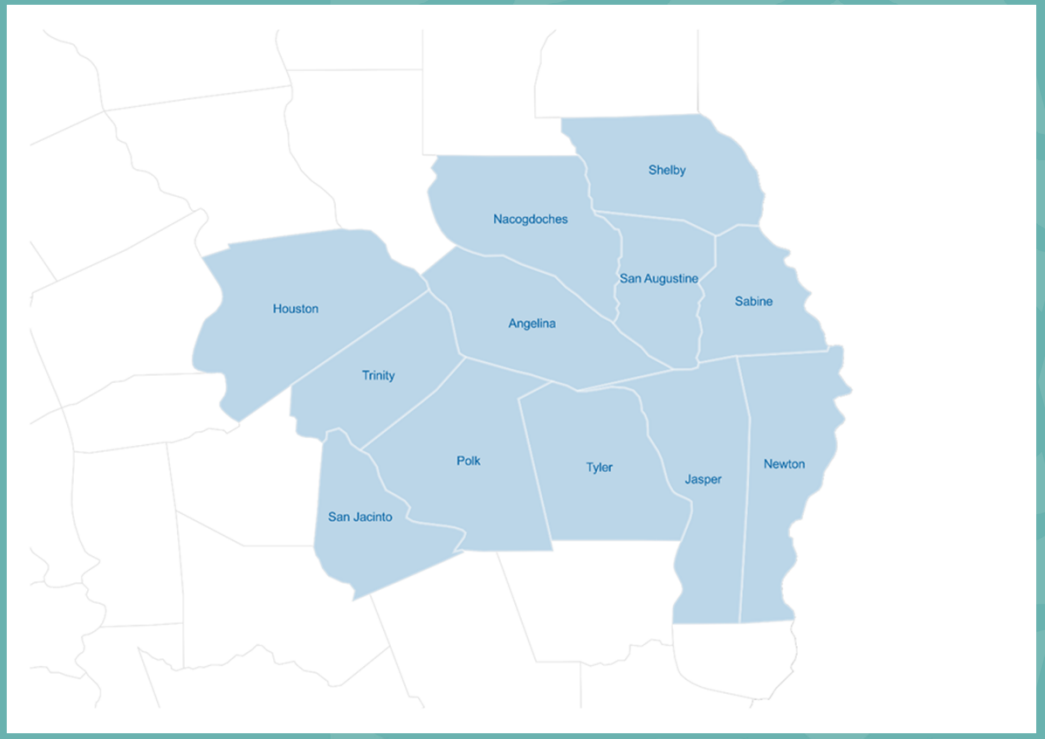
We Are Also Highly Rural

Our largest challenge is our geographical constraints:

- 10,000 square miles
- 11 county jurisdiction
- 650,000 population

Exacerbated NMDOH:

- Little to no public transportation
- Fewer employment opportunities
- Lower education rates
- Large commuting distances to grocery stores



Burke

Integrated Care Grants

Burke was awarded **two (2) grants** in 2023 to improve integration of primary care and substance use services in the mental health field:

- Certified Community Behavioral Health Clinic - Improvement and Advancement (CCBHC-IA)
- Promoting the Integration of Primary and Behavioral Healthcare (PIPBHC)

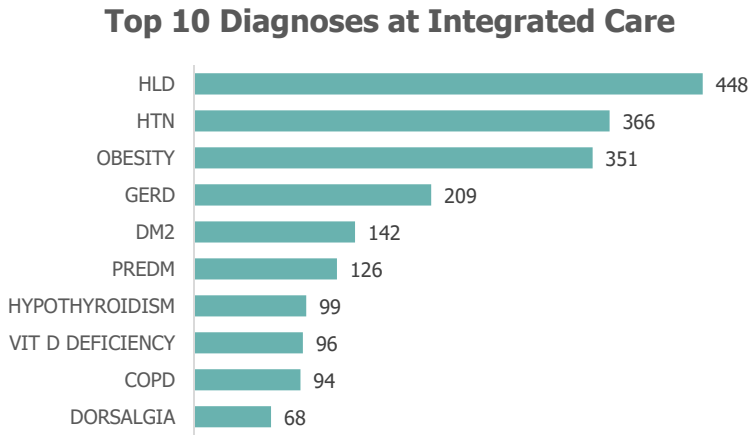
These grants provided funding to our **Angelina and Nacogdoches Integrated Care Clinics** (ICCs).

- Increased Staffing
- Additional Medical Equipment
- Quality Improvement Oversight
- Opportunities for Population Health

Existing Integrated Care Operations

Angelina Integrated Care Clinic:

- Focus: **Chronic Disease Management**
- Handled Acute Sick Visits
- **~1,800** visits per year
- **~1,100** unduplicated open and active individuals
- **80%** of our population does not have insurance



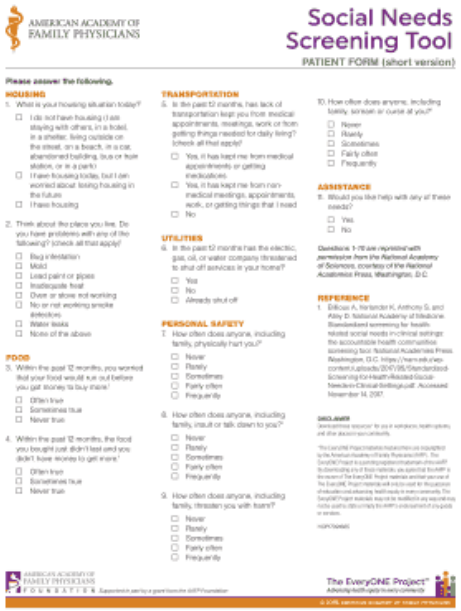
Nacogdoches Integrated Care Clinic:

- Did not exist

AAFP's Social Drivers of Health Screening Tool

Implemented the **SDOH Screening Tool** prior to project start:

- First SDOH tool at Burke
- Completed annually (at least)
- Screens for **10 indicators**, such as:
  - Housing / Utilities
  - Food Insecurity
  - Transportation
  - Child Care
  - Employment



AMERICAN ACADEMY OF FAMILY PHYSICIANS

Social Needs Screening Tool

PATIENT FORM (short version)

Please answer the following.

HOUSING

1. What is your housing situation today?
   - ☐ I do not have housing (I am staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, abandoned building, bus or train station, or in a park)
   - ☐ I have housing today, but I am worried about losing housing in the future
   - ☐ I have housing
2. Think about the place you live. Do you have problems with any of the following? (check all that apply)
   - ☐ Bug infestation
   - ☐ Mold
   - ☐ Lead paint or pipes
   - ☐ Inadequate heat
   - ☐ Oven or stove not working
   - ☐ No or not working smoke detectors
   - ☐ Water leaks
   - ☐ None of the above

FOOD

3. Within the past 12 months, you worried that your food would run out before you got money to buy more.
   - ☐ Often true
   - ☐ Sometimes true
   - ☐ Never true
4. Within the past 12 months, the food you bought just didn't last and you didn't have money to get more.
   - ☐ Often true
   - ☐ Sometimes true
   - ☐ Never true

TRANSPORTATION

5. In the past 12 months, has lack of transportation kept you from medical appointments, meetings, work or from getting things needed for daily living? (check all that apply)
   - ☐ Yes, it has kept me from medical appointments or getting medications
   - ☐ Yes, it has kept me from non-medical meetings, appointments, work, or getting things that I need
   - ☐ No

UTILITIES

6. In the past 12 months has the electric, gas, oil, or water company threatened to shut off services in your home?
   - ☐ Yes
   - ☐ No
   - ☐ Already shut off

PERSONAL SAFETY

7. How often does anyone, including family, physically hurt you?
   - ☐ Never
   - ☐ Rarely
   - ☐ Sometimes
   - ☐ Fairly often
   - ☐ Frequently
8. How often does anyone, including family, insult or talk down to you?
   - ☐ Never
   - ☐ Rarely
   - ☐ Sometimes
   - ☐ Fairly often
   - ☐ Frequently
9. How often does anyone, including family, threaten you with harm?
   - ☐ Never
   - ☐ Rarely
   - ☐ Sometimes
   - ☐ Fairly often
   - ☐ Frequently
10. How often does anyone, including family, scream or curse at you?
    - ☐ Never
    - ☐ Rarely
    - ☐ Sometimes
    - ☐ Fairly often
    - ☐ Frequently

ASSISTANCE

11. Would you like help with any of these needs?
    - ☐ Yes
    - ☐ No

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REFERENCE

1. Billioux A, Verlander K, Anthony S, and Alley D. National Academy of Medicine. Standardized screening for health-related social needs in clinical settings: the accountable health communities screening tool. National Academies Press. Washington, D.C. https://nam.edu/wp-content/uploads/2017/05/Standardized-Screening-for-Health-Related-Social-Needs-in-Clinical-Settings.pdf. Accessed November 14, 2017.

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The EveryONE Project

So What's the Problem?

Problem Statement

Current services at the Integrated Care Clinic are focused on a reactive, disease oriented treatment model. While providing universal screenings as a preventative, there is not enough time to adequately meet the needs of all patients. Therefore, we need to identify those high utilizers that are the most sick.

Reactive Services

The current medical model focuses on being reactive, with little emphasis on prevention.

Proactive

Not Enough Time

We provide universal services and have limited resources within our region to address need.

Role Distinction

State MH Model

The current TRR model is good for assessing MH risk, but not always a 1:1 for physical health.

CM Model

Measurement

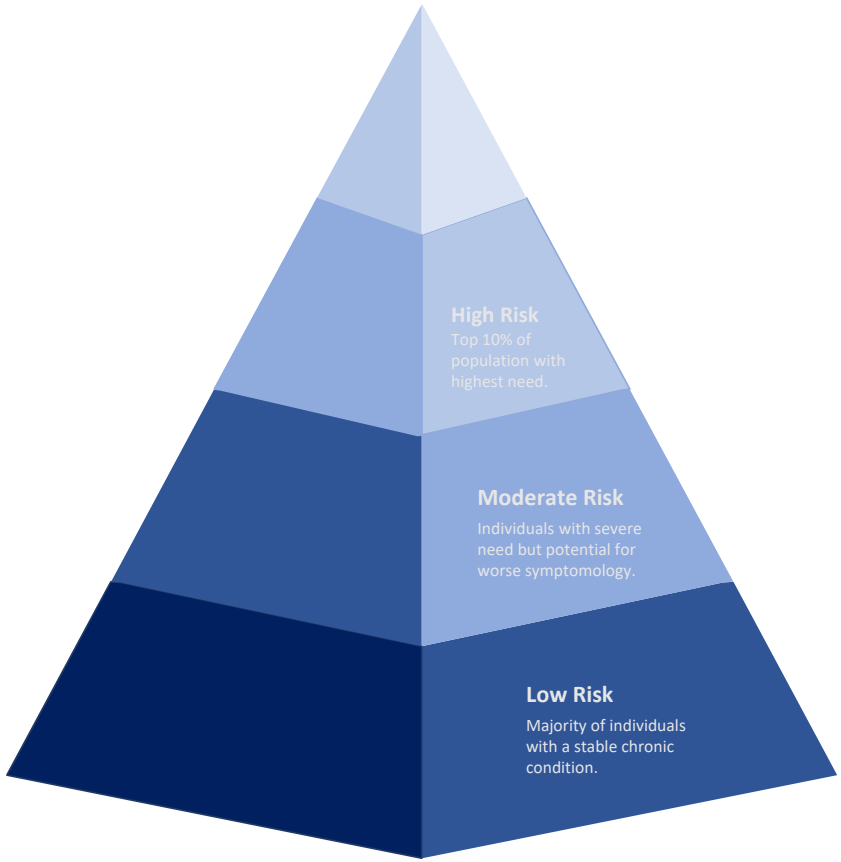
The majority of our population is already moderate to high risk, so stratifying risk needs to be tailored to Burke.

Risk Stratification

Risk Stratification

Interventions and workflows only work as well when we **identify** the patient's risk level and can **tailor** our work to their need.

Goal: Reduce **physical health symptomology** and **hospitalizations.**



3 **Care Navigation**
Higher frequency, higher monitoring, and consistent problem solving.

2 **Care Coordination**
Care Coordination driven by referrals and screenings, monthly follow up, and reducing risk.

1 **Universal Screenings**
Universal screenings, emphasis on the Prescriber visit, and low intensity.

Framework: AAFP Primary Care Management Risk Stratification Methodology

Table 3: Risk Categories and Levels Using Diabetes Example Case

CATEGORY	PRIMARY PREVENTION (Low Resource Use) GOAL: Prevent onset of disease		SECONDARY PREVENTION (Moderate Resource Use) GOAL: Treat a disease, reduce rising risk, and avoid serious complications		TERTIARY (High Resource Use) GOAL: Treat the late or final stages of a disease and minimize disability	CATASTROPHIC/COMPLEX (Extremely High Resource Use) GOAL: May range from restoring health to only providing comfort care
Stage	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**
General descriptions of risk levels	No known diagnoses or complex treatments	No known diagnoses but demonstrates warning signs or potentially signifi-cant risk factors	Has diagnosis, but stabilized or in control; potentially significant risk factors	Has diagnosis and/or complex treatment, and at higher risk for complications or potentially significant risk factors	Has diagnosis, complex treatment, and complications or potentially significant risk factors– goal is to prevent further complications	• Very severe illness or condition and potentially significant risk factors • End-of-life care (May have high costs with limited or no opportunity for improvement, stabilization, or cost control)
Example using progression of diabetes	• Healthy	• Blood glucose and lipids rising, but still within de-sired parameters • BMI elevated • Smoker	• Diagnosed with type 2 diabetes; blood glucose, lipids brought within desired parameters • Married, family involved	• Blood glucose and lipids not within desired parameters • Cannot afford to refill insulin this month • Recently developed Microalbuminuria • Depression • Lives alone • One ER visit and one hospitalization in past year	• Has diabetes with early renal disease, coronary artery disease, failing eyesight, and lives alone • Developed a foot ulcer • Multiple medications • Three ER visits and two hospitalizations in past year • Dual eligible Medicaid/Medicare • Needs assistance with ADL	• Diagnosed with lung cancer • Recent myocardial infarction • Progression to ESRD with renal dialysis • Amputation of one leg • Blind • Lives in nursing home
Example of care plan considerations for progression of diabetes	✓Preventive screenings and immunizations ✓Patient education and engagement ✓Appropriate monitoring for warning signs ✓Health and social risk assessment (annual) ✓Care plan that includes smoking cessation counseling and program offered ✓Diet and exercise education		✓Recommended preventive screenings and immunizations ✓Appropriate monitoring for HbA1c, microalbumin, LDL ✓Patient education and engagement for medication adherence, diet, and exercise ✓Home self-monitoring for blood glucose ✓Smoking cessation counseling ✓Refer to Diabetes Self Management Education (DSME) program ✓Care manager/coordinator visits to manage rising risk ✓Diabetes group visits ✓Referrals as appropriate ✓Community resources, such as the YMCA or prescription drug assistance programs ✓Health and social risk assessment (semi-annual)		✓Recommended preventive screenings and immunizations ✓Appropriate monitoring for HbA1c, microalbumin, LDL ✓Patient education and engagement for adherence to care plan and medications ✓Diabetes group visits ✓Regular visits with care manager/coordinator ✓Home health for wound care ✓Physical therapy for mobility ✓Care coordination with specialist and other services	✓Rehabilitation after hospitalization ✓Skilled Nursing Facility ✓Palliative or hospice care ✓Individualize intensive care management and coordination by care manager/coordinator ✓May or may not conduct preventive screenings ✓Health and social risk assessment, as appropriate

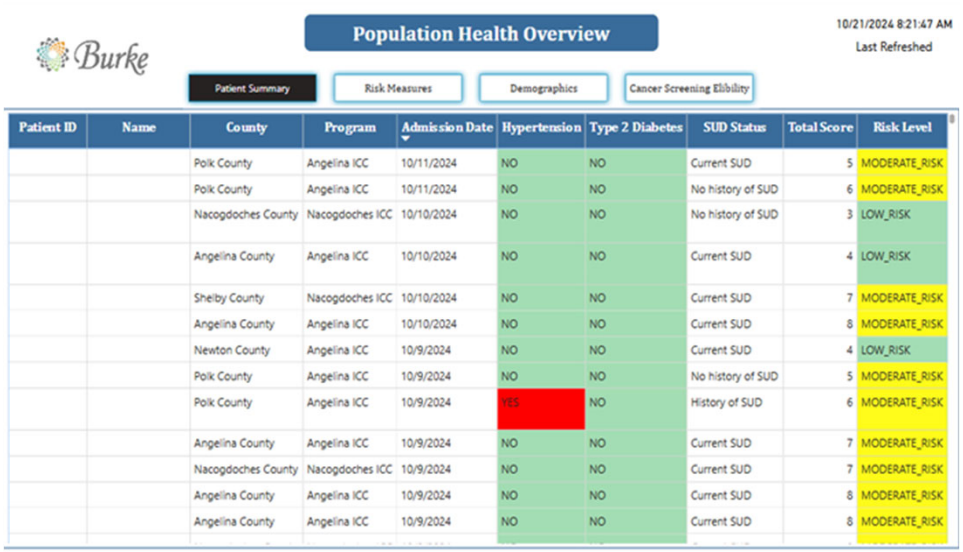
Variables from Methodology

We revised the methodology to include **10 variables** that our E.H.R. currently collected:

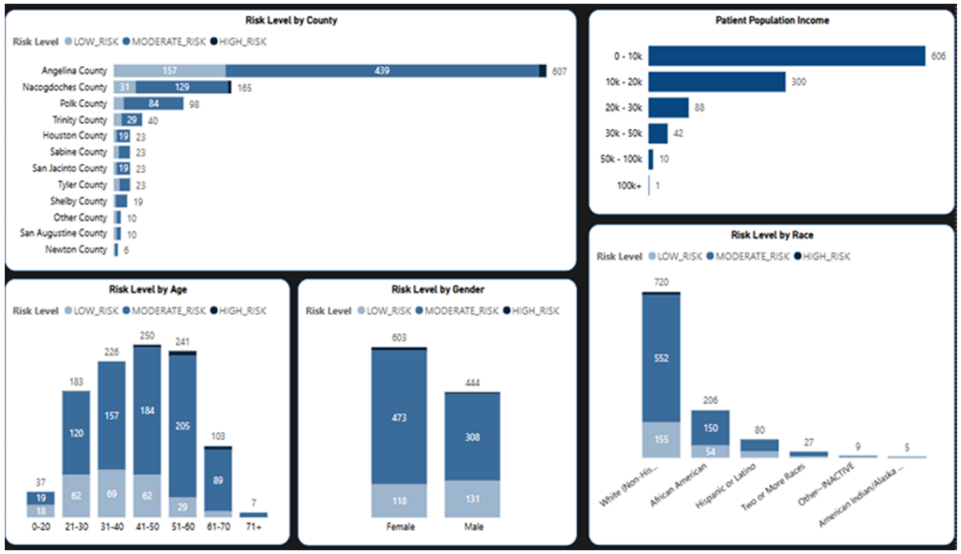
- Age
- # of Hospitalizations, past year
- # of Primary Care visits, past year
- # of Medications, active
- Chronic Disease severity
- BMI score, most recent
- PHQ9 score, most recent
- History of SUD
- MH diagnosis severity
- SDOH Screening results severity, most recent

Patient ID	AGE_SCORE	BMI	MED	SDOH	HOSP	PHQ9	SUD	BH_MH	PC_VISIT	CHRONIC	Risk Level
	2	2	1	0	0	0	0	0	1	0	MODERATE_RISK
	1	1	1	0	0	0	0	2	1	0	MODERATE_RISK
	2	1	1	0	0	2	0	0	1	0	MODERATE_RISK
	1	0	2	0	0	2	2	0	0	0	MODERATE_RISK
	2	1	1	0	0	2	0	2	1	0	MODERATE_RISK
	1	0	1	2	0	2	0	2	1	0	MODERATE_RISK
	2	1	2	0	0	0	0	1	1	0	MODERATE_RISK
	1	1	2	0	0	0	0	2	1	0	MODERATE_RISK
	1	1	2	2	2	0	0	2	1	0	HIGH_RISK
	2	1	1	0	0	0	1	1	0	0	MODERATE_RISK

Solution: Dashboard for Population Health Management



Patient ID	Name	County	Program	Admission Date	Hypertension	Type 2 Diabetes	SUD Status	Total Score	Risk Level
		Polk County	Angelina ICC	10/11/2024	NO	NO	Current SUD	5	MODERATE_RISK
		Polk County	Angelina ICC	10/11/2024	NO	NO	No history of SUD	6	MODERATE_RISK
		Nacogdoches County	Nacogdoches ICC	10/10/2024	NO	NO	No history of SUD	3	LOW_RISK
		Angelina County	Angelina ICC	10/10/2024	NO	NO	Current SUD	4	LOW_RISK
		Shelby County	Nacogdoches ICC	10/10/2024	NO	NO	Current SUD	7	MODERATE_RISK
		Angelina County	Angelina ICC	10/10/2024	NO	NO	Current SUD	8	MODERATE_RISK
		Newton County	Angelina ICC	10/9/2024	NO	NO	Current SUD	4	LOW_RISK
		Polk County	Angelina ICC	10/9/2024	NO	NO	No history of SUD	5	MODERATE_RISK
		Polk County	Angelina ICC	10/9/2024	YES	NO	History of SUD	6	MODERATE_RISK
		Angelina County	Angelina ICC	10/9/2024	NO	NO	Current SUD	7	MODERATE_RISK
		Nacogdoches County	Nacogdoches ICC	10/9/2024	NO	NO	Current SUD	7	MODERATE_RISK
		Angelina County	Angelina ICC	10/9/2024	NO	NO	Current SUD	8	MODERATE_RISK
		Angelina County	Angelina ICC	10/9/2024	NO	NO	Current SUD	8	MODERATE_RISK

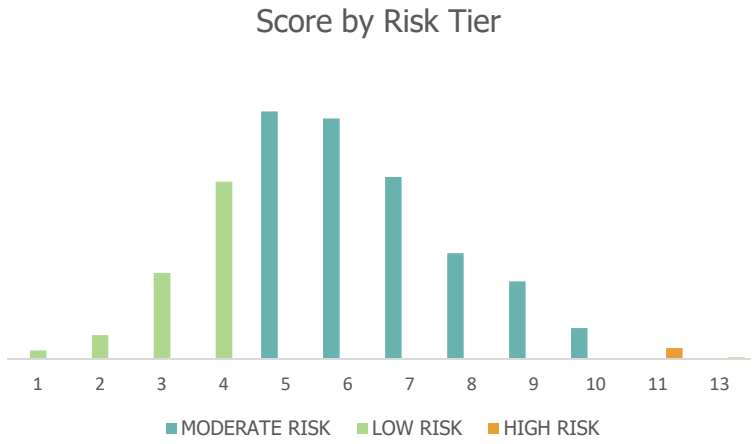


Initial Results and Census Description

Majority of patients were labeled as **'Moderate Risk.'**

Patient Panel was primarily **Female** (59%), **White** (70%), **aged 35 – 55** (50%), and from **Angelina County** (59%).

Most common High Risk Category (Score of 2 or Higher) was **Medication Score** (44%), indicating the majority of our patients juggle a number of BH and PH medications.



Average High Risk Patient

An average **'High Risk'** patient is often **similar to the overall patient panel**, though **older** (50+).

Most **'High Risk'** patients, however, struggle with multiple factors, including:

- **Multiple Medications**
- **Chronic Physical Disease:** Epilepsy, Hepatitis C, COPD, Hypothyroidism, and Hypertension
- **SUD:** Tobacco, Alcohol, and Stimulant Use Disorder
- **Severe Mental Illness:** Schizophrenia or Bipolar Disorder
- **SDOHs:** Housing Instability, Transportation, and Interpersonal Violence (Social Isolation) were top population concerns
- Frequent **ED Utilization** and **Hospitalizations**

Follow Up Thoughts

After the initial data pull and dashboard development, we were left with a few items to enhance clinical decision making:

- **Total Score Threshold** needs to be changed.
- **PHQ9 Threshold** is too low for a chronic MH population.
- **PC Visits** (high utilizers) are not common in our census.
- SDOH results need to be broken down **in a table** for more targeted interventions.

There were also some variables we thought **were missing** that might be helpful in predicting poor physical health:

- Average Blood Pressure (broken down by Systolic and Diastolic).
- HA1c levels
- Count of missed appointments
- Insurance, yes or no
- Income thresholds

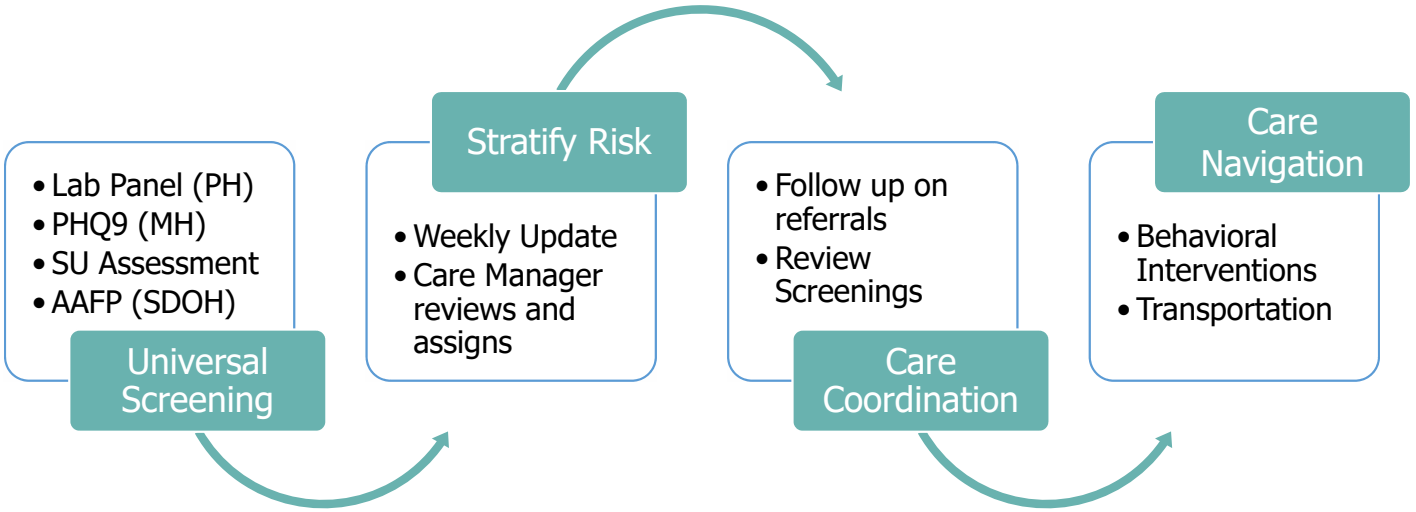
Next Steps for the Model

1. **Predicting Physical Health Symptomology and Hospitalizations**
    1. Blood Pressure
    2. Blood Glucose Levels (HA1C)
    3. Lipid Panels
2. **Incorporating Preventative Health Tracking into the Model**
    1. Cancer Screening
    2. Vaccinations
3. **Measurement Based Care**
    1. DSMQ
    2. PHQ9 / GAD
    3. PROMIS / CCBHC Measures
4. **Health Disparity Analysis and Stratification**
    1. Socio-Demographic Indicators
    2. By County
    3. By PH, MH, and SUD Diagnosis

What Does This Look Like in Practice?

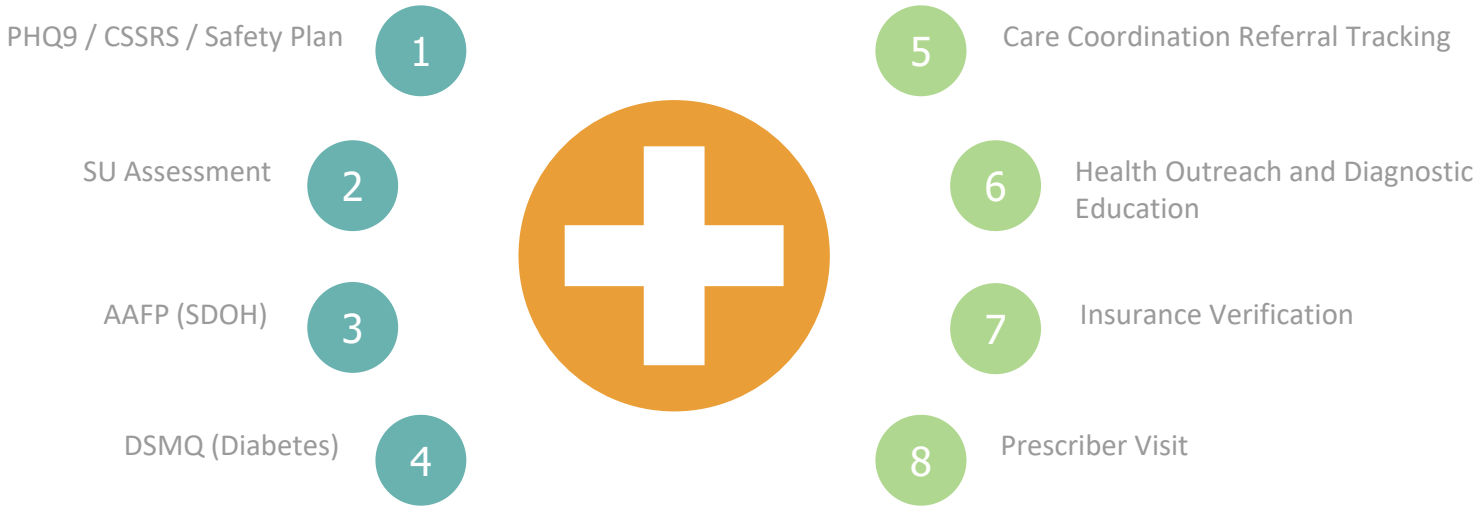
Care Management Model in Practice (Flow Chart)

All patients receive our suite of universal screenings to determine risk, most receive some form of care coordination, but few received targeted interventions and problem-solving assistance to improve their self-management behaviors.



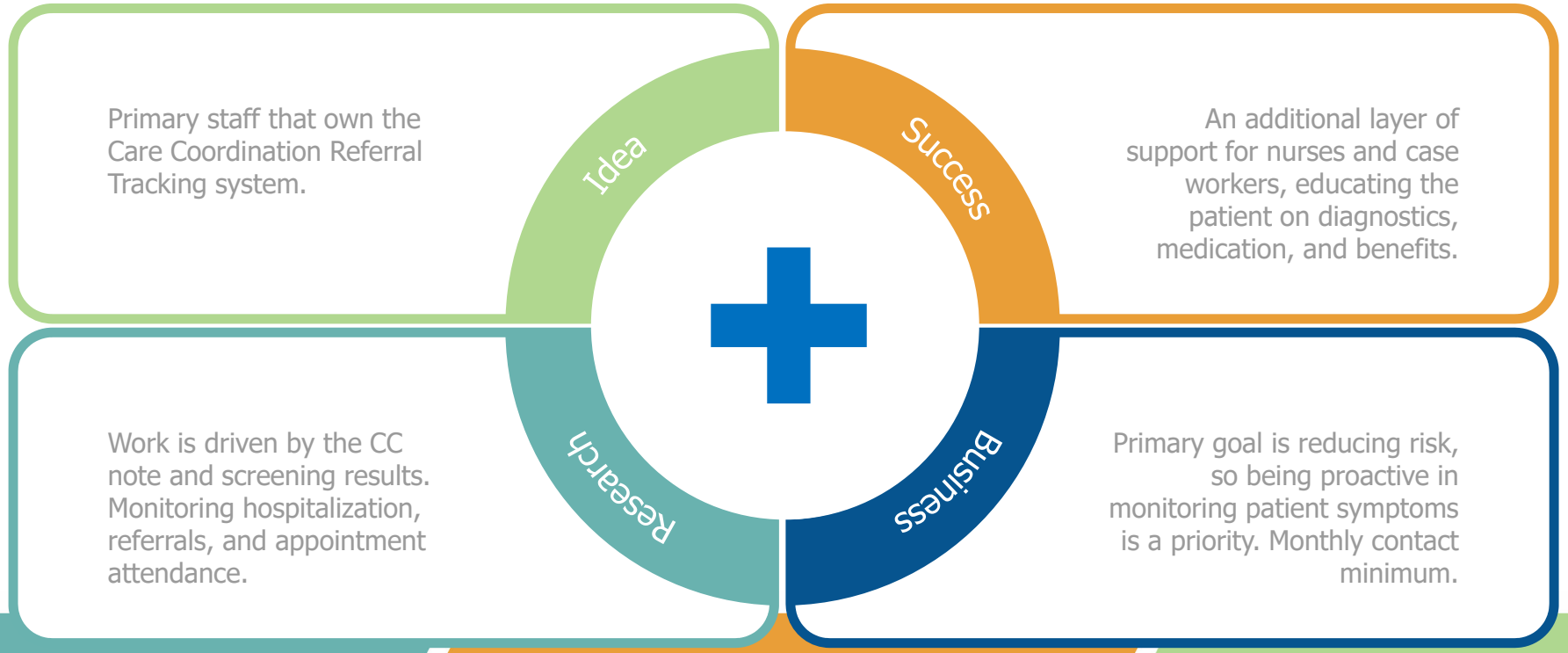
Low Risk: Universal Screenings

Tier 1 is focused on prevention, universal screenings, and routine follow through. This can include basic medication reminder calls, referral follow ups for specialist visits, and coordinating with internal Burke programs.



Moderate Risk: Care Coordination

Tier II is focused on reducing risk and monitoring adherence to treatment plan. Mostly care coordination, chronic disease management, and problem solving.



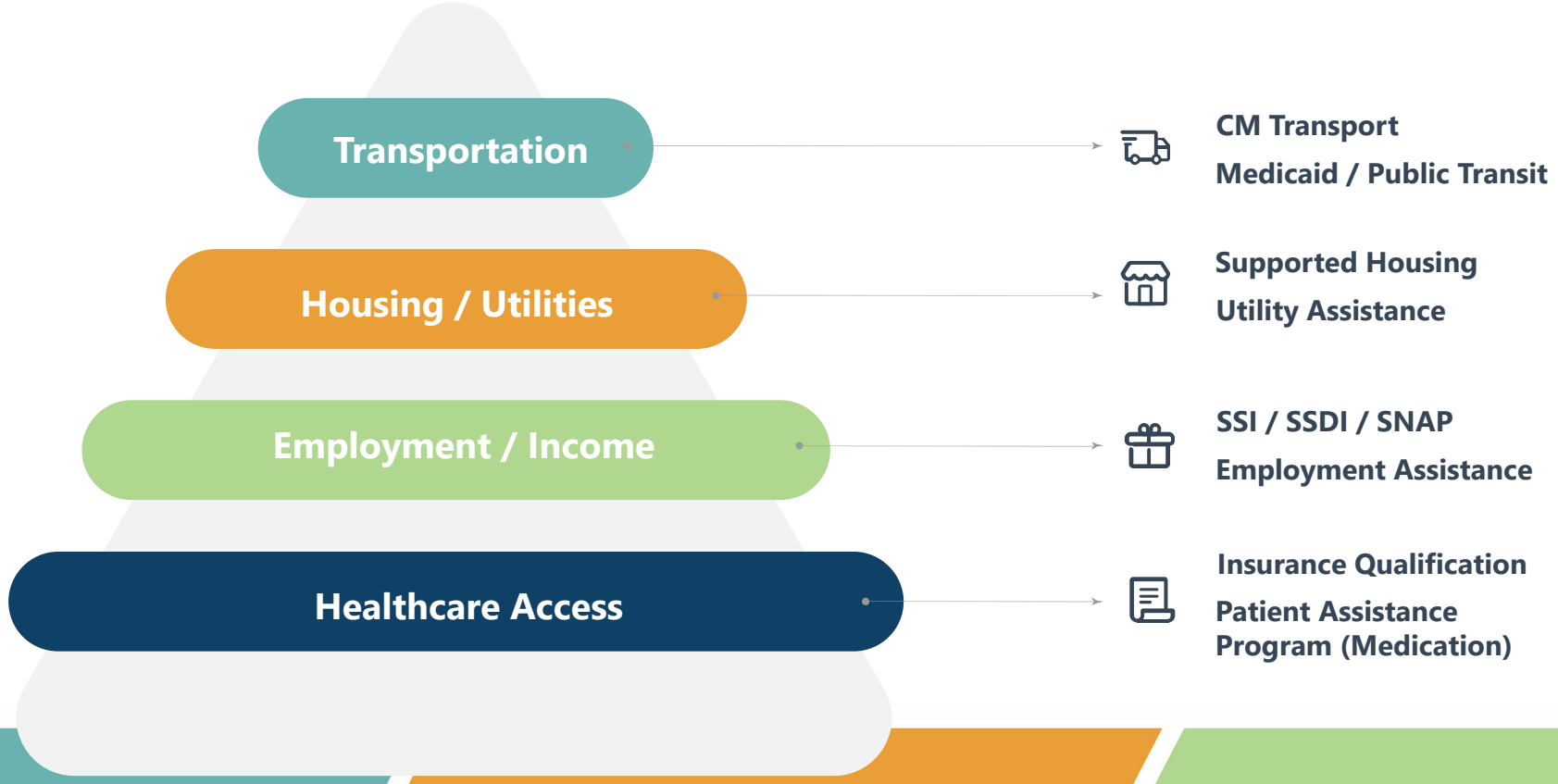
High Risk: Care Navigation

Tier III is focused on high needs, high risk patients who need persistent and consistent support. This can look very similar to Care Coordination, but includes more frequent contacts, behavioral health interventions, and coordinating transport.

Overcoming Barriers to Self-Management

- Coordination with MH caseworker, biweekly contacts for physical health needs, and medication adherence monitoring.
- Behavioral Health Interventions, including SUD, as needed and as license allows.
- Coordinate transportation for medical needs, dependent upon staffing priority and schedule.

Targeting NMDOH Needs



High Risk Patient Profile

Our current caseload is able to manage 50 high risk, high needs individuals with two Care Managers. These individuals are experienced, Master's Level Social Workers who primarily use Illness Management and Recovery to guide interventions.

- **Tri-Morbid (PH, MH, & SUD)**
- **Frequent Hospitalizations**
- **High # of Medications**
- **Frequently Misses Appts.**
- **High Persistent PHQ9 (21+)**
- **Multiple Negative SDOHs**

Targeted Intervention: Transportation

While Burke has a robust Consumer Benefits Program (for benefits applications), Supported Housing and Supported Employment, and network for adequate care coordination, **there is still a dearth of transportation options** in our region.

We decided to programmatically reduce this barrier by creating **"Transportation Thursdays"** at our Angelina ICC.

On Thursdays, Clinical Pathologies Laboratory (CPL) has a Nurse, LVN stationed in our pod to complete blood draws and send for analysis same day. As this is one of the major aspects of care coordination and follow up with our patient population, we decided to begin assigning a Care Manager to transport and schedule transport requests for Thursday morning – and some afternoons.

We have had considerable success from this schedule revision.

Identifying Problems for Quality Improvement

QI Project: Measurement Based Care for Type II Diabetes

Focus is on individuals diagnosed with Type II Diabetes or at-risk, as indicated by risk stratification process or Physician Assistant. Goal is to better measure care for self-management behaviors, not strictly governed by a pharmacological intervention.

Primarily use the DSMQ to understand, monitor, and manage those newly diagnosed.

Identify

Determine at time of initial evaluation if at-risk or newly diagnosed.

Intervene

Provide diagnostic education, materials, and community resources.

Monitor

Utilize the DSMQ to guide further self-management behavior.

Manage

Promote healthy living and follow up every three months.

QI Project: At-Home Healthcare Access for Hypertension

Focus is on individuals diagnosed with Hypertension and uninsured, as indicated by risk stratification process or Physician Assistant. Goal is to reduce barriers to healthcare access by delivering self-managed services at home.

Primarily guided by self-monitoring, digital blood pressure cuffs to guide maintenance of symptoms

Identify

Determine at time of initial evaluation if uninsured.

Intervene

Nurse provides education and calendar on blood pressure cuff.

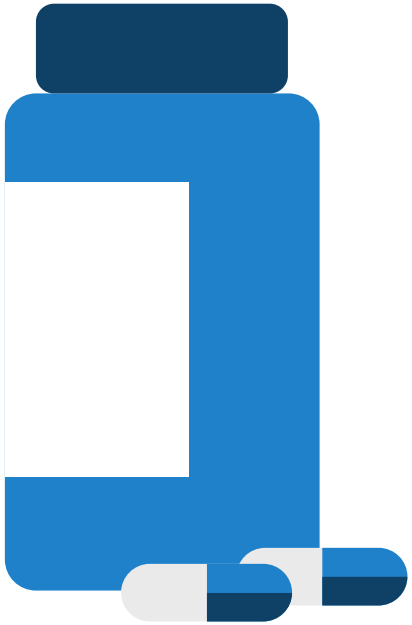
Monitor

Care Manager follows up weekly for the first month to promote habit of tracking.

Manage

Follow up monthly afterward if compliant to reinforce behavior.

Tracking Outcomes



01

Medication Adherence

Short-term outcome, tracking consistent medication compliance across the project.

02

Self-Management Behavior

Medium-term outcome, based upon self-report from the DSMQ, to see if diagnostic education and behavioral interventions improve coping skills.

03

Reduced Physical Symptoms

Medium-term outcome, examining if there is a reduction in blood pressure and blood glucose levels.

Thanks for listening! Any questions?

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