CHASE
Colorado Healthcare Affordability and Sustainability Enterprise

1570 Grant Street
Denver, CO 80203

DRAFT

Hospital Transformation Program

Intervention Proposal

I. Background Information

This Intervention Proposal is designed to clearly articulate the scope and goals of proposed transformation interventions aimed at impacting the hospital's selected local quality measures under the HTP. The following questions are meant to assist the state in identifying: the evidence base for each intervention; the need within targeted communities for the implementation of the interventions; and how the interventions will advance the goals of the HTP.

Hospitals will not be required to implement a specified number of interventions. Instead, participation requirements are based on the selection of local quality measures to impact within the five HTP Focus Areas:

- Reducing Avoidable Hospital Utilization
- Core Populations
- Behavioral Health and Substance Use Disorders
- Clinical and Operational Efficiencies
- Community Development Efforts to Address Population Health and Total Cost of Care

Hospitals will be required to address statewide measures for each Focus Area. Hospitals will also be required to select from the HTP list of local measures across the five Focus Areas based on community needs and the goals of the HTP. Each hospital will be required to work on a set of measures equal to 100 points. The number, mix and points per measure will vary according to hospital size, defined by bed count or specialty type:

- Large hospitals (91+ beds) will be accountable for six statewide measures, totaling 60 points and a minimum of four local measures, which will account for 40 points. Points per local measure will equal 40 divided by the number of local measures selected.
- Medium hospitals (26-90 beds) will be accountable for six statewide measures and a minimum of two local measures. If two local measures are selected, statewide measures will total 75 points, and local measures will account for 25 points. Points per local measure will equal 25 divided by the number of local measures selected. If three local measures are selected, then statewide measures will total 67 points and local measures will account for 33 points. Points per local measure will equal 33 divided by the number of local measures selected. If four or more local measures are selected, then statewide measures will then total 60 points and local measures will account for 40 points. Points per local measure will equal 40 divided by the number of local measures selected for four or more local measures.
- Small hospitals (<26 beds) excluding critical access hospitals will be accountable for six measures (statewide or local) to account for 100 points. Points per each measure will equal 100 divided by the number of measures selected.
- Critical access hospitals will be accountable for six measures (statewide or local) and will have their risk for measures reduced by 40%.
- Pediatric hospitals will be accountable for five statewide measures, totaling 50 points and a minimum of five local measures, which will account for 50 points. Points per local measure will equal 50 divided by the number of local measures selected.

- Respiratory specialty hospital(s) will be accountable for four statewide measures and a minimum of four local measures. If four measures are selected then statewide measures will total 56 points and local measures will account for 44 points. Points per local measure will equal 44 divided by the number of local measures selected. If five or more measures are selected, then statewide measures will total 50 points and local measures will total 50 points. Points per local measure will equal 50 divided by the number of local measures selected.

Hospitals have the option to work on local measures beyond the required minimum. This would spread the local measure risk by reducing the points per local measure.

In addition, hospitals have the option to replace a local measure with a statewide priority. Each statewide priority will be worth 20 points and if selected the points for each remaining local measure will be equal to the remaining total required local measure points divided by the number of local measures, greatly reducing the risk associated with those measures.

Hospitals should consult the Measure Scoring Summary, which can be found on the HTP webpage, for more information about measure selection, requirements and scoring.

Hospitals must then design five-year interventions that will impact their selected quality measures.

Hospitals must demonstrate that their proposed interventions will fulfill the goals of the HTP and are evidence-based. They must also justify the selection of each intervention based on the findings of the Community and Health Neighborhood Engagement process, including the environmental scan and feedback.

Each hospital will need to report its own data and submit its own application, but partnerships between hospitals may occur in some instances.

Hospitals may leverage existing resources for interventions, and existing interventions may be considered insofar as they expand or enhance the Department's noted goals and meet the following criteria:

- The hospital must demonstrate that the existing intervention is being selected because it is the best approach for meeting the needs of the community identified during the Community and Health Neighborhood Engagement process.
- The hospital must demonstrate that the intervention can and will be enhanced to meet HTP goals.

In addition to meeting the above criteria, any hospital proposing existing interventions for participation in the HTP will be expected to propose and implement accelerated milestones in the Implementation Plan for such interventions.

This Intervention Proposal must be completed separately for each of the interventions being proposed for inclusion in the HTP. Hospitals must submit interventions that, together, address all of the statewide quality measures and the local quality measures listed in the hospital's response to Question 6 in the Hospital Application.

II. Overview of Intervention

1. Name of Intervention: CP2: Pediatric Bronchiolitis-Appropriate Use of Testing and Treatment

2. Please use the table below to identify which statewide and selected local quality measures (from the hospital's response to Question 6 in the Hospital Application) the hospital will address through this intervention. As a reminder, each of the statewide and selected local quality measures must be identified for at least one intervention. As such, if this is the only intervention addressing a given Focus Area, all statewide quality measures and all selected local quality measures for that Focus Area must be included in this response. This response should align with the intervention-specific list included in the response to Question 7 in the Hospital Application.

Please note, hospitals are also required to complete the Intervention Proposal below for statewide priorities identified in Question 6 of the HTP Hospital Application.

Please use the unique identification code from the Performance Measures List (which is available on the HTP website) to identify your selected measures. For example, the measure "30 Day All Cause Risk Adjusted Hospital Readmission" should be listed as SW-RAH1.

Response (Please format the response as a numbered list)
1.

3. Please use the space below to describe the intervention and the rationale for its selection. Responses should include:

- A description of the intervention;
- Who will be the target population for the intervention; and
- How the intervention advances the goals of the HTP:
  - ✓ Improve patient outcomes through care redesign and integration of care across settings;
  - ✓ Improve the patient experience in the delivery system by ensuring appropriate care in appropriate settings;
  - ✓ Lower Health First Colorado (Colorado's Medicaid Program) costs through reductions in avoidable hospital utilization and increased effectiveness and efficiency in care delivery;
  - ✓ Accelerate hospitals' organizational, operational, and systems readiness for value-based payment; and
  - ✓ Increase collaboration between hospitals and other providers, particularly Accountable Care Collaborative (ACC) participants, in data sharing and analytics, evidence-based care coordination and care transitions, integrated physical and behavioral care delivery, chronic care management, and community-based population health and disparities reduction efforts.

Response (Please seek to limit the response to 1,000 words or less)
This intervention addresses the appropriate testing and timely treatment of pediatric patients diagnosed with bronchiolitis. Bronchiolitis is a respiratory infection that is most commonly caused by the respiratory syncytial virus (RSV) which causes inflammation in the airways leading to coughing, wheezing and difficulty breathing. It has the greatest impact on children under the age

of 2 years, but can also adversely impact adults over the age of 65, who have a higher rate of mortality than the children.

2019 data from the Hospital Corporation of America's (HCA) pediatric dashboard for our facility helps illustrate treatments that patients receive and the financial impact on the child and their families. Throughout 2019 patients admitted to RMHC with documented bronchiolitis received antibiotic therapies 39% of the time and had chest x-rays performed in 45% of the cases. Admitted patients had an average length of stay of 5.1 days with an average cost per case of $5,140. Of the patients admitted for treatment in 2019, 3.4% were readmitted within 72 hours of discharge, and 1.5% within 7 days of discharge. The highest readmission rate was within 90 days of discharge at 13.7% while at 30 days post discharge 6.9% were readmitted.

Our implementation plan includes identification of children who are at high risk for developing bronchiolitis, consistent implementation of radiological and microbiological testing when indicated, and delivery of anti-viral and supportive therapies as needed. Targeted treatment will limit symptoms and infection, preventing the occurrence of secondary opportunistic infection and further physical deterioration. We plan on utilizing standardized testing, screening and updating evidence based treatment clinical pathways to ensure appropriate treatment for our pediatric patients in the emergency room. Early and appropriate treatment will support these young patients, prevent hospital admission, help them recover safely at home, and limit readmission and/or hospital revisit.

We believe these interventions will advance the goals of the Hospital Transformation Program by improving both the patient and family's outcomes and experience, by ensuring appropriate diagnosis, treatment and prevention of illness progression, while at the same time limiting unnecessary treatments. Our efforts via this measure in the HTP framework will help to prevent clinical deterioration requiring hospital admission and therefore limiting the emotional and financial burden for these children and their families. By collaborating with our emergency physician group, we will create a standard of care throughout the Denver Metro area in our Rocky Mountain Hospital for Children (RMHC) centers.

4. Please use the space below to describe how the intervention and any selected local quality measures to be addressed by the intervention align with community needs identified throughout the Community and Health Neighborhood Engagement process (including data identified in the hospital's CHNE midpoint and final reports), including but not limited to:
    - How the intervention and any selected local quality measures to be addressed by the intervention were selected based on identified community needs, including how they align with identified significant behavioral and physical health needs and / or service capacity resources and gaps, including related to care transitions and social determinants of health;
    - How the population of focus aligns with identified community needs; and
    - How the proposed intervention will leverage available medical and / or social resources and partners.

Response (Please seek to limit the response to 1,500 words or less)
This measure aligns with Presbyterian St. Luke's Medical Center CHNE in the following ways:

- The CHNE revealed that Presbyterian St. Luke's has a population of high risk needs patients who are without primary care. This can result in decreased healthcare management and a higher likelihood of chronic underlying disease processes going untreated over periods of time. CHNE also revealed that Presbyterian/St. Luke's (P/SL) has a population of patients without access to primary care and specialty services due to few providers accepting Medicaid and lack of afterhours or weekend services.

- Overall, about a third of our local population lives under 200 percent of the federal poverty level.

- This population was noted to have an increased risk of homeless, food and housing insecurity.

- By participating in this measure we hope to build upon pathways and standards of care to prevent hospital admissions and therefore decrease the financial and emotional burden of these children's families.

Most of the children seen in the outpatient setting do not need aggressive treatment when they have bronchiolitis. However, since many families have limited access to healthcare, the emergency room is frequently their only choice once their child starts having respiratory difficulties and wheezing. As a pediatric specific emergency care provider we have a responsibility to appropriately screen patients for severity of symptoms and the need for escalation of care. When possible it is most beneficial for the child and parents to provide supportive care and recover at home, and providing the parents with resources and education can make that possible. By limiting our testing and prophylactic anti-microbial therapies we can save the families unnecessary treatment and expenses. However, we also must identify those children at risk for deterioration and revisit, providing them with appropriate treatment and supportive therapies when needed, to get them through the immediate inflammatory reaction or secondary infection.

5. Please identify the evidence base (academic, professional or otherwise) related to this intervention's use among the target population by selecting one of the following options:

   (1) Randomized Control Trial (RCT) level evidence
   (2) Best practice supported by less than RCT evidence
   (3) Emerging practice
   (4) No evidence

If you selected option 1, 2 or 3 above, please use the space below to summarize the evidence base (academic, professional or otherwise) related to this intervention's use among the target population. The response should address the intervention's ability to impact the selected local and statewide quality measures identified in Question 6 in the Hospital Application. Please submit the response in narrative form and provide links to any reference documentation (data, citations, etc.).

If you selected option 4 indicating that there is no known evidence base, please explain why this intervention is being proposed regardless.

Response (Please seek to limit the response to 1,500 words or less)

According to the State of Colorado's communicable infectious diseases report in 2016, "Almost all children will be infected with RSV by their 2nd birthday." The Centers for Disease Control reports that RSV is responsible for 2.1 million outpatient visits among children younger than 5 years old annually leading to at least 57,527 hospitalizations among this age group each year. Each Fall season there is an increase in RSV circulating in the community, and Colorado hospitals see an increase in pediatric RSV visits on average from October until May.

RMHC at P/SL plans to follow the guidance of the body of literature for bronchiolitis. Schroeder and Mansbach (2014) recommend to limit unnecessary testing and treatment in order to conserve facility and patient resources. This is also supported by the writing of Bordley, Viswanathan and King (2004), who also recommended a focus on supportive interventions instead of diagnostic treatments. Moreover, Norwood, Mansbach, and Waseem (2010) report that 1 in 6 bronchiolitis patients have an unplanned ED visits within 2 weeks and recommend creating more detailed discharge plans for high risk patients they identified as: less than 2 years of age, male and history of hospitalization.

References:

Bordley WC, Viswanathan M, King VJ, et al. Diagnosis and Testing in Bronchiolitis: A Systematic Review. Arch Pediatr Adolesc Med. 2004;158(2):119–126. doi:10.1001/archpedi.158.2.119

Norwood A, Mansbach JM, Clark S, Waseem M, Camargo CA Jr. Prospective multicenter study of bronchiolitis: predictors of an unscheduled visit after discharge from the emergency department. Acad Emerg Med. 2010;17(4):376-382. doi:10.1111/j.1553-2712.2010.00699.x

Schroeder AR, Mansbach JM. Recent evidence on the management of bronchiolitis. Curr Opin Pediatr. 2014;26(3):328-333. doi:10.1097/MOP.0000000000000090

https://www.colorado.gov/pacific/sites/default/files/DC_ComDis-Infectious-Diseases-in-Child-Care-and-School-Settings.pdf

6. a. Does the focus of the proposed intervention intersect with ongoing initiatives statewide (including, but not limited to those included in the ACC, State Innovation Model and Comprehensive Primary Care Plus)?

☒ Yes

☐ No

b. If yes, please identity the applicable statewide initiative(s): (you may select more than one response from the list below)

☐ Behavioral Health Task Force

☒ Affordability Road Map

☒ IT Road Map

☐ HQIP

☒ ACC

☐ SIM Continuation

- ☐ Rx Tool
- ☐ Rural Support Fund
- ☐ SUD Waiver
- ☐ Health Care Workforce
- ☐ Jail Diversion
- ☐ Crisis Intervention
- ☐ Primary Care Payment Reform
- ☐ Other: ____ (please identify)

Please also use the space below to briefly explain how the hospital will ensure the intervention aligns with the applicable ongoing initiative(s).

Response (Please seek to limit the response to 750 words or less)
Intersection with Statewide Initiatives:

a. 30-Day readmissions (SW-RAH1)

b. Readmission Rate for a High Frequency Chronic Condition 30 Day adult/pediatric (HTN, DM, HF, COPD, Asthma) (CP1)

By providing patients diagnosed with bronchiolitis with evidence based guided testing and treatment, we can prevent further infection and limit symptoms. Standardized tests, screening, and guidelines can help prevent hospital admission and readmission, especially for pediatric patients with chronic disease who are at higher risk of complications related to bronchiolitis.

7. Please use the space below to explain any experience the hospital or any affiliated community partners have had with this type of intervention or target population and how that experience will support the success of the intervention.

Response (Please seek to limit the response to 500 words or less)

Pediatric patient care at Presbyterian St. Luke's Hospital is delivered through RMHC. Physician leaders from RMHC and CarePoint Pediatric Emergency Medicine collaborated to develop targeted bronchiolitis screening tool and treatment paradigms. These tools are available to all providers as they are integrated into the electronic medical record. Evidence based guidelines and pathways exist to help guide physician treatment and interventions. These guidelines, or clinical pathways are currently being updated to reflect best care and will be made avaible to all providers and staff in the hospital.

CarePoint is an established, multispecialty physician group that has been providing emergency medicine coverage in the Denver community for over 20 years. The Pediatric Emergency Medicine division of CarePoint treats over 40,000 pediatric patients throughout the Denver area each year. This broad structure allows CarePoint to deliver a consistent standard of care to pediatric patients. Their pediatric bronchiolitis care interventions include, but are not limited to:

a. RSV screening

b. Viral and bacterial testing

c. Pulmonary and airway imaging

d. Supplemental oxygen therapy

e. Anti-viral medications

f. IV fluids

g. Analgesics/antipyretics

8. a. Is this an existing intervention in use within the hospital ("existing interventions" are those interventions the hospital has implemented or is implementing on the day it submits the Hospital Application)?

☒ Yes

☐ No

b. If yes, please use the space below to explain how the following criteria for leveraging existing interventions is satisfied (the response may reference answers above):

- The hospital must demonstrate that the use of the existing intervention is the best approach for meeting the needs of the community identified during the Community and Health Neighborhood Engagement process.
- The hospital must demonstrate that the project will be enhanced to meet HTP goals.

Response (Please respond as applicable; Please seek to limit the response to 1,000 words or less)

• Patients with respiratory symptoms are routinely screened by clinical staff. Based on screening results, patients are placed under specific isolation guidelines to prevent spread of contagious virus. Screening helps guide treatment and imaging.

• ED and Inpatient Pediatric Bronchiolitis Electronic Order Set. Order sets are specific to a unit and include orders based on evidence based practice to prevent unnecesssary treatments and interventions. An order set helps physicians put in interventions and orders efficiently and quickly to aid with diagnosis and prevent clinical deterioration.

• ED and Inpatient Pediatric Bronchiolitis Clinical Pathways. The Pediatric ED clinical pathways was recently updated and the inpatient pathways is being worked on. These updated clinical pathways will reflect updated evidence based practice and will be easily accessible to all staff at RMHC to be a reference and guide with treating pediatric patients diagnosed with bronchiolitis.

9. a. Will the intervention be a joint effort with another organization (e.g., a Regional Accountable Entity, Local Public Health Agency, a mental or community health center, another community organization or any other external organization)?

☒ Yes

☐ No

Partnerships are not required, but, if the hospital will partner, please complete the remainder of this question and provide the required documentation (see subpart c).

b. If yes, please complete the following chart, including listing the partner organization; listing the type of organization; indicating whether the hospital has previously partnered with the organization; and providing a high-level summary of the expected role of the organization in intervention's leadership and implementation.

Partner Organization Name	Type of Organization	Does the hospital have any previous experience partnering with this organization? (Yes or No)	Organization's Role in Intervention Leadership and Implementation (high-level summary)
CarePoint	Emergency Medical Services	Yes	Developing and implementing diagnosis and treatment protocols and cares

c. Please also submit documentation of the partnership with each listed organization. Documentation may be provided separately for each organization listed above and could include: a contract; a memorandum of understanding; a business association agreement; a Letter of Partnership from the listed organization(s); or similar documentation. If a Letter of Partnership is provided, in it the organization should: (1) acknowledge that it intends to partner; (2) provide a brief description of the organization; (3) express agreement with the planned intervention; and (4) express agreement with the planned role it will have in leadership and implementation of the intervention as expressed above. The letter should be signed by a member of the organization's management and submitted with this application in the same .pdf document. The Letter of Partnership Template can be found on the HTP webpage.