**The role of the Health Ecosystem Landing Page (HELP) tool in surveillance and incident response.**

**Primary Purpose:** The purpose of the HELP tool is to bridge the gap in understanding between what is being reported clinically and the impact that information has for hospital operations. HELP organizes data we already receive from external partners into a format that allows for analysis of hospital operational outcomes. HELP sorts hospitals into similar operating types (Critical Access Hospitals, Urban Hospitals and Medical Transfer Centers) so that the unique operational behaviors of each type do not confuse or cloud the meaning of the information being analyzed. Further, the tool establishes a baseline of health system operational decision making based upon similarities reflected in historic claims made. HELP also can create projections of likely operational decisions that will be made given stresses that are placed upon the systems from an individual hospital as well as a statewide perspective. This tool is designed to work with existing DOH tools such as WAHEALTH and RHINO for a more comprehensive understanding of the implications of information being reported. It has also identified and defined six metrics (see below) which can be used across all systems to discuss and understand hospital stress.

**Secondary Purpose:** In addition, the HELP tool can support planning, training, and exercise by establishing realistic parameters to these activities when they involve hospital operations.

**Tertiary Purpose**: To create a common operational understanding of stresses for hospitals during normal times and times of abnormal events that can be shared with both internal and external partners

**HELP Design Philosophy:** HELP is designed to complement the existing tools used by DOH. It uses existing data sets, but while existing tools describe what is coming into the hospital system, the HELP tool describes what is expected to already be there and forecasts what the impact of those external pressures are most likely to be. Its flexible design also allows for the system to organically grow as new/improved data sets are made available.

**Key Concepts/Gaps addressed unique to HELP:**

1. **Understanding Hospital Operating Types:** HELP breaks out our health systems into like categories so the unique aspects of their operations can be observed and understood.
2. **Understanding what is missing from a hospital’s patient mix is just as important as understanding what replaced it.** Our current tools focus primarily on the impact of a current disease is having on a hospital by understanding the number of cases of that disease over time. Impacts such as delays in care having been something considered after an event has concluded. HELP gives us the ability to understand what a patient mix looked like before an event so that we can plan for an address those types of impacts during an event not just at its conclusion.
3. **Understanding normal staffing practices for normal patient mixes.** Hospital floors are not uniform. Understanding what a hospital normally staffs for given its normal patient mix helps understand the impact on staff of having higher acuity patients and lower acuity floors. This can help us understand when and where staff burn out is most likely to occur.
4. **The breakout of hospitals into categories that represent their operational similarity**. A critical access hospital has different operational behavior and needs than an urban hospital or a transfer system. Any tool that does not draw this distinction is in danger of drawing false conclusions about where the stresses and bottlenecks are in the system and what is causing them.
5. **The sorting of the data into categories that reflect day of the week and hour of the day**: Hospitals do not have uniform operating practices for every day of the week or hour of the day. Failure to account for this in the tool can lead to false assumptions as to the operational capacity that a hospital has depending on when the incident occurs.
6. **The use of 5 years of historic ICD10 Codes to establish operational baselines:** Because hospitals do not start every day at 0 patients, and there is an upper limit to the number of patients a hospital can absorb at any given time, it is vital to have a general understanding of what a “normal patient mix” looks like prior to an event. With an unexpected rise in patient volume externally, the only way a hospital can make space is to redirect resources that were allocated for another purpose to try and meet the new need. To minimize harm, it is vital to know which patient groups are most likely to have their services redirected to plan for how to mitigate harm to those groups.

**HELP Metrics:** To accomplish these goals, HELP has been designed to establish both a baseline and projections for hospitals in the state. These are also broken out by type and region measuring the following metrics which currently best represent hospital stress:

1. Left without being seen
2. Admin/discharge ratios
3. Length of Stay
4. Staffed beds
5. Beds occupied
6. ED Visits

Metric Rationale:

**Left without being seen** is a measure of the number patients unable to be absorbed by the hospital.

**Admit/discharge ratio** is a measure of the rate at which beds are opening in a hospital. A hospital’s ability to absorb patients will reflect its ability to clean rooms and admit patients.

**Length of stay** is a metric to understand the impact of patients that are difficult to discharge or how long it takes for a transfer bed to become available.

**Staffed Beds** is a metric indicating hospital predicted staffing and establishes a nurse-to-patient ratio to understand the impact of a sudden rise in patient volume.

**Beds Occupied** is a measure of hospital capacity at the beginning of an incident.

**ED Visits:** Is a leading indicator of the rate at which external stress will impact patient volumes in a hospital.