



Action Guide



POPULATION HEALTH MANAGEMENT RISK STRATIFICATION

WHY

Risk Stratification?

Risk stratification enables providers to identify the right level of care and services for distinct subgroups of patients. It is the process of assigning a risk status to patients, then using this information to direct care and improve overall health outcomes.

Population health management requires practices to consider patients as both individuals and as members of a larger community or population. At the individual level, a patient's risk category is the first step towards planning, developing, and implementing a personalized care plan. One common stratification method is to segment patients by "risk" level: high-, medium- (rising), and low- risk. At the population level, risk stratification allows care models to be personalized to the needs of patients within each subgroup. (See [Models of Care Action Guide](#).)

A "one-size-fits-all" model, where the same level of resources is offered to every patient, is clinically ineffective and prohibitively expensive. To maximize efficiency and improve outcomes, health centers must analyze their patient population and customize care and interventions based on identified risks and costs^{1,2,3,4,5}. Healthy patients, for instance, may not want a high level of intensive support, and can be engaged through alternate models of care². With this in mind, high-intensity resources can and should be reserved for high-risk patients. Care models based on risk with customized care at each level can flexibly match need with more appropriate resources^{1,2,3,4,5}. Organizations who succeed in a value-based care environment utilize risk stratification as a tool to drive population health.

POPULATION HEALTH MANAGEMENT



The Value Transformation Framework addresses how health centers can use a systematic process for utilizing data on patient populations to target interventions for better health outcomes, with a better care experience, at a lower cost, and improved equity. This Action Guide focuses on one foundational component of population health management: risk stratification.

WHAT

is Risk-Stratification?

The goal of risk stratification is to segment patients into distinct groups of similar complexity and care needs. For example, out of every 1,000 patients in a panel, there will likely be close to 200 patients (20%) who could benefit from more intensive support. This 20% of the population accounts for 80% of the total health care spending in the United States^{5,6}. Of these "higher need" patients, five percent (5%) account for nearly half of U.S. health expenditures^{6,7}. Health care spending for people with five or more chronic conditions is 17 times higher than for people with no chronic conditions⁸.

Segmenting the population according to health care needs allows health centers to do a better job of targeting resources more efficiently and at a lower cost. Risk groupings can include: highly complex, high-risk, rising-risk, and low-risk individuals. Unique care models and intervention strategies are then used for each group.





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Highly complex. This is a small group of patients with the greatest care needs. This group, likely less than 5% of the population, has multiple complex illnesses, often including psychosocial concerns or barriers. Care models for this population require intensive, pro-active care management. The goal for this group is to use lower-cost care management services to achieve better health outcomes while preventing high-cost emergency or unnecessary acute care services.



High-risk. The next tier includes patients with multiple risk factors that, if left unmanaged, would result in them transitioning into the highly complex group. It typically describes about 20% of the patient population. This cohort of patients is appropriate to engage in a structured care management program that provides one-on-one support in managing medical, social, and care coordination needs. Using this approach, a care manager works with patients to ensure that they receive appropriate chronic disease management and preventive services.



Rising-risk. This tier includes patients who often have one or several chronic conditions or risk factors, and who move in and out of stability with their condition(s). One analysis showed that extending care management to this population reduced the number of patients who moved to the high-risk group by 12%, with a 10% decrease in overall costs². With rising-risk patients, successful models of care focus on managing risk factors more than disease states². Common risk factors include: obesity, smoking, blood pressure, and depression. Identifying these risks enables staff to target the root causes of multiple conditions.



Low-risk. This group includes patients who are stable or healthy. These patients have minor conditions that can be easily managed. The care model for this group aims to keep them healthy and engaged in the health care system, without the use of unnecessary services.

HOW to Risk Stratify?

There are many approaches to risk stratification. Some are very complex and costly, but simpler approaches (like those outlined in this Action Guide) are also effective, particularly for organizations just getting started. One study that looked at six common risk stratification approaches found that the Adjusted Clinical Groups (ACGs) model developed by Johns Hopkins was best able to identify the top 10% of high cost users¹. Yet, the study concluded that ‘any of these models will help practices implement care coordination more efficiently’. This Action Guide recommends starting with a core component found within many of the complex models—condition counts—as a simple and easy method for health centers to segment patients into risk categories (risk stratification).

The process of stratifying by condition counts (the number of conditions per patient) helps to identify a cohort of high-risk individuals who can benefit from one-on-one care management. This process can be supplemented by provider and care team referrals. Health center staff can consider the severity of disease, social risks, and utilization patterns in identifying patients who fall outside of the high-risk group but who may benefit most from care management.





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RISK STRATIFICATION STEPS:

Outlined below are four action steps health centers can take to segment patients by risk level to better direct care and resources to the needs of each subgroup.

- STEP 1** **Compile a List of Health Center Patients:** Create a complete list: include not only patients who come in for care, but also individuals who have been assigned to your health center.
- STEP 2** **Identify Risk Stratification Criteria and Assign Patient Risk Scores:** Use the Uniform Data System (UDS) Table 6A measures or criteria that's appropriate to your patient population.
- STEP 3** **Stratify; Assign patients into target groups:** Arrange patients from highest risk score to lowest risk score.
- STEP 4** **Design Care Models and Target Interventions for Each Risk Group:** Each cohort (highly complex, high-risk, rising-risk, and low-risk) should be matched to a care model that meets their needs. (See [Models of Care Action Guide](#).)

STEP 1 **Compile a list of health center patients.** To risk stratify patients at the population level, generate a list of all empaneled health center patients. (For more information on how to empanel health center patients, see the [NACHC Empanelment Action Guide](#)). Ideally, lists will include both patients who come in for care, as well as those attributed to a health center but who may not have had a visit yet. Attribution is the process that payers use to assign members to primary care providers, then hold those primary care providers accountable for their care. If you are interested in a particular age group, narrow your list to that target audience (e.g., adults > 18 years of age).



Action item: Compile a list of all empaneled and attributed patients.

STEP 2 **Identify risk stratification criteria and assign patient risk scores:** Identify the criteria to include in the risk stratification process:

- Consider reporting capabilities of the electronic health record and population health management system.
- If systems allow, use multiple criteria for a comprehensive approach.
- If systems do not allow consideration of multiple criteria, start with clinical conditions; do a 'simple' condition count.





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Clinical Conditions

As part of a risk stratification process, clinical conditions are a great place to start and [HRSA's Uniform Data Systems \(UDS\)](#), Table 6A, is a good resource.

The list of clinical conditions in Table 6A includes high-cost, high-prevalent conditions among health center patients, which are important to address. Based on local health conditions and clinical priorities, health centers may choose to utilize different clinical conditions. See the chart below for a subset of UDS Table 6A conditions.

EXAMPLE from UDS Table 6A:

*Health center determines criteria and weighing

Diagnostic Category	Applicable ICD-10-CM Code	Criterion Weight
Heart disease (selected)	101-,102- (exclude 102.9), 120- through 125-, 127-, 128-, 130- through 152-	2
Chronic lower respiratory diseases	J40 (count only when code U07.1 is not present), J41- through J44-, J47-	2
Asthma	J45-	2
Diabetes melitus	E08- through E13-, O24- (excludes O24.41-)	2
Hypertension	I10- through I16-, O10-, O11-	2
Overweight and obesity	E66-, Z68-, (excludes Z68.1, Z68.20 through Z68.24, Z68.51, Z68.52)	2
Depression and other mood disorders	F30- through F39-	2

The select list of conditions match HRSA's [UDS 2023 Health Center Data Reporting Requirements](#) for Table 6A, including the diagnostic categories and applicable ICD-10-CM codes on pages 84-86. Selected diagnoses do not represent the full range of diagnoses or services captured in Table 6A, nor offered by a health center, but were selected to represent significant high-cost, high-burden conditions prevalent among health center patients. Using the above as a starting point, health centers can add/subtract conditions based upon local health conditions and clinical priorities.

Social Drivers of Health

With research indicating that social risk and economic factors may play a greater role in health than health care, including social risk data in the risk stratification process is essential.

If your health center isn't already using a tool to assess social risk factors, consider using NACHC's PRAPARE® tool (www.prapare.org).

EXAMPLE

*Health center determines criteria and weighing

Response to PRAPARE Question	Criterion Weight
I do not have housing (staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, or in a park)	1
Yes (lack of transportation), has kept me from medical appointments	1
No (I do not feel physically and emotionally safe where I currently live)	2
Yes (I am a refugee)	3



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Clinical Lab Values

In addition to looking at clinical diagnosis, lab values can be included into the risk stratification process to incorporate data on a patient's level of disease management.

EXAMPLE


*Health center determines criteria and weighing

Clinical Lab Values	Criterion Weight
A1C > 9	2
Blood pressure > 140/90 mmHG	3
Total cholesterol > 240 mg/dl	1
Triglycerides	1

Medications

Medications can also be included in the risk stratification process.

Health centers should determine which medications they consider to be high risk.

EXAMPLE


*Health center determines criteria and weighing

High Risk Medications	Criterion Weight
Opioids	4
Benzodiazepines	4
Anticoagulants	4
Antipsychotics	4
Insulin	2

Utilization Data

If available, utilization data (e.g., hospitalizations and ED visits), provides a more comprehensive understanding of patient risk factors outside the walls of your health center.

EXAMPLE


*Health center determines criteria and weighing

Utilization Criterion	Criterion Weight
1-2 hospitalizations within the last year	2
2-3 hospitalizations within the last year	3
4+ hospitalizations within the last year	4
1-2 ED visits within the past year	2
2-3 ED visits within the past year	3
4+ ED visits within the past year	4



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Total Risk Score

Using the lists of patients compiled in Step 1, assign each patient a total risk score representing each criterion the patient meets.

This may include criteria for clinical conditions, social risk, medications, lab values, and utilization data.

EXAMPLE

Patient A

Criterion	Criterion Weight
Heart disease (selected)	2
Asthma	2
I do not have housing (staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, in a park)	1
1-2 ED visits within the past year	4
Total Risk Score	9

Patient B

Criterion	Criterion Weight
Diabetes mellitus	3
Overweight and obesity	2
Yes (lack of transportation), has kept me from medical appointments	1
1-2 hospitalizations within the last year	2
A1c>9	2
Total Risk Score	10



Action Step: Determine the criteria that will be used to risk stratify patients; assign each patient a total risk score.

STEP 3

Stratify: Assign patients into target groups. After assigning each patient a total risk score, sort the patient list from highest risk score to lowest risk score. The health center will determine the upper and lower limits to each risk category based on the number of criteria included in the risk stratification process as well as the complexity of the patient population. In general, it is estimated that 5-10% of a patient population should fall into highly complex, 20-30% should fall into high risk, 2-10% should fall into rising risk, and 10-20% should fall into low risk.

Be sure to seek input from the provider and care team on the patients that have been assigned to each risk group and adjust as needed based on this feedback.

Risk Level	Total Risk Score (Example)	Estimated % Patient Population
Highly Complex	>20	5-10%
High Risk	11-20	20-30%
Rising Risk	2-10	40-50%
Low Risk	0-1	10-20%



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Patient Name	Risk Score	
Patient A	22	☐ Highly complex
Patient B	18	☐ High risk
Patient C	16	
Patient D	12	
Patient E	10	☐ Rising risk
Patient F	9	
Patient G	5	
Patient H	5	
Patient I	4	
Patient J	3	
Patient K	3	☐ Low risk
Patient L	2	
Patient M	1	
Patient N	0	
Patient O	0	



Action step: Segment the population into risk groups. Document patient risk level in each patient's electronic health record to drive decisions at the point of care.

Periodic review of risk stratification lists, sorted by provider and care team, is also recommended. This will help to capture newly empaneled health center patients, newly attributed health center patients, and updates in patient diagnoses, social risk factors, utilization data, lab values, and high-risk medications as this can change day to day for patients it is also likely that attributed patients who have not yet been seen for care would appear on patient lists with '0' conditions. It is, therefore, encouraged that the low-risk list be reviewed for attributed patients who have not yet been seen, with outreach conducted, as needed, to engage these patients in care. Determine the frequency of repeating these steps to accommodate new patients and diagnoses.

STEP 4

Design care models and target interventions for each risk group. After segmenting the population into target groups, health centers can then match internal capabilities and external resources to meet the unique needs of each patient.



Action Step: Design care models for each cohort (highly complex, high-risk, rising-risk, and low-risk) that target interventions to the specific needs of each subgroup. (See [Models of Care Action Guide](#).)



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