



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.

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.

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





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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 is a straightforward process to categorize patients' risk level by number of clinical conditions. Grouping patients by risk level allows a health center to 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** **Sort Patients by Condition:** Use the Uniform Data System (UDS) Table 6A measures or a list that's appropriate to your patient population.
- STEP 3** **Stratify Patients to Segment the Population into Target Groups:** Start by using the simple but effective method of "condition counts" (the number of conditions per patient).
- 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.** Generate a list of all patients attributed to your organization or target site. This should include those who come in for care and those who have been assigned to your health center by payers or other groups. 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 attributed patients.

STEP 2 **Sort patients by number of conditions.** Using your patient list, match patients against clinical conditions using the Uniform Data System (UDS). This Action Guide uses a subset of the UDS Table 6A measures (see footnotes below). This list represents the conditions with the highest prevalence among health center patients. Based on local health conditions and clinical priorities, health centers may choose to match patients against a different list.



Action Step: Match the list of patients against selected diagnoses (such as the below list from UDS Table 6A).





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UDS High-Risk Conditions	Applicable ICD-10-CM Code*
Cancer (abnormal cervical findings)	C53-, C79.82, D06-, R87.61, R87.629, R87.810, R87.820
Heart Disease	I01-, 102- (exclude 102.9), 120- through 125-, 127-, 128-, 130- through 152-
Chronic Lower Respiratory Diseases	J40 (count only when code U07.1 is not present), J41- through J44-, J47-
Asthma	J45-
Diabetes	E08- through E13- O24- (exclude O24.41-)
HTN	I10- through I16-, O10-, O11-
Obesity	E66-, Z68- (exclude Z68.1, Z68.20 through Z68.24, Z68.51, Z68.52)
Depression	F30- through F39-
Other mental disorders	F01- through F09- (exclude F06.4), F20- through F29-, F43 through F48- (exclude F43.0 and F43.1), F50- through F99- (exclude F55-, F84.2, F90-, F91-, F93.0, F98-), 099.34 R45.1, R45.2, R45.5, R45.6, R45.7, R45.81, R45.82, R48.0
HIV	B20, B97.35, O98.7-, Z21
Anxiety disorders, including post-traumatic stress disorder (PTSD)	F06.4, F40- through F42-, F43.0, F43.1-, F93.0
Alcohol-related disorders	F10-, G62.1, O99.31
Other substance-related disorders (excluding tobacco use disorders)	F11- through F19- (exclude F17-), G62.0, O99.32-

The select list of conditions match HRSA's [UDS 2021 Health Center Data Reporting Requirements](#) for Table 6A, including the diagnostic categories and applicable ICD-10-CM codes on pages 77-80. 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.

STEP 3

Stratify by condition count. Using information from Steps 1 and 2, group patients by the number of conditions they have. Individual health centers may have slightly different “cut-offs” (e.g., # of conditions) for segmenting patients within each of the four risk groups. In general, the highly complex group will include patients with 6 or more chronic conditions. High-risk will include patients with condition counts in the range of 4-5. Rising-risk will include those with 2-3 conditions. Patients with 0-1 selected conditions will comprise the low-risk group.



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



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Risk Level	# Conditions	Total	Cumulative Total
Highly complex	7+		
Highly complex	6		
High-risk	5		
High-risk	4		
Rising-risk	3		
Rising-risk	2		
Low-risk	0 or 1		

In addition to condition counts, providers and other members of the care team can further inform and adjust stratification based on personal knowledge of each patient's utilization patterns, social risks, and other factors.

Initial and periodic review of risk stratification lists, sorted by provider and care team, is recommended. 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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