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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 a patient and then using this information to direct care and improve overall health outcomes.

Top performing population health-focused organizations practice risk stratification. Population health management requires practices to consider patients as both individuals and as members of a population. At the individual level, a patient's risk category is the first step towards planning, developing and implementing a personalized patient care plan. Typically, patients are segmented into high-, medium- (rising-) and low-risk groups. 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 care.² With this in mind, high intensity resources can and should be reserved for high-risk patients. Care models based on risk address different levels of need with an appropriate and flexible match of resources.



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within the Value Transformation Framework encompasses a the systematic process of utilizing data on patient populations to target interventions for better health outcomes at lower cost, with a better care experience. This Action Guide focuses on one foundational component of population health management: risk stratification.

WHAT

is Risk-Stratification?

For 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} Further, health care spending for people with five or more chronic conditions is 17 times higher than for people with no chronic conditions.⁸





POPULATION HEALTH MANAGEMENT RISK STRATIFICATION

The goal of risk stratification is to segment patients into distinct groups of similar complexity and care needs. For health centers, these 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:



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, proactive 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 will typically fall in the 20% range quoted in the literature and includes patients with multiple risk factors that, if left unmanaged, would result in them transitioning into the highly complex group. 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 community needs. A care manager works with patients in this group to ensure they receive appropriate chronic disease management as well as 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 conditions. One analysis shows that extending care management services to this population reduced the number of patients who moved to the high-risk group by 12%, a reduction that equated to a 10% decrease in overall costs.² With rising-risk patients, successful models of care focus on managing risk factors more than disease states.² Common risk factors include obesity, smoking, blood pressure, and cholesterol levels. Identifying these risk factors 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 easily be managed. The goal of the care model for this group is to keep them healthy and engaged in the health care system.





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HOW to Risk Stratify?

There are many approaches to risk stratification, some of which are very complex and costly. 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 users.¹ Yet, the study concluded that ‘any of these models will help practices implement care coordination more efficiently’. This Action Guide recommends application of a core component found within many of the complex models – condition counts – as a simple and easy method for health center risk stratification.



This process is particularly helpful in identifying a cohort of high risk individuals who can benefit from one-on-one care management. The exercise of stratifying by condition counts, particularly as related to identifying patients eligible for care management, can be supplemented by provider and care team referrals. The care team best knows patients who, for example, fall outside the ‘high risk’ group but are most in need of care management support.

RISK STRATIFICATION STEPS:

Outlined below is a straightforward process health centers can use to categorize patients’ risk level by number of clinical conditions. The outcome - grouping of patients by risk level – best allows a health center to direct care and resources to the needs of each subgroup.

- STEP 1** **Compile a list of health center patients**
- STEP 2** **Sort patients by condition**
- STEP 3** **Stratify patients to segment the population into target groups based on the number of conditions per patient**
- STEP 4** **Design care models and target interventions for each risk group**

STEP 1

Compile list of health center patients. Generate a list of all patients attributed to your organization or target site (this should include both those who come in for care but also 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 this target audience (e.g., adults > 18 years of age).



Action item: Compile list of patients.



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STEP 2

Sort patients by number of conditions. For each patient on your list, match them against clinical conditions using the Uniform Data Systems (UDS) information submitted annually by all health centers. This Action Guide focuses on matching in the adult population using a subset of the UDS Table 6A measures. The list of below conditions were selected given their high prevalence among health center patients. Based upon local health conditions and clinical priorities, health centers may choose to match against a different list.



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

UDS High-Risk Conditions	Applicable ICD-10-CM Code*
Cancer (abnormal cervical findings)	C53-, C79.82, D06-, R87.61, R87.810, R87.820
Heart Disease	I01-, I02- (exclude I02.9), I20- through I25-, I26- through I28-, I30- through I52-
Chronic Obstructive Pulmonary Disease	J40- through J44-, J47-
Asthma	J45-
Diabetes	E08- through E13- O24- (exclude O24.41-)
HTN	I10- through I15-
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, F20- through F29-, F43 through F48- (exclude F43.0 and F43.1), F50- through F59- (exclude F55-), F60- through F99- (exclude F84.2, F90-, F91, F98-), R45.1, R45.2, R45.5, R45.6, R45.7, R45.81, R45.82, R48.0
HIV	B20, B97.35, O98.7-, Z21

*Wherever possible, diagnoses have been grouped into code ranges. Where a range of ICD-10-CM codes is shown, health centers should report on all visits where the provider assigned diagnostic code is included in the range/group. All diagnoses reported for the visit (e.g. primary, secondary, tertiary) are reported on Table 6A if they are included in the range of codes listed. Each diagnosis made at a visit is counted regardless of the number of diagnoses listed for the visit.¹⁰



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STEP 3 **Stratify by condition count.** Using information from Steps 1 & 2, group patients by the number of conditions. Individual health centers may have slightly different “cut-offs” for the four risk groups, but, 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, and rising-risk will include those with 2-3 conditions. Patients with 0 to 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

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		

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 with external resources to meet the unique patient needs of each subgroup.



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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