Solving unwarranted variation in care begins with clinical decision-making

How better clinical decision-making can optimize patient care and reduce healthcare costs

Wolters Kluwer

*Unwarranted variation in care frequently compromises hospital financial performance and clinical outcomes, which accounts for at least **25%** (and possibly up to **65%**) of costs. Care variations come from diverse sources, but the net result is increasing waste in healthcare spending and decreasing quality of care and outcomes.*[1]

Rising healthcare costs, the COVID-19 pandemic and its subsequent strain on personnel and resources, and the necessity of quickly adapting to new models of care delivery have put untold pressure on healthcare organizations around the world. Like many medical leaders, you may have already tried different strategies to optimize the care you provide while reining in the cost to deliver it.

However, cutting costs alone will not relieve the pressure. The solution lies in reducing unwarranted variation in care — unnecessary and undesirable differences in patient care (diagnosis and treatment) that do not arise from medical need, the recommendations of evidence-based medicine, or patient preferences.[2]

Unwarranted variation can lead to inefficiencies, adverse events, increased lengths of stay, and higher mortality rates. Basically, all quality indicators are affected.

How you approach unwarranted variability can either help or hinder your efforts to improve patient care, rein in costs, and thrive in this highly demanding healthcare environment. We examine decision points along the care continuum where unwarranted variability is most likely to happen and recommend actions you can take to drive sustainable and effective care.

Examples of inappropriate care

Conducting unnecessary diagnostic tests

Not conducting the right test at the right time

Misdiagnosing or not properly managing a condition

Over or under-prescribing medication

1. Drive behaviors that lead to evidence-based decisions

Medical practices continually evolve and change due to the amount of new information and research as well as advances in medicine and technology. It's impossible for clinicians to know everything. Keeping up with the newest evidence can be a burden for clinicians who are already pressed for time. Even if they find the time, medical literature is complex, often difficult to interpret, may span multiple specialties, and not typically collected in one location.

Juggling time constraints and other competing demands, clinicians may sometimes rely on outdated approaches to care, falling back on their formal education and the subconscious, subjective evaluation of their own practice experience over time. Although the experience of an individual clinician is valuable, it cannot substitute for the collective and objective knowledge reflected in the medical literature.

Since clinical decision-making is rooted in a series of behaviors that can be difficult to change — even when clinicians want to do the right thing — medical leaders can play an important role in championing clinician behaviors[3] that adhere to the best evidence and practice guidelines. Raising awareness of unwarranted variation (and its negative effects on patient outcomes and costs) can help reduce it where it often begins — at the start of the decision-making process.

Furthermore, as clinicians move into new roles and adopt new practices and ways of delivering healthcare, they may find themselves having to make clinical decisions in uncharted territory. Evidence-based guidance can help clinicians optimize patient care and safety in the "new normal."

Changes in healthcare roles brought on by or accelerated by the pandemic:

- Clinicians working outside of their specialty to assist with increased patient loads
- Care teams are required to do more with less due to staffing shortages
- Clinical and retail pharmacists administering COVID-19 vaccines
- Clinicians adapting to digital models of interacting with patients and delivering care
- Physician assistants and advanced nurse practitioners taking on more physician duties

2. Minutes matter — Empower clinicians with the answers they need quickly

Clinicians frequently raise questions about patient care in their practice. Although they are effective at finding answers to questions they do pursue, roughly half of the questions are never pursued.[4]

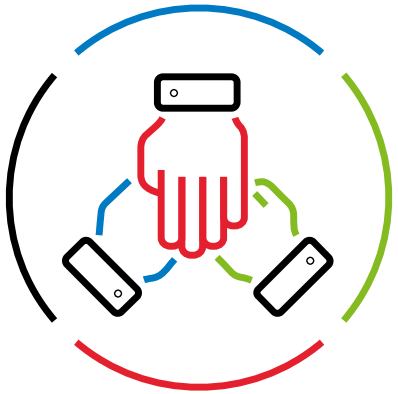
Searching for answers takes time. Not finding answers needed at the point of care can be frustrating. Even worse is finding conflicting information without a clear course of action. This puts undue stress on your clinicians who are already over-committed and facing increasingly complex decisions in busy clinical settings.

A systematic review of clinical questions raised by clinicians at the point of care found that physicians have approximately nine clinical questions a day, but at least six questions go unanswered because of limited time and/or information resources. Most questions are about symptoms, physical findings, test results, or drug treatment.[5] Lack of time was noted as the top barrier to pursuing clinical questions.[6]

At worst, each unanswered question could compromise patient safety. The danger posed by knowledge gaps should be considered,[7] including delay or errors in diagnosis, ineffective or harmful treatments, and errors in drug dosing or monitoring. At best, each unanswered question is a lost learning opportunity.

The frequency with which clinicians decide not to pursue answers to their questions and the potential for concomitant medical errors suggest the need for interventions that ensure timely and accurate answers.[8] Even small time savings can mean the difference between a clinician making a decision based on knowledge that may be out of date and making one that is supported by the latest evidence.

Reliable and comprehensive resources that distill the best available evidence and guidance and summarize the benefits and risks of a decision are critical for getting answers to clinicians quickly. Having these resources readily accessible in the workflow (via EHRs/EMRs) further saves time at the point of care so clinicians can spend more time with their patients.



3. Encourage collaboration to break down silos

"When all the clinicians in the hospital provide care based on a common, trusted information source, unwanted care variability is reduced. Unnecessary costs due to escalations, unnecessary tests, and medical errors can be avoided. Doctors spend more time with patients. Productivity increases."

Dr. Dini Handayani, MARS, FISQua,
Chief Executive Officer of Medistra Hospital,
Jakarta, Indonesia, and International Surveyor for Joint Commission International

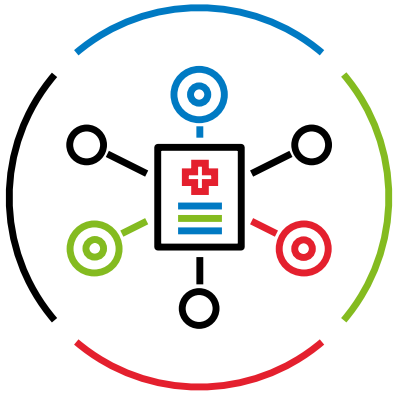
Practicing medicine and delivering quality patient care involves constant collaboration among clinicians and across medical disciplines throughout the care continuum. When decisions are made in silos, unwarranted variation in care is more likely to occur, impacting patient outcomes and driving up healthcare costs.

To support your clinicians in practicing evidence-based medicine and making the best care decisions for their patients, you may have created committees to establish care guidelines. However, establishing these guidelines can be challenging, requiring substantial time and buy-in from multiple stakeholders within an organization.

Once created, guidelines can be difficult and costly to maintain. Ideally, they should be updated whenever there is new evidence that warrants a change in clinical practice; otherwise, your clinicians may be making decisions based on incomplete or outdated knowledge. Guidelines must also be in a location whereclinicians can easily find and follow them. Bottom line, if your clinicians can't find them, they won't adopt them.

To deliver more effective care, reduce unwarranted variation, and rein in costs, decision-making must be aligned and coordinated across the entire care team with everyone working from a single source of trusted, evidence-based clinical information. The most efficient solution is to use existing evidence-based guidelines, then tailor these to your organization's care setting (e.g., your formulary or referral patterns).

A study published in the Journal of the American Medical Association (JAMA) highlights the gaps in patient care that occurs when care teams are not aligned, in this case, pharmacists and dermatologists. The dermatologists in the study used current research and patient experience to inform their beliefs and counseling, while the pharmacists relied on drug reference textbooks, websites, and medication package inserts. This gap highlights the need for coordinated care and decision-making across care teams to reduce unwarranted clinical variation.[9]



4. Champion standardized approaches to reduce unwarranted variability

"We're constantly asked to make decisions, not in the bright light, where the decisions and the choices are certain, but in twilight, where imperfect options, incomplete information, and competing factors, including patient preference, comorbidities, and, increasingly, costs have to be translated into actions."

Peter Bonis, MD, Chief Medical Officer
Clinical Effectiveness at Wolters Kluwer, Health

All clinicians want to do the right thing for their patients. However, determining the right course of action can be challenging when clinical information is constantly expanding and patients are presenting with more complex conditions over time. Clinicians must treat the patient's condition and account for all the other factors contributing to the patient's overall health experience and quality of life.

Clinical pathways can help organizations adhere to quality measures and guidelines for common conditions in which treatment often varies from optimal standards of care. They may also serve as tools to reduce variations in clinical practice, thereby maximizing patient outcomes and clinical efficiency.[11] The use of clinical pathways helps guide clinicians as they navigate critical, complex decision points based on the clinical characteristics of each patient.

The main aim of clinical pathways is to align clinical practice with guideline recommendations in order to provide high-quality care within an organization.[10]

4. Champion standardized approaches to reduce unwarranted variability

Among patients at high risk for stroke in one large, multi-national study, only 44 percent of patients were treated with an oral anticoagulant.[12]

Some of the most common clinical areas where using pathways can help reduce unwarranted variation in care include:

→ Cardiac Care

The danger of atrial fibrillation (AF) is that not all patients with AF are symptomatic, yet serious health complications can arise that lead to stroke and heart failure.

Mitigating the risk of stroke is one of the most important management considerations for clinicians treating patients with AF, and the long-term use of oral anticoagulants is the most effective means of reducing risk of stroke. However, the risk of stroke must be weighed against the risk of bleeding from anticoagulants.[13]

To reduce unwarranted variations and improve patient care, pathways can help clinicians determine a patient's risk of stroke or bleeding and the appropriate anticoagulant and dose for that individual patient. Along with cardiovascular risk factor, comorbid disease assessment, and management, getting a patient on the appropriate anticoagulant may help reduce adverse cardiovascular events and hospitalizations, while being cost saving for healthcare systems.[14]

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Adults with food insecurity may be at high risk for having undiagnosed diabetes. Evidence from the English Longitudinal Study of Aging suggests that focusing on people from lower socioeconomic groups may help early diagnosis of diabetes for older adults.[15]

→ Diabetes

Type 2 diabetes is one of the fastest growing health challenges of the 21st century, with obesity, poor diet, and inactivity contributing to the upsurge.
Early diagnosis and treatment of type 2 diabetes is important to reduce damage from higher-than-normal blood sugar levels and prevent or delay serious complications.

Once diagnosed, clinicians must develop a treatment plan and prescribe a medication, or medications, based on the latest evidence and unique patient considerations, such comorbidities, patient lifestyle, preferences, and compliance. For example:

- Does the patient have comorbidities such as heart disease, heart failure, or chronic kidney disease that would make one medication preferable over another? Choosing the wrong medication misses the opportunity to manage the patient's diabetes and improve outcomes for comorbid illnesses.
- Would insulin offer better blood glucose control compared to oral medications? What if the patient is resistant to injections? Non-compliance would result in poorly managed glucose levels and potentially increased risk for complications.
- Is the patient prone to low blood sugars? The wrong medication and/or medication dose could increase the risk of low blood glucose.

Clinical pathways have a firm place in diabetes care by helping clinicians evaluate a patient's clinical presentation and risk factors, choose appropriate behavioral modifications and medications, and determine a timeline for monitoring.
Since good glycemic control can also reduce the risks of serious complications — including cardiovascular disease, blindness, kidney failure, lower limb amputation, and stroke — and their associated costs, improving diabetes care has far-reaching benefits for patients and healthcare organizations.

4. Champion standardized approaches to reduce unwarranted variability

Diagnostic errors cause patients to suffer unnecessary harm from tests and treatments, but misdiagnosed patients might also suffer from a true underlying disease, which is delayed or completely missed, causing harm or earlier death.[16]

→ Chronic Obstructive Pulmonary Disease

Establishing a correct diagnosis of chronic obstructive pulmonary disease (COPD) is highly important because appropriate management can decrease symptoms, reduce the frequency and severity of exacerbations, improve health status, improve exercise capacity, and prolong survival.[17]

However, correctly diagnosing COPD can be challenging due to several factors:

- Current and former smokers are also at risk for other medical conditions for which treatment is very different than for COPD.
- Multiple COPD subtypes (emphysema, chronic bronchitis, and chronic obstructive asthma) can complicate making the correct diagnosis.
- The differential diagnosis of COPD is broad and includes heart failure, interstitial lung disease, neuromuscular disease, anemia, and obesity.

Studies have shown that up to 90% of patients with misdiagnosed COPD regularly receive COPD treatments, which can cause adverse events and add costs to the health care system. Additionally, some researchers have estimated that between 5% and 62% of patients with COPD have received a misdiagnosis.[18]

Since COPD is a condition fraught with both diagnosis and treatment complexities, and therefore unwarranted variation, clinical pathways can support clinicians in making a correct diagnosis, determining the appropriate therapy, and minimizing patient harm and risks due to misdiagnosis.

4. Champion standardized approaches to reduce unwarranted variability

A study conducted at a large university hospital in Rome, Italy, concluded that the real impact of inappropriateness as it relates to over-utilization of lab tests is difficult to assess but the generated costs for patients, hospitals and health systems are certainly high and not negligible.[20]

Examples of common high-volume tests for which clinicians often need further information to determine appropriate next steps include:

- Abnormal liver panel: High alkaline phosphatase and high conjugated bilirubin in adults
- Abnormal lipid profile: High total cholesterol, low HDL cholesterol, high LDL cholesterol, or high triglycerides in adults
- Abnormal iron profile: Low ferritin or low iron in adults
- Abnormal platelet count: High or low count in adults
- Abnormal skeletal muscle creatine kinase: High levels in adults

Lab results and appropriate next steps

Laboratory testing is standard practice in clinical medicine. The number and complexity of clinical lab tests makes it challenging for clinicians to accurately order and interpret these tests. Clinicians who receive a test result outside of the reference range will typically investigate further and likely order more tests for their patient.

Over-utilization — ordering inappropriate tests — causes undue patient discomfort, overloads diagnostic services, risks generating false positives, and is associated with other inefficiencies in healthcare delivery, which undermines the quality of health services.[19] Under-utilization — appropriate tests not ordered — can cause patient harm by failing to detect, diagnose, and treat an illness.

In situations where clinicians cover patients with whom they are not familiar (particularly during overnight and weekends shifts) and clinicians covering specialists outside of their practice (and therefore interpreting lab tests outside of their specialty), appropriateness of lab tests can be difficult to determine.

Along with regular auditing of laboratory tests and educating clinicians about over-utilization, use of lab interpretation monographs can help clinicians interpret abnormal lab results and determine appropriate next steps based on individual patient needs. These measures can help reduce inappropriate testing and associated costs and improve the quality of care provided to patients.

Tackling unwarranted variations from a new perspective

Despite widespread attention and organizational efforts to reduce unwarranted clinical variations, it continues to be a persistent problem affecting healthcare organizations around the world.

A new approach is needed. One in which reducing unwarranted variability is considered at every decision point — diagnosis, treatment, and prescribing — along the care continuum.

By identifying and addressing the key clinical areas where inefficient use of resources and gaps in best practices occur the most, medical leaders can begin to reduce unwarranted variations in care at the start of the decision-making process.

Meaningful use and application of technology is critical in demanding healthcare environments. Finding ways to reduce clinician workload is proven to be one of the four keys of engaging physicians to reduce unwarranted variations in care.[21]

When you consider and address unwarranted variations from the specific function of clinical decision-making, rather than an over-arching organizational task, you can consistently make small but meaningful adjustments that have an aggregate and measurable impact on patient outcomes, patient safety and satisfaction, and healthcare costs.

In 2021, The Boston Consulting Group warned that "as the available therapeutic arsenal rapidly expands," healthcare leaders and clinicians "must adjust their practices to keep pace with the advances." [22]

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