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## Determine rules per vendor

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## Standardized Assessments Drive Healthcare's 3Rs

Even if not used as strict guidelines for patient admission or cost reimbursement, clinical criteria sets are in fact experiencing wider adoption in single-payer countries by helping hospitals increase efficiency and improve patient flow. As described earlier, the use of quick, daily patient assessments based on standardized criteria helps ensure that patients are in the right place getting the right care at the right time. Numerous clinical and business benefits accrue as a result, including reduced wait times, shorter LOS, increased patient capacity and throughput, reduced cost, better patient outcomes and a more satisfying experience for patients, families and hospital staff.

While adoption varies considerably by country, as will be summarized in subsequent sections, perhaps the best example of the use of patient assessments based on standardized criteria to increase hospital efficiency and improve patient flow is Canada. For roughly 34% of the country's acute-care beds, hospital staff use the Medworxx Patient Flow platform, with built-in criteria sets, to collect information on patient status and barriers to patient flow to support decision-making and action related to care delivery and discharge management.

"With clinical criteria sets for assessing patients, you have a tool for managing everyone the same in a standardized way and for managing their progress through the system at a micro level," says Tim Guest, VP Acute Care & CNO for the Annapolis Valley Health Authority in the Canadian province of Nova Scotia, where criteria sets have been implemented province-wide. "And at the macro level, the tool gives you the data to plan the resources needed across the health system and where to deploy them."

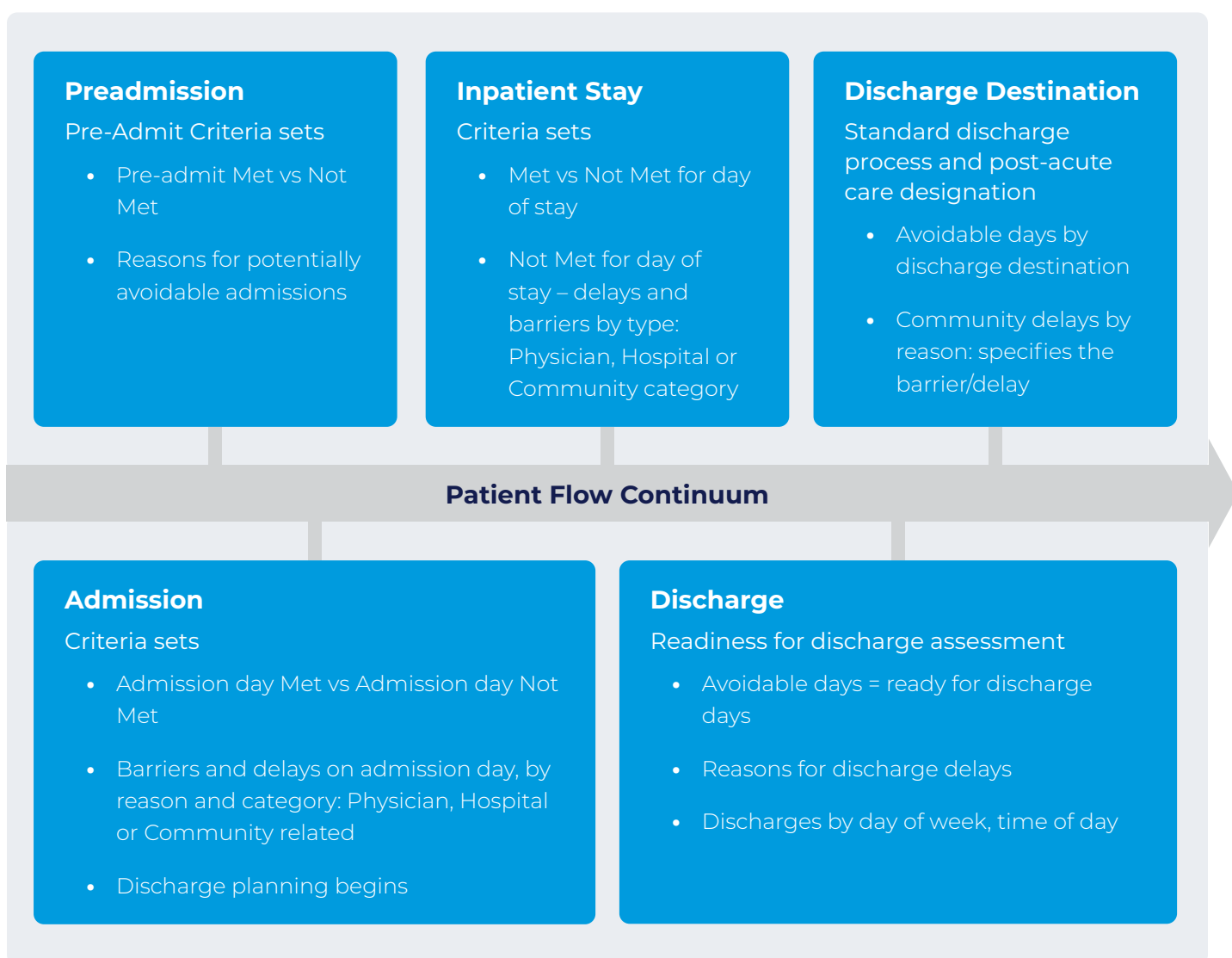
One less-heralded benefit of implementing a patient assessment process based on standardized criteria is that it can trigger positive changes in staff behaviour that better align staff with the hospital's clinical and business goals. For one thing, having such a process and supporting tool in place drives the thinking of the care team into a more proactive model. In addition, having frontline nurses conduct the daily patient assessments and enter results into the patient flow system assists them in critical thinking allowing broader visibility into patient care and the patient experience. It expands their focus beyond just providing immediate patient care to patients at bedside, to becoming more aware of barriers and delays to patient flow, thus enabling them to contribute to patient flow analysis and improvement efforts.

# Patient Flow Goes Patient-Centric

“Patient flow is a duty,” declares Paul Collins, President and CEO at St. Thomas Elgin General Hospital in Ontario, Canada. “We work in healthcare on behalf of people, and our duty is to ensure the care experience they have is one of competency, quality and safety, and that we are assisting them to navigate through the process in a way that respects their time, their need to know and their need for a helpful relationship.”

In the developed world, healthcare is shifting toward this patient-centric view and away from previous provider-centric notions of care. Even though what we have learned through the previous model is helpful in the provision of safe, quality care, we can learn even more by understanding the expectations of patients and their families and thus be better able to move patients through the system in a way that is focused on them.

Collins points out that staff competency and experience are now just a basic expectation (i.e. the ‘ante’) when a person comes into a hospital. Patients also expect to be treated in a very individual way, by providers who are genuinely interested in their well-being. Even with ‘mass customization’, however, you still have to build into your process the critical points that people in the system are trying to achieve and address those in a standard way.



**Figure 4:** Stages of the Patient Flow Continuum

“When you focus on the needs of the customer, and do that well, it has been shown not to be costly; in fact, costs decrease, as proven many times over in the manufacturing sector, for example, through Lean and the original success of the Toyota Manufacturing System,” contends Collins. Translating “customer” into the patient experience, in 2011, the St. Thomas Elgin General Hospital launched its ‘board to bedside’ system transformation, which they call “Transforming Care”, based on the Toyota lean model. Collins adds, “We have confirmed that when we apply measureable standards, with visual cues and in real time, the result is sustainable improvement in the patient’s experience.”

## Criteria Set Arms Staff to Solve Problems

In the new patient-centric, mass-customization world of care delivery, smooth patient flow, and achieving key pathway milestones such as timely discharge, have become an integral part of the care experience for the patient that also benefits hospitals and the health system.

“Patient flow is a complex process, however, with many variables, many challenges, many drivers and no single solution,” according to Sharon Pierson at Hamilton Health Sciences, whose organization constantly undertakes initiatives to address patient flow issues, often with technology as an enabler. These include, for example, automated Bed Boards and ‘bed map’ development based on computer simulations, along with other technologies needed by staff to do their work, such as electronic bar code verification for medication administration. “And some patient flow initiatives are purely about process – how we can streamline communications and the transfer of patients between locations along the pathway.”

For Paul Collins and the team at St. Thomas Elgin General, which has been using the Medworxx patient flow solution and criteria set for nearly 20 years, addressing patient flow bottlenecks begins at patient discharge – smoothing-out the path downstream and then working progressively upstream to make room for more patients (importantly, admissions from the ED). They have in fact been able to achieve and maintain the #1 position in Ontario for four out of five key ED Wait Time metrics, including the time from decision-to-admit to actual admission to an inpatient bed.

“For those things that are within our four walls and we can control, the improvement process is about creating a respectful environment and arming staff with timely information and evidence to solve problems themselves, and using a systematic process to do that,” explains Collins, who saw clinical criteria sets and a standardized assessment process as an effective way to support continuous improvement. Drawing again on their lean journey, a key element of which is the use of standardized work and standard measures to inform you about the system and steps in the process, he adds that, “Using criteria sets to screen patients on a daily basis provides a standard and a common language to make our patient flow decision-making process more consistent and objective.”

When asked about InterQual criteria, Collins readily concedes that InterQual is an excellent system for its intended insurance payment purposes and is also good for research, but claims that it is far too detailed to be an operational system.

“What is most useful is high-level clinical screening criteria that establishes whether the patient needs to be there and whether the hospital is the best place for them – the hospital is an important resource within our society and we have to pay attention to that!” stresses Collins, adding that, “The criteria set must also be one that focuses on the needs of the patient and that everyone, from executive to frontline provider and doctor, can understand and agree with.”

However, Collins is quick to caution that because the criteria only indicates whether or not a patient should be occupying a particular bed in the hospital, staff need to be able to react to the data in a timely fashion; for example, identifying and remediating any barriers to moving the patient forward in the process to the Ready for Discharge (RFD) point – is the patient getting required tests and treatment, is their post-acute care and rehab being planned and so on.



While some of those barriers are likely community-related, “You can’t always blame bottlenecks in the system on post-acute-care and community challenges,” argues Pierson. “Hospitals also need to look at their internal bed management and patient flow processes – who are they admitting, why are they admitting them, how is the communications and collaboration internally amongst the multidisciplinary care team and so on.”

## Beyond Bed Boarding & Location Tracking

One lean initiative undertaken at St. Thomas Elgin General was with housekeeping. A team of people from that department was brought together to understand the processes and develop some standard work and standard measures related to how a room is cleaned and turned over for the next patient. The hospital even employed voice-pager communications technology so housekeepers can be reached quickly when a discharge occurs.

“I believe housekeeping is a critical component of our healthcare team, not only in terms of keeping things clean and eliminating the risk of infection transfer, but also being able to assist patient flow,” states Collins.

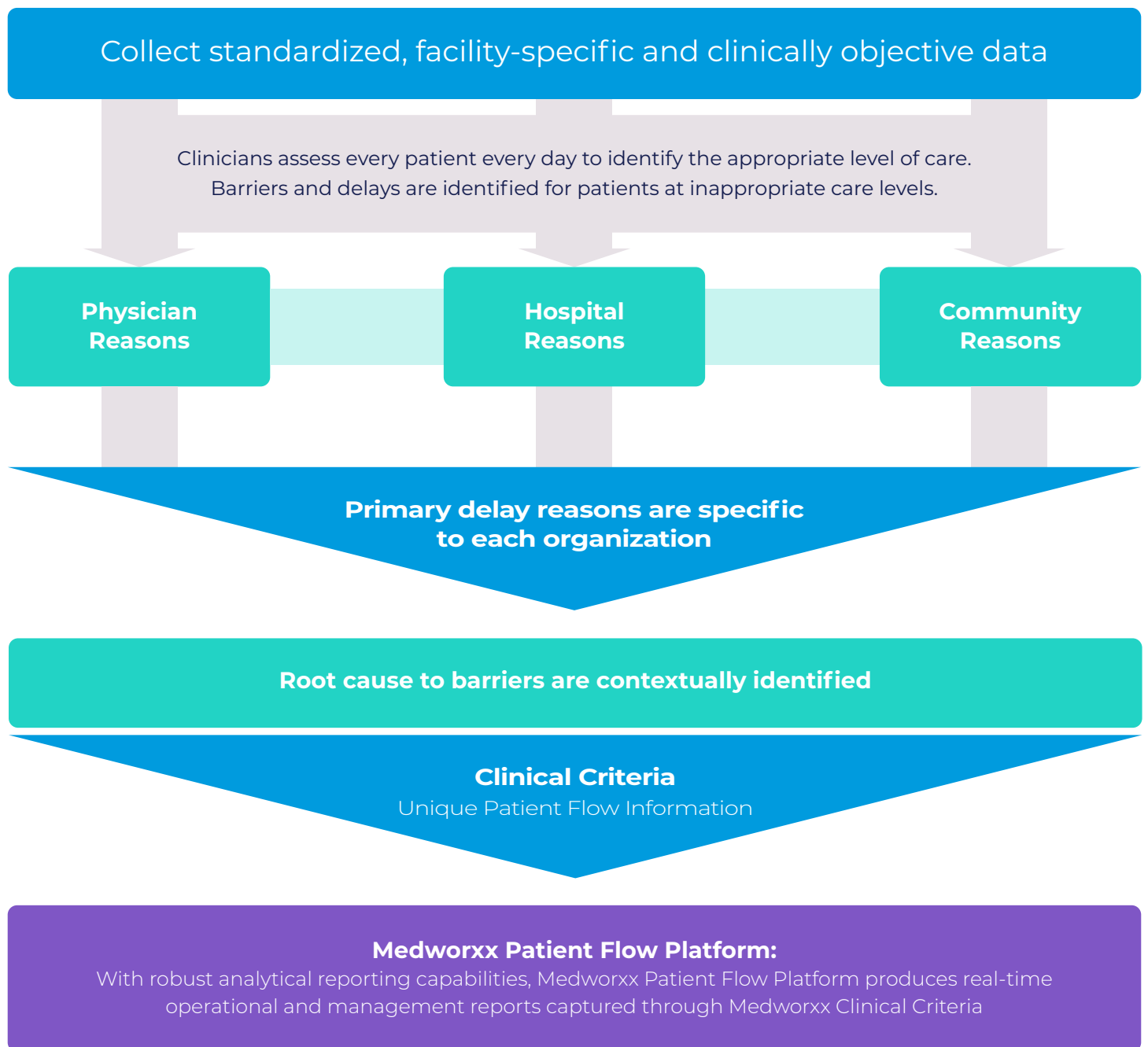
Although housekeeping, along with portering and location tracking (of assets, patients, staff), are perhaps mentioned most often when it comes to areas that need to be optimized to improve patient flow, the same can certainly be said about many other areas of hospital operations, including medical imaging, ordering practices and turnaround times as well as doctor models in the ED, to name only a small few.

“We also continue to address all these same areas at Hamilton Health, but inevitably we still have patients waiting,” admits HHS’s Sharon Pierson. As but only one example, perhaps Pierson’s comment lends credence to recommendations by industry analyst firm Gartner that what they are now calling Patient Throughput & Capacity Management (PTCM) systems go beyond simple process/occupancy single-point support.

In its 2013 report on healthcare provider applications and systems, Gartner suggests that next-generation PTCM systems should “include means to analyze patient flow, anticipate downstream demand, monitor and alert to progress against clinical pathways, and adjust in real time to changing circumstances.” The report says that while bed board applications that facilitate patient flow, nursing and communications with housekeeping staff, for example, are fairly common, PTCM solutions are fundamentally different.<sup>3</sup>

With true PTCM, the emphasis should be on “situational awareness and operations insight, not just bed boarding or real-time location”. The PTCM system should know and show where a patient is relative to the prescribed pathway and show the underlying causes of process breakdowns that cause delay.<sup>3</sup> This is where standardized clinical criteria sets fit in, kicking things up a notch over bed boarding and so on by providing real-time data that supports more predictive patient flow analytics. In addition, the biggest issue related to patient flow is patients who should not be there, but are there based solely on someone’s subjective opinion. Using a consistent approach based on standardized criteria, however, means patient flow decision-making is based instead on objective, clinical standards, and only the right patients will occupy beds.

# Medworxx PTR Progression of Care Analytics: Every Patient, Every Day

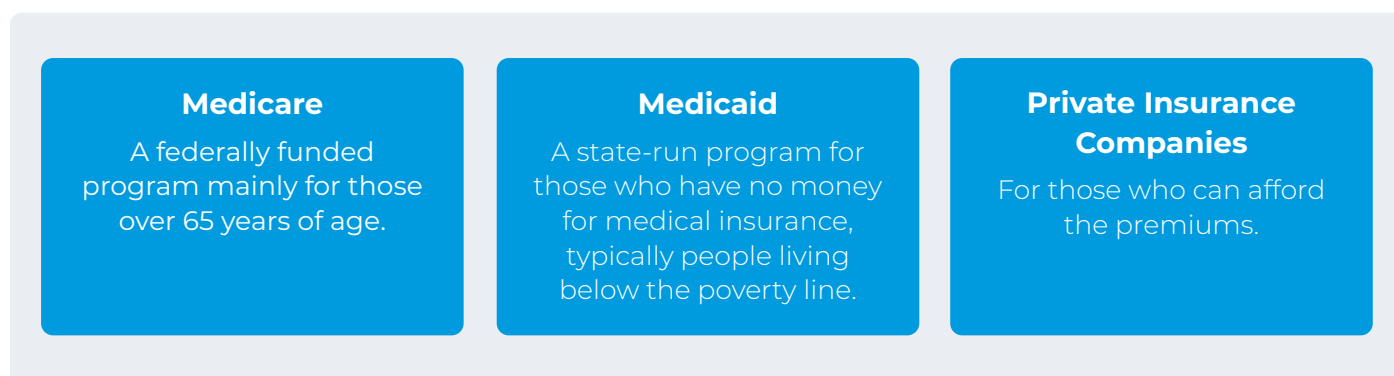


**Figure 5:** Medworxx Clinical Criteria Methodology

# Patient Flow & Clinical Criteria: An International Snapshot

## United States

When it comes to funding for hospitals, the U.S. is a multi-payer system, with costs reimbursed on an activity basis primarily by:



**Figure 6:** Types of hospital funding sources in the United States

When Fran Pennell says the U.S. practices “bottom line healthcare” to support the business of running hospitals, she is referring to the fact that it is these healthcare payers, with their payment rules, that can influence the behaviour of a hospital system.

“At any given time, 40% to 50% of the patients in U.S. hospitals can be being covered by Medicare insurance,” reports Pennell. “Since these are the older and more acutely ill patients, Medicare becomes the more influential insurer.”

Those decisions are based on criteria such as InterQual and Milliman as described earlier, and because of the complexity and large amount of information needed when working with these criteria, most, if not all, hospitals have some form of Case Management Department. There, InterQual/Milliman-savvy Case Managers are not only dedicated to the task of using the criteria to qualify patient admission but are also expected to write a discharge plan for each admitted patient early in the patient’s stay that goes into the patient’s record for the entire care team to see and work toward. The plan is typically based on the average prescribed LOS associated with the patient’s DRG (Diagnostic-Related Group) and the particular criteria set used to qualify admission.

Because of these activities, the U.S. is likely the most active country when it comes to the use of standardized clinical criteria sets. These have grown out of the need for U.S. payers and hospitals to bring order to the chaos and inconsistency of cost reimbursement, and their use is now well established as the foundation for the hospital case-payment process.

“The use of criteria sets by hospitals is essential in today’s world since clinical criteria are used by many insurance carriers to determine appropriate level of care for patients,” suggests Pennell, who goes on to say that, “With criteria sets being used to level patients upon admission and to identify the right population to be admitted, it’s a natural extension to then use them in the subsequent daily management of the patient and care plan.”

For example, Case Managers use the criteria to do what is called “levelling” a patient – a clinical note is written each day for each admitted patient and is sent to their insurance carrier for continual review and payment qualification, or is retained in the patient record for later reviews or audits.



## Criteria Sets Drive Clinical Efficiency

In the U.S., hospital payments are often made on a case basis (i.e. DRG-based). LOS is built into that case and the reimbursement payments for that DRG do not include payment for any extra days, so if a hospital keeps a patient longer, it may not be reimbursed for those days. It has also been demonstrated that the longer a patient is in the hospital, patient outcome may also be affected, given other illnesses patients are exposed to. As a result, hospitals have adopted a variety of processes and systems aimed at accelerating patient flow to ensure that patients leave within the specified time.

While Bed Management systems and dedicated Bed Managers are among the more common of these initiatives, systems for optimizing Housekeeping and Transportation are also gaining traction in hospitals throughout the U.S., as are RFID (Radio Frequency Identification) 'tagging' systems for tracking patients, equipment and even staff.

These systems can all be very effective at improving the use of resources and the flow of patients throughout the hospital, as well as reducing wait times. However, they generally address only the 'logistics' side of patient flow rather than the clinical side and thus hospitals still depend heavily on clinical efficiency and clinical decisions to bring patients to the point of being Ready for Discharge (RFD) as soon as possible.

This is where clinical criteria are starting to play a bigger role in the U.S. – beyond just admissions and the insurance payment process, to becoming a strong clinical efficiency play that leads to reduced LOS. The use of standardized criteria sets for regular, daily patient assessments enables earlier determination of RFD or, at the very least, early identification of hospital- and doctor-related barriers to discharge that hospital staff can address to reduce LOS.

“While many other countries have patients staying far too long (7 to 9 days in many cases) and could benefit greatly from the use of criteria sets to accelerate RFD, even in the U.S., where average LOS is only in the range of 4 to 5 days, a small reduction can produce cost savings and cost-reallocation opportunities for hospitals as well as freeing up space and resources, enabling hospitals to handle more patients,” suggests Pennell.

Although the depth and comprehensiveness of the InterQual/Milliman-type criteria may be appropriate for qualifying an admission and supporting the insurance payment process, they are often complex and would require considerable time for use in daily patient assessments, to say nothing of the extensive training frontline staff conducting the assessments would need to be conversant in those criteria sets. A much simpler set of criteria – one that is much easier to learn and use – is sufficient for improving patient flow and decision-making related to patient status and discharge.

For example, consider just one criterion – being on an IV. For the purposes of assessment and determining whether it is appropriate for a particular patient to still be receiving care and occupying a bed in a particular unit, it is sufficient to know that the patient needs to be on IV and what the rate of the IV is. The conclusion would be that the patient is receiving the right care at the right time and in the right place, and thus bed occupancy is still appropriate and the patient is not RFD with respect to this particular criterion. The InterQual and Milliman criteria, on the other hand, would probe much deeper than necessary, and in the case of the IV example would typically ask questions such as what medication the patient is on and what other IVs the patient may also have running. Clearly, this is more than is required, especially when a simpler set of criteria that is easier to use would provide all the patient status necessary just to determine RFD and bed-occupancy-appropriateness.

Countries such as the U.K. and Australia, that do not have the same history of using clinical criteria sets as the U.S. and where initial forays by the likes of InterQual appear to have been largely unsuccessful, are starting to find value in this use of a simpler, higher-level criteria set to support clinical and business decision-making. Although such countries do not need to dig as deep into the patient's case, they still need some type of tool to help determine appropriate level of care and facilitate patient flow.

## United Kingdom

Although roughly 12% of the U.K. population also receives private insurance coverage as a benefit through their employment, U.K. healthcare is mainly a single-payer environment. The individual nations within the U.K. each have their own systems. Scotland, Wales and Northern Ireland (approx. 10 million population) have vertically integrated regional health boards that are both payers and providers. In England (approx. 50 million population), there is a quasi-separation between payers and providers. The payers are twofold: National Health Service (NHS) England directly commissions all primary care, mental health and specialty tertiary services; and Clinical Commissioning Groups (CCG), formed from clusters of General Practitioners (GP), commission secondary services for their local population. The providers are predominately NHS trusts owned by the government, but competition is being encouraged by contracting with private providers for 'carve-out' services such as day surgery or diagnostics such as MRI and CT. The CCGs contractually commission the healthcare services from all these providers and manage those contracts and the performance of the providers.

The hospitals (known there as NHS Trusts) are paid under a fixed-rate payment scheme called Payment by Results (PBR), similar to the U.S. Medicare's Pay for Performance scheme. Whether a patient is hospitalized for 3 days or 23 days, the Trust receives only a tariff based on the resource grouping for the patient's diagnosis.

### Embedded Tool/Process Key to Patient Flow Gains

For CCGs, who are the ones looking at trends in patient flow and determining where attention needs to be paid, the focus has been twofold:

- Avoiding hospital admissions wherever possible, because that means Payment by Results money the CCGs do not have to pay out; and
- Avoiding additional excess days of care that CCGs have to pay for as part of the PBR tariff. This cost kicks in when a patient's stay exceeds a certain threshold, at which point it is only reimbursed at 50% of the normal tariff. Neither the providers nor the commissioners benefit from paying for unnecessary days that currently cost the NHS approximately £900 million per annum in England.

"Ten years ago when our firm conducted audits, we found that as many as 25% to 50% of admissions were 'avoidable', but now we are typically seeing 5%," reports Karen Dunwell, Director, ModelAdvice DC Consulting Ltd, whose U.K. firm provides full-service consulting advice, consultation and guidance for the NHS and other healthcare organizations. "This dramatic reduction is due to efforts by the CCGs to develop alternatives to admission such as patients' homes, community hospitals and spot-purchase beds in nursing care or residential homes."

She goes on to say that what has not been achieved, however, is widespread application of standardized discharge criteria by the Trusts. She claims that without embedding an assessment tool and process whereby each patient is assessed every day against standardized clinical evidence, any meaningful improvement in patient flow will be almost impossible to achieve. To support her claim, she describes before-and-after patient flow audits conducted by her firm for two clients.

In one case, where hospital Case Managers had been using an embedded tool (Medworxx in this case) to conduct daily patient assessments for two years, LOS was reduced by one day, from 6.5 days to 5.5 days, with significant cost savings for both the hospital and the local CCG.

In the second case, the client and the local CCG believed they had made substantial patient flow improvements by just bringing on 38 additional staff – nurses, therapists, social workers and healthcare assistants – to form what they called their Integrated Discharge Team (IDT). The team accepted referrals from A&E (i.e. the ED) and the wards regarding patients needing their attention for a speedy discharge and to improve patient flow.

“A re-audit for this client showed that there had been no significant achievement, and the percent of patients found who did not need to be in the hospital remained unchanged at one of the client’s two hospitals, and actually increased by a significant percent (19% to 35%) at the second hospital,” reports Dunwell, who contends that it was the ‘reactive’ referral-driven approach taken by the IDT that led to poor results, as opposed to the proactive approach taken by the first client, with trained clinical staff trolling the wards and the use of daily patient assessments based on standardized criteria.

“I hear about the barriers to flow from the people I interview during audits, but it’s just anecdotal information that tends to get ignored when it’s repeated too often,” says Dunwell. “Without a tool of some kind, you can’t quantify that part of the patient flow that is causing barriers to movement.”

Citing another example of the problems that arise in the absence of some form of embedded patient flow management process and tool, Dunwell describes how it is a written expectation by the U.K.’s NHS that care planning and a target discharge date be discussed with a patient right at the time of admission.

“Everybody has a different view of when discharge planning should start; but in 80% of cases, it does NOT start at the time of admission. A patient flow tool can force a standardized approach,” offers Dunwell.

## **Criteria Sets Fit the U.K.’s Integrated Care Model**

Actions by the CCGs that demonstrate their focus on trying to acquire the care patients need at as low an intensity level as possible and as cheaply as possible are representative of a broader move in the U.K. to an Integrated Care model. Through this model, the CCGs are attempting to integrate social services and health services, while shifting the emphasis for service delivery from high-cost institutional settings to getting more and more patients into lower-cost community and home settings.

The U.K. is also seeing the emergence of the Accountable Care Organization (ACO), which is provider-led and takes on the risk of providing the full spectrum of care to a defined population based on a capitated amount.

“ACOs are financially motivated to move patients to lower/alternate levels of care as quickly as appropriate to optimize whatever resources the fixed payment they receive can cover, and clinical criteria sets provide an effective way to regularly assess patient status for that purpose,” says Peter Ellis, Managing Director, Medworxx UK Ltd.

Clinical criteria sets can play a significant role in supporting these emerging models. In addition to use in acute-care units for determining bed-occupancy appropriateness and discharge readiness, standardized criteria sets can be used at any point along the Integrated Care pathway where there is a need to assess whether a patient is not appropriate for a given level of care and can be moved to a lower level of care or to a less-expensive setting.

“At the ‘front door’ of the Trust, for example, clinical pre-admission criteria could be used to assess for appropriateness of admission and to determine what level of care patients qualify for and whether they could receive appropriate care elsewhere,” suggests Ellis.

The U.K. government has sponsored a number of Integrated Care Pioneers (“pilot tests”) to explore the challenges of combining social and health needs of patients and coming up with a level of service to meet those needs. On the social side, providers can turn to the InterRAI (International Resource Assessment Instrument) to assess patients. This internationally agreed-upon set of measures is used to assess a patient by virtue of their coping skills, cognitive skills, risk of falls, ability to self-medicate and so on and results in a Resource Utilization Group (RUG) ranking for each patient, similar to a DRG, but for social care. On the health side, a simple, standardized set of clinical criteria as described earlier would serve well for patient assessment.

Ellis also states that, “Nobody wins from a wrongly configured health economy or by receiving care at an inappropriate level – patients suffer because they are at risk and deteriorate with every unnecessary day in a hospital environment; commissioners pay for unnecessary care and don’t have the quality of data to better monitor their local health economy and providers end up footing the bill for unfunded days of care.”

In growing recognition of the value of regular patient reviews for patient flow improvement and accelerating discharge, NHS England has included a schedule called “Patient Flow Improvement through Clinical Utilization Review (CUR)” in its 2014/15 Commissioning for Quality and Innovation Schedules (CQUIN), which outline contractual requirements for healthcare providers.

The CUR schedule provides special funding to hospitals for those patients receiving directly commissioned services (e.g. pediatric open heart surgery, spinal injury, rehab units) who are being supported by the use of CUR technology.

“This CQUIN is unique in providing hospitals a direct financial incentive to adopt a validated patient flow improvement solution,” says Ellis. “It demonstrates the value the NHS places on the application of objective, evidence-based criteria for ensuring appropriate patient care, while identifying opportunities for whole-system transformation.”

According to Ellis, the Clinical Commissioners are encouraged to mirror the NHS England commissioned services and create local CQUINs to encourage CUR as a requirement by local commissioners.

## **Scotland, Wales & Northern Ireland Also Under Cost Pressure**

These nations have independent legislative assemblies, with devolved powers for health, thus NHS Scotland, NHS Wales and NHS Northern Ireland run and fund their own health systems, not unlike the individual provinces in Canada and states in the U.S. All three countries are under pressure to reduce cost, and since the majority of their funding goes to hospital care, they are interested in shortening the length of stay, reducing avoidable admissions and providing more care in a community setting rather than in a bedded facility.

## Australia

Australia has both private hospitals, which are funded by private insurance companies based predominantly on case payments, with some per diem (about 45% of Australians have private health insurance) and public hospitals, which, under the National Health Reform Agreement, are funded by the states, territories and Commonwealth governments.

### Struggling with Inappropriate Discharge & Re-Admission

According to Anita Grindlay, Director of EQhealth in Melbourne, Australia, who has spent the past 17 years as a healthcare consultant, patient flow is very much an issue these days, especially in Emergency Departments, where targets have been set and penalties have been introduced by the government for lengthy stays. This is in accordance with the National Emergency Access Target (NEAT), the aim of which is that by 2015, 90% of all patients presenting to a public hospital Emergency Department will, within four hours, either physically leave the ED for admission to the hospital, be referred to another hospital for treatment or be discharged home.

There has also been some discussion by payers about imposing penalties for unplanned re-admissions similar to what has been done in the U.S. and U.K. This is an area where Grindlay has seen greater focus over the last few years. To some degree, Grindlay believes many of the issues with unplanned readmissions can be attributed to variable discharge planning by hospitals that at times sends patients out without the necessary education or post-acute services, or before they are clinically ready for discharge, which often results in avoidable re-admission.

“A problem I’ve seen throughout Australia is that discharge targets tend to be set based on averages, but averages don’t take into account the fact that some patients will be ready to leave sooner and others later,” states Grindlay, whose work these days mostly involves conducting clinical efficiency and effectiveness audits in Australian hospitals to understand avoidable admissions and avoidable days, as well as drivers and solutions for both. “By default, hospital staff will manage to those averages, writing clinical pathways based on this and managing patients to pathways based on averages,” adds Grindlay. “Our audits utilizing the Medworxx criteria typically find between 30% and 40% avoidable bed days.”

In Australia, hospitals submit their performance data for LOS and numerous other measures to the Health Roundtable, a non-profit membership organization of health services across Australia and New Zealand that collects, analyzes and publishes information comparing organizations and identifying ways to improve operational practices.

“Even though one of the hospitals we did a patient flow audit for selected their bestperforming specialty by Roundtable data, we still identified 33% potentially avoidable days, so even when they are benchmarking against other hospitals, they are benchmarking against ‘average practice’,” offers Grindlay, adding that this percentage is consistent with what they are finding at hospitals in general.

Models such as this don’t incent positive changes in behaviour; but Grindlay suggests that by using standardized clinical criteria for daily patient assessment to determine RFD instead of targeting LOS based on averages, staff can manage each patient individually every day – a patient-centric approach. In other words, instead of saying to a patient “you are going to be here for five days” (the average for that diagnosis), staff would say “you are going to be here until you can do such and such or until you no longer need this or that”.

“This aligning of expectations based on outcomes and managing to outcomes instead of to LOS would ensure that patients are clinically ready for discharge, thus reducing re-admissions, and that high-risk cases have been identified,” suggests Grindlay.

## Criteria Sets Offer Solution to Patient Flow Barriers

Even though Grindlay and her associates find that patient flow audits often quantify what their hospital clients already knew, they give clients evidence-based support for proposing improvement projects.

“Part of the ‘eureka’ value for clients resulting from such audits is discovering there is a lot that is under their control they can fix and it is not always the case that a patient flow problem is someone else’s issue, such as not having timely access to transitional care beds,” reports Grindlay. “We typically find more avoidable days due to physician and hospital reasons than due to community reasons, although there are issues in Australia with ALC. Many patients await access to community care resources, but much of the delay in getting patients into the community is not just a result of having to wait for an available bed (i.e., a ‘community’ barrier to patient flow), but is also due to delays in identifying the post-acute-care needs for patients and getting them onto waiting lists for community beds/services in a timely manner (i.e. a ‘hospital’ delay).

In addition, barriers to discharge often result from not having a clear plan of care. As patients are nearing discharge, there are often no clear instructions as to what needs to be done and they may end up in a ‘holding pattern’, especially over a weekend, waiting for someone to make the decision to discharge them (i.e., a ‘doctor’ barrier). The regular use of standardized criteria to assess patient stability, required intensity level of care and appropriateness for continued acute-care bed occupancy can address many barriers.

The use of clinical criteria sets for daily patient assessments by hospitals in Australia is only expected to see initial adoption by the end of 2014, perhaps as part of government initiatives to improve access to care. In the state of New South Wales, for example, the Whole of Hospital Program (WOHP), which produced successful outcomes in Emergency Departments in 2013, will be expanded beyond the ED in 2014 to incorporate other acute-care demand-management strategies to help metropolitan and rural Health Services further improve patient flow and access to care.

For some time now, however, Anita Grindlay and EQhealth have been using standardized criteria sets, based on the Medworxx Patient Flow solution, as an audit tool to give hospital clients a quantitative, evidence-based picture of their patient flow performance as it pertains to LOS, RFD and avoidable days and re-admissions.



## France

For the most part, France is a single-payer country. Hospitals are paid by the Caisse Nationale d'Assurance Maladie (CNAM), an agency of the Sécurité Sociale, which finances healthcare in France, using funds collected from direct contribution by employers, employees and self-employed workers as well as from some taxes.

In 2007, France adopted a pay-per-activity system called T2A (Tarification à l'Activité) to pay the hospitals. T2A is based on DRG (Diagnostic-Related Group) coding and replaces the traditional 'historic budget' approach of funding hospitals based on the budget of the previous year, with a model based on actual activities.

### Hospitals Face Difficult LOS Challenges

The big challenge facing French hospitals is to reduce Length of Stay, according to Didier Guidoni, a consultant in the France office of Kurt Salmon, an international firm that provides consulting to hospitals in organization, business planning, financial management and human resources. Although the French health ministry is very motivated in this regard, a penalty payment for excessive LOS instituted five years ago has not been sufficient to drive significant reduction.

"It's a French culture thing, and doctor and patient habits must be changed in order to reduce LOS," claims Guidoni, who indicates that the culture of doctors, for example, is not to be too hard on patients and to readily allow them to stay in the hospital one or two more days than may be necessary, and without a real medical reason.

"France will have to make significant improvements to reach these types of ratios," observes Guidoni, who believes that financial payment could be a big incentive. "As hospitals reduce LOS, they can accept more patients and thus receive more payments."

Ministry efforts are also underway to address LOS on Medical units, where Guidoni claims care providers previously lacked the tools to help them and thus did not always know, for example, which patient was ready for discharge. Less than 10% of French hospitals have a bed management tool today. To address the need for tools, the health Ministry launched the Bed Management Project to equip hospitals to better manage patients and beds.

Through a national agency called ANAP (Agence Nationale d'Appui à la Performance), the French government will finance the implementation of a Bed Management program in 200 private, public and teaching hospitals by the end of 2015. The project will cover the implementation of a bed management organization, including the creation of Bed Managers and the definition of bed management best-practice processes. The project is being driven by five consulting firms (each assigned 40 hospitals), with Kurt Salmon guiding the project overall.

Although program definition does not explicitly call for the implementation of an automated tool with clinical criteria sets for patient assessment, the Bed Management program is a change management initiative that will demonstrate that bed management is a real issue in France and accelerate the adoption of such tools.

"As part of this program, we have introduced LOS audits to demonstrate to the hospitals the problems they have in patient flow management," says Guidoni, adding that his firm is using the Medworxx Patient Flow solution with built-in clinical criteria sets as a tool for conducting such audits.

## Canada

In Canada, healthcare delivery is the responsibility of each province and territory. It is, by and large, a single-payer environment, with baseline health costs paid by the provincial/territorial governments. Most employed citizens also have private supplemental healthcare insurance provided as a benefit through their employment.

### Criteria Sets Support Emerging Analytics Vision

At the country level in Canada, the focus for nearly the past 10 years has been primarily on creating interoperable, pan-Canadian Electronic Health/Medical Records (EHR/EMR) that also incorporate patient data and test results from other systems, including medical imaging, drug information and core laboratory systems.

The architectural guidance for this journey, along with considerable funding, has been provided by Canada Health Infoway (Infoway), an independent, not-for-profit corporation funded by the Government of Canada. Infoway jointly invests with every province and territory to accelerate the development and adoption of health information technology.

With the EHR/EMR initiative reaching maturity and deployment virtually country-wide, Infoway appears on the verge of sharing a new vision with the country – healthcare analytics. All the EHR/EMR and infrastructure integration work that has been done has created new opportunities for capturing valuable health system information in near-real time, but many jurisdictions are struggling with what they need to do from an analytics perspective to leverage all this information.

“A lot of ‘movement’ information can be extracted from hospital administrations systems (e.g. ADT) and from HL7 transactions, for example, that can provide a good indication of what’s happening within the hospitals and across the provinces,” suggests Alex Mair, an Infoway consultant working on the analytics vision.

Even though standardized clinical criteria sets are already being used for daily assessment of patients in a large number of the country’s acute-care beds, as mentioned earlier, a lot of jurisdictions do not yet have a province-wide perspective on things such as utilization management and patient flow. The wealth of patient health status data gathered from those assessments is not only useful operationally, to facilitate real-time patient flow optimization and discharge decision-making, but also strategically, when rolled up across the hospital and used by management for PTCM planning, process improvement and hospital resource allocation.

“Infoway hopes to provide a framework to help organizations see analytics as a strategic tool and to start making use of the data already residing in healthcare systems to solve specific real-time, ‘now’ problems, rather than just as something that is done after the fact,” reports Mair.

## Patient Flow Across Canada

While it is fairly safe to say that all Canadian provinces/territories already have some form of patient flow improvement initiatives underway, they each face their own set of challenges and each is at a different point along the patient flow optimization journey.

In the province of Prince Edward Island, for example, 70% of patients in Island hospitals are discharged from the hospital after an appropriate length of time, according to Canadian Institute of Health Information (CIHI) standards, while 30% are staying longer than expected. The average length of a hospital stay is almost three days longer in PEI than the Canadian average. As a result, Health PEI is focused on an even more coordinated approach to admission, treatment and discharge and the consistent use of standardized care pathways that will lead to better quality care and shorter stays for patients with some of their most common diagnoses. However, there appears to be no mention of the use of clinical criteria sets yet as part of standardized care pathways.

The nearby province of Nova Scotia, on the other hand, has just completed a provincewide rollout of the Medworxx Patient Flow platform, bringing daily patient assessments based on standardized criteria to all of the province's acute-care units.

According to Nova Scotia's Tim Guest, numerous aspects of the province's health system were experiencing considerable pressure, not the least of which was patient flow, as evidenced by the situation in Emergency Departments. The EDs in their metropolitan hospitals were constantly in an over-capacity situation, with people on stretchers in back hallways for extended periods awaiting admission and ambulances backed up out on the streets with no place to put incoming patients.

"We didn't have a standardized approach for managing beds, we had different levels of success working with doctors to get patients out of beds who didn't need them and we had differing levels of data to suggest what the barriers were to being able to move people out of the hospitals," admits Guest, adding that, "We also thought we had too many beds in some facilities and not enough in others, but no real evidence to support our gut feeling."

The implementation of the patient flow system has enabled management to begin to measure patient flow and better manage the province's beds; and now, when they are addressing an issue, they can all talk using a single language, where they are all speaking about the same thing and the data means the same thing to everyone.

"The use of regular assessments and standardized criteria changes the conversation," declares Guest. "It provides objective evidence to suggest that if a patient doesn't meet the criteria, they may be getting the wrong level of care and should be moved – it's no longer subjective or just the nurse's opinion."

Adding to these sentiments, Nicole Lukeman, Provincial Patient Flow System Facilitator, points out that, "No one is surprised by the data coming out of the system, but now they have hard evidence to support their patient flow decision-making and business cases for change."

In Alberta, Alberta Health Services has also chosen to use standardized criteria province-wide to measure patient status and to provide an objective basis for bedoccupancy-appropriateness decision making – a patient has either "MET" at least one of the criteria indicating that it is appropriate for them to continue receiving that level of care in that bed, or the patient is classified as "NOT MET", making them RFD, or at least a suitable candidate to be moved to a lower level of care provision, thus at lower cost and resource intensity.

Similarly, British Columbia has also signed up to go this route, and the use of standardized clinical criteria to support improved patient flow and shorter LOS has already been implemented by several of the province's regional health authorities.

## Standardization Offers One Path to Transformation

As Sharon Pierson stated earlier, Hamilton Health Sciences in Ontario is constantly looking at initiatives to address patient flow issues, focusing on the hospital- and doctor-related barriers they can actually control. Among those initiatives, for example, is changing the clinical staff rotation to a 24x7 model of care delivery to re-align existing resources for greater patient-handling capacity.

They are also trying to make a fundamental change in the discussions that occur surrounding daily rounds – from talking about why a patient may still be there, to more proactive discussion about who's going home on Tuesday, say, and what is everything they need to do to make that happen. HHS has also done multiple patient flow audits and surveys, looking at patients who are still in the hospital on the weekend, for example, and asking “if such and such had been done – more physio, more CT scans, more whatever – could this patient have gone home instead of staying?”

“We’re trying to get ahead of the delays in the system,” explains Pierson, who says that in addition to operational improvements such as these, HHS has started down the path of ‘transformational change’ to a patient-centric model, which the industry sees as being critical.

“I believe that one enabler for that transformation is standardization, so we are moving in that direction and talking more and more about standardized criteria, about how staff and doctors make decisions and how to get rid of the subjectivity.”

When it comes to actually implementing the use of clinical criteria sets, however, Pierson claims that, “It is hard for hospitals to invest in anything these days since they are so cash-strapped.” However, Nova Scotia, for example, managed to overcome the funding challenge for its province-wide rollout of patient assessments and criteria sets through a grant from the province’s Innovation Fund, set up to invest in quick-payback initiatives that help citizens get “better care sooner”.

## Clinical Criteria Delivers Operational and Strategic Value

Clinical criteria sets are changing the patient flow landscape and giving clinicians a tool that bridges evidence-based clinical criteria developed through years of research and clinical experience to a quick, daily, standardized assessment that benefits clinicians and patients alike.

The rigorous use of daily patient assessments based on standardized clinical criteria sharpens the focus on patients who are (or are not) appropriate for admission, as well as those who are ready for discharge, and identifies any key barriers to transition from the hospital or to a different level of care within the hospital. This process drives organizational process improvement and helps hospitals improve patient flow and optimize the use of beds and other critical hospital resources and services.

In addition to the immediate benefits to the care of individual patients, rich data is being accumulated at a unit, facility and jurisdiction level that supports operational management and, over time, strategic decisions on the reallocation of resources and services and the monitoring of performance.



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