THE HEALTHCARE EXECUTIVE'S GUIDE TO ACCELERATING THE VALUE OF HEALTH INFORMATION EXCHANGES WITH RESOURCE MATCHING AND INTELLIGENT eREFERRAL

Is Resource Matching and eReferral technology investment warranted when an HIE is in place?

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Executive Summary

Health Information Exchange (HIE) is the most rapidly advancing tool for secure access to and electronic exchange of complete health records. No longer simply an option for the modern healthcare system, today's HIE is a must. It has redefined how healthcare providers using disparate health information solutions coordinate and collaborate with patient care teams. This collaborative exchange of health information coordinates care electronically to reduce administrative strain, improve patient care, eliminate unnecessary or duplicate medical interventions and lowers system costs.

The HIE emerged from a need to develop a tool that shares health information across all health sectors by accessing this information through a clinical viewer or portal, or as embedded data feeds within source systems. Historically, integration between health information systems has advanced erratically across the healthcare sector with limited cooperation between major vendors. However with both format (HL7, CDA, CCR) and content (ICD, SNOMED, InterRAI) standardization now advancing rapidly, HIE's can regularly deliver:

- Sharing of demographics between disparate or isolated applications;
- Clinical information-sharing between different sectors of the healthcare continuum;
- Single sign-on to support rapid access to the suite of health informatics applications; and
- Sharing patient context, to enable clinicians to work with a single patient across a number of unique software tools.

These advances have allowed for tighter integration. Layered sets of software tools now provide broader record views and more effective and safer clinical transactions – but in reality, with varying degrees of delivery efficacy. Today, the vision and practical potential for HIE integration are evolving ever faster.

Clinicians want tools that provide anywhere, anytime access to the total patient record. Driven by technical advances and increased vendor cooperation, this technology is delivering. Health providers can now generate a real-time, truly consolidated 'one record for one patient' across traditionally fragmented health economies.

This white paper looks at how the addition of a Resource Matching and Intelligent *eReferral* solution can profoundly leverage the value of the HIE by actively enabling complete referrals to the most appropriate downstream service provider(s) that can meet the patient's unique clinical needs and preference – all in real time. How this latest advance in data exchange translates into practical healthcare delivery, and real system benefits to drive sustainable ROI, will also be examined.

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Today's eReferral

Programming for today's referral patterns in a health economy is incredibly complex. Expanded patient need, expectation, a complex array of patient resources with specific admission criteria, and an rapidly aging population with multiple chronic diseases makes program design challenging. To be effective, today's *eReferral* must deliver: Standardized workflow process;

- Intelligent health record filtering;
- Patient prioritization;
- Health system prioritization;
- Real-time patient to service provider matching;
- Real-time patient to resource matching (vacancy matching);
- Real-time wait listing;
- Live patient-facing interaction; and
- Real-time dynamic business intelligence.

Some may say that it is enough for *eReferral* functionality to simply attach a patient's encounter summary to a secure 'point to point' email between, for example, a Primary Care Physician and specific known specialist, acute discharge coordinator and rehab admission coordinator, or physician and community program. Others say that once an HIE is in place, an *eReferral* solution becomes obsolete since all clinicians can access all patient information to make transition of care decisions. That may be the case; however other important questions need to be asked:

- What specific health information or minimum data set does the long-term care or community mental health agency really need to determine whether care can be provided?
- Does the specialist known to the GP truly offer the expertise needed, the fastest, shortest wait time for consult; and will the appropriate tests/prep be completed prior to consult?
- Does the known rehab centre offer the best geriatric program and outpatient services to meet the patient's clinical need in that patient's home community?
- Is the physician aware of all community Mental Health and Addiction options, their admission criteria, and availability in designing the community care plan referrals?
- Which long-term care or rehabilitation facilities have an empty bed, right now, that meets the patient's need and preference?

Simply providing access to health information or even secure point-to-point messaging across the care continuum does not allow clinicians to answer these critical questions. Rather, answers to these questions can only be provided by highly intuitive, truly intelligent Resource Matching and *eReferral* solutions that are integrated with the patient flow process. This presents a new opportunity for health systems to not only access health information but to action health information in order to ensure the right information is used to transition patients to the right care at the right time.

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A new opportunity

Physicians make medical decisions every day; often with limited, incomplete, or scattered information. There is a cost associated with tracking down and obtaining necessary information. HIE breaks down silos and makes information available to authorized providers when and where it is needed – quickly and securely. When all members of a patient's care team have the right patient medical information available at the right time and place they need it, these professionals can provide better, more timely, and more cost-effective care, improving that patient experience and system economies simultaneously.

Accelerating the Value of an HIE

Connectivity, collaboration, and meaningful use are the hallmarks of HIE success. Digital medicine is fast becoming the norm; and investments in health information technology are fast-tracking this trend. However, it is expected that solutions prove their value in creating process efficiencies, reducing process waste, improving patient outcomes and adding further intelligence to drive evidence-based decisions. Understanding the value-added opportunities of new technology that can fill this need, allows these systems to capture greater 'health intelligence' that contributes to health provider economics and outcomes.

By integrating HIE with a proven Resource Matching and intelligent *eReferral* solution, system ability to deliver more targeted, meaningful, and patient-centered processes is realized and featured as:

- Complete and comprehensive minimum data set filter that allows down stream service providers to make rapid effective transitions of care decisions; while preserving optimal patient privacy;
- Intuitive and seamless *eReferral* function WITHIN the physician and clinician workflow;
- Live patient and primary circle of care participation to support unique referral based on medical need and patient choice;
- Real time client matching to automated Resource/Service catalogs;
- Optimized and complete patient record specific to referral type;
- Real time communication/alerts/updates between a multidisciplinary team; and
- Live analytics to drive daily decision support and strategic planning.

As HIE continues to evolve, value-added Resource Matching and *eReferral* integration of systems such as Disease Management or Community Public Health, for example, reaps big benefits. With this integration, these systems become part of the HIE. Resource Matching and *eReferral* can then leverage the relevant information within the HIE to match patients to appropriate and available services and make the specific patient known to a program. Without Resource Matching and eReferral, the patient will not consistently be matched with the program that best meets his/her need and will not benefit from this professional collaboration of care.

Let's look at how patients become engaged with appropriate programs and services using Resource Matching and *eReferral* integrated into HIE for Disease Management and Mental Health and Addiction programs.

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Disease Management

To effectively manage chronic disease, primary care physicians and specialists collaborate in their patients' best interests. When patients in a disease management program see several specialists during the course of their care, coordination of this care demands that physicians have access to good information tools and technology. Information exchanges must be managed within the physician workflow.

For example, if a patient presents to a primary care physician with breathing problems, the physician will most likely refer the patient for lung function testing to determine the diagnosis. If the HIE is intelligently integrated with Resource Matching and *eReferral* relative to a disease management program, the physician will not only have access to lung specialists and lung function testing centres, but could also have access to information about programs offered by The Lung Association, for example, or the health system's chronic asthma program, or a smoking cessation program, and where they are located. The information presented is based on those programs and services that truly best meet the patient's specific needs and preferences. The physician shares this additional information with the patient, and then makes referrals based on patient program preferences, geographic location, current wait times, or need versus the tradition of relying on his/her understandably limited knowledge of system-wide available resources and admission criteria.

As the patient engages with these services, this then becomes the foundation for a much more complete patient record. Communication across a multidisciplinary care team about the patient is collaborative and ongoing. The patient's success or challenge within a particular program's becomes known to the care team. Data can then be collected about these services and their efficiency which drives further decision-making. Without integrated Resource Matching and *eReferral*, the physician would most likely just refer the patient to a known lung specialist, perhaps without the referral to the additional community programs that would greatly enhance the patient's ability to manage his/her own care.

Mental Health and Addictions

HIE advances have allowed for complex data-sharing across many levels of health systems. Information can now be shared among local, provincial, and national health systems and between the various health stakeholders that make up each of these regional systems. Nowhere does this advance in the integrated record offer more potential than within the complex Mental Health and Addictions portfolio. A unified health record generates both potential and risk for patients whose mental wellness is compromised. Experience suggests that the combination of HIE and Resource Matching and *eReferral* can optimize system outcomes and privacy and ensure improved care options and transitions for patients.

For example, for a patient with a history of mental health and addiction issues who presents to a primary care physician or emergency department, having immediate access to a complete longitudinal patient record can be life-saving. Having access to a complete picture of previous diagnoses, medications and interventions can reduce the occurrence of duplicate or conflicting treatments and help clinicians identify the patient's risk profile more quickly.

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With a Resource Matching & Referral solution integrated within the HIE – the physician will be simultaneously presented with the community care program options (including live wait times) that match and can best support the patient's clinical and social needs – with the care plan referrals initiated in real time. Prior to the Resource Matching and *eReferral* resource, clinicians could refer only to those programs they were personally aware of, versus choosing from the complete portfolio of appropriate and available resources.

Case Example: *A survey within a mid-size Canadian health jurisdiction identified 132 community Mental Health and Addictions programs endorsed by the health system. A parallel survey of Mental Health and Addictions clinicians identified only 24 of these 132 programs which were consistently referred to. Upon interviewing clinicians – it became clear that individual clinicians were a) not aware of all programs available, and b) were not aware of program criteria even for those programs they were aware of.*

Upon launch of Resource Matching and eReferral for Mental Health and Addictions– these same clinicians were presented with all options, live wait times and a recommended referral plan for each unique patient – in real time.

Importantly, the patient now has the opportunity to collaborate with their clinician in a customized care plan driving potential for improved program compliance – critical within Mental Health and Addictions. Due to Resource Matching and *eReferral* integration with the HIE – the patient referral plan will become a live component of the complete health record – improving outbound clinical assessments and outcomes.

Finally, overall health population data is then strengthened relative to high-risk Mental Health and Addictions patients driving strong clinical analytics around program efficacy, utilization and ROI. With integration, decision-makers would have the data needed to apply to current system policy, processes, and standards. Better patient care would be the outcome.

Without integrated *eReferral* tied intimately to the HIE, it is likely that delays would occur in providing the correct and necessary treatment plan and reporting process because multiple systems and programs were not interoperable.

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Advantages of Integration

There are several key advantages for integration between HIE and Intelligent Resource Matching and *eReferral*. As healthcare delivery continues to transform, meaningful integration between these tools now will position health systems for the future. Technology is already filling system gaps and will continue to evolve so that timely access to care and health records is universal regardless of location or population.

Advantage 1: Uses a minimum data set within the HIE to help intelligently navigate the patient to the most appropriate providers and care plan

Specialist referrals become more appropriate, meaningful, and targeted. If, for example, a patient is referred to see an oncologist, the information stored in that patient's HIE record would include standard medical information such as patient history, medications, test results. It may also include non-clinical information such as patient specialist/location preference, income level, cognitive ability, and compliance/overuse history. When making a decision about caring for a patient, a specialist requires very specific set of clinical and health data. When intelligent Resource Matching and *eReferral* is integrated to the HIE, a minimum data set very relevant to the specialist is used to intelligently match to the most appropriate referral choice, thereby ensuring the patient is seen by the best specialist for a better outcome, while preserving overall privacy.

Advantage 2: Improved physician and clinician workflows, efficiencies and communication

When accurate, broad, and complete information is accessible to clinicians at first point of entry to the Resource Matching and *eReferral* system, the referral process is robust from the start. This establishes efficient communication, reduces delays, and provides for a better use of clinician/administrative time which improves productivity and reduces unnecessary costs.

Advantage 3: Optimized patient engagement and safety leading to better patient participation in care

Patient engagement increases patient compliance. When a physician has access to a range of referral information, including available programs and services that can be offered to a patient, there is more opportunity for a patient to participate in the management of his/her own care. This allows for better patient outcomes and patient experience. Furthermore, this creates greater patient independence and reduced reliance on the health care system.

Advantage 4: Complete and correct referral package improving patient care, safety, privacy and system efficiency

Intelligent Resource Matching and *eReferral* ensures that referral information is correct and complete. It removes the possibility of wrong or lost lab results or mismatched patient names or even incorrect patient demographics delaying or duplicating referrals.

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Advantage 5: Right level of care for patients, at the right time, every time

Intelligent Resource Matching and *eReferral* provides clinicians with the confidence that all the most relevant information from the patient record is being considered in real-time. For example, if a patient with complex health needs presents with mental health and cardiac issues at the same time, the physician could view the HIE and perhaps see that the patient has a history of bouncing around to physicians with different health issues each time. The physician could refer the patient more appropriately to a psychologist rather than a cardiologist.

Advantage 6: Optimized program utilization across health economy

Without Resource Matching and *eReferral*, the complete set of options won't be known to clinicians, and referrals will often be made to inappropriate services.

Advantage 7: Strong analytics to support systems evolution to maximize performance, outcomes and ROI.

Executives need vigorous reporting mechanisms and analytics to be able to make decisions that result in better performance and system improvements. Knowing where system lag points are is critical to better patient outcomes. Integrating intelligent *eReferral* to the HIE is the solution to accessing strong analytics to base decisions on that ultimately move systems to higher levels of performance.

Current Challenges

- Ability of HIE technology to effectively integrate with large number of competing physician EMR's
- Physician adoption of HIE functionality
- Vendor willingness to drive deep integration between HIE and *eReferral* tool sets
- Ability and willingness of Systems to fund HIE/eReferral to drive transactional excellence
- Ability/willingness of patient to participate in their care and referrals

Conclusion

Health systems should consider adding value through HIE/Resource Matching and *eReferral* integration. Highly intuitive, it has been shown to: decrease the dollars spent on redundant tests; reduce the number of patient re-admissions to hospitals due to inappropriate community care following an acute episode; decrease the cost of care for chronically ill patients by referring to appropriate community resources to avoid the acute admission; while reducing staff time spent on administration.

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Strata Health leverages web technology to achieve dramatic patient flow improvement. Our customers have entrusted us with the job of achieving real and dramatic benefits for patients, their families and the world's devoted front line caregivers. We've been entrusted to create patient flow solutions that really do deliver.

Our Products

The Strata PathWays™ suite of solutions is an exciting case in point. This online, real-time waitlist optimization system radically reduces the time that patients occupy acute care beds after they have been cleared for release into alternative community care streams.

In use by health jurisdictions serving over 8 million Canadians, Strata PathWays™ seamlessly matches the specific needs of post-acute care clients with the particular resources and availability of providers in the community. Alberta Health Services – Calgary Zone, for example, achieved an annual drop of 67% (from 120 to 40) in the number of acute bed clients waiting for appropriate community placement.

Our Vision

The ongoing evolution of Strata PathWays™ brings us closer each day to fulfilling our Vision: To be the global patient flow logistics thought and delivery leader, as judged by the leading Health Care organizations, clients and individuals who choose to partner with us.

Our Clients

The end users of our products — front line health care workers who've borne the brunt of complex and manual processes of patient flow management — find our systems highly effective and easy to use.

We deeply appreciate their approval, because it's our Mission to campaign for improvement by partnering with our customers. We do this by listening very carefully to them. And then by listening some more. So the patient management systems we deliver to them reflect their heartfelt input and solve the very real challenges they face every day.

And if you listen to our customers, you'll hear their enthusiasm for our company:

"Outstanding customer care and service."
"They deliver on target and on budget."
"Great people, integrity, hard working – they deliver."
"Amazing can-do and will-do attitude from all the Strata Health people."

Our People

So who are these Strata Health people? Operational in Canada, and the UK, we're a privately-held Canadian corporation of professionals with empathy for those who need care and intense respect for those who devote themselves to caring for others.

To learn more visit www.stratahealth.com