The Value of a Rapid Access Internal Medicine Clinic – An Observational Perspective

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ABSTRACT

Background

Rapid access Internal Medicine (IM) clinics aim to reduce burden on inpatient services. Despite an increased prevalence of these clinics across Canada, there is a lack of evidence demonstrating their value.

Methods

An observational retrospective review was undertaken to identify the usage of our IM clinic. A prospective analysis of Internal Medicine Clinical Teaching Unit (CTU) diverted admissions and a subsequent cost benefit analysis was performed.

Results

Referrals were primarily from emergency room physicians (47%) and general practitioners (34%). Of the requests for admission over a 4-week period, 6.1% were diverted with clinic follow-up within four days. A potential \$30,000 of inpatient care costs were prevented over the study period.

Conclusion

Rapid access IM clinics help reduce demand on emergency departments and inpatient services. A significant percentage of hospital admissions may be avoided by implementing rapid access clinics. Further study is needed to better quantify the overall benefit.

RESUME

Antécédents

L'accès rapide aux cliniques de médecine interne (MI) vise à réduire le fardeau des services aux patients hospitalisés. Malgré une augmentation accrue de ces cliniques au Canada, il y a un manque de preuves démontrant leur valeur.

Méthodes

Un examen rétrospectif d'observation a été entrepris pour identifier l'utilisation de notre clinique de Médecine interne. Une analyse prospective de l'Unité d'Enseignement Clinique en médecine interne (UEC) a permis de détourner les admissions et une analyse coûts-bénéfices subséquente a été effectuée.

Résultats

Les références provenaient principalement de médecins de la salle d'urgence (47%) et de médecins généralistes (34%). Parmi les demandes d'admission sur une période de 4 semaines, 6,1% ont été détournées avec un suivi clinique dans les quatre jours. Un coût potentiel de 30,000 \$ en soins hospitaliers a été évité au cours de la période d'étude.

Conclusion

L'accès rapide aux cliniques de médecine interne contribue à réduire la demande dans les services d'urgence et les services aux patients hospitalisés. Un pourcentage important d'hospitalisations peut être évité en mettant en place des cliniques d'accès rapide. Des études supplémentaires sont nécessaires pour mieux quantifier le bénéfice global.

Hospital admissions in Canada have increased over the last decade resulting in escalating healthcare costs, overcrowding of emergency departments, and increased demand for medical services. Furthermore, inpatient medical care is becoming increasingly more expensive, for example the cost of an average heart failure admission in Canada has risen steadily from 2004 to 2013 by 1.4% annually.¹ Internal medicine admissions play a large role in escalating hospital admission costs. In fact, the Canadian Institute of Health listed heart failure, pneumonia, acute myocardial infarction, and COPD as four of the top five reasons for non-surgical hospital admissions in 2015–16.² With the increasing number of patients being admitted to inpatient services and the cost of these admissions on the rise, alternative solutions are needed to help address this trend.

In Canada, many institutions have introduced rapid access clinics as part of a broad strategy to reduce hospital admissions and readmissions.³ These clinics provide an avenue for emergency room and community-based physicians to refer for expedited consultations. Both acute neurology clinics and heart failure clinics have been successful at reducing health care costs by reducing hospital admissions.^{4,5} In theory, given the success of these subspecialty clinics, a similar trend is expected with the introduction of IM rapid access clinics. That said, despite the increasing prevalence of IM rapid access clinics, there is a paucity of literature describing their value in healthcare delivery.

In this paper, we describe and quantify our local experience with an IM rapid access clinic. In addition, we highlight the value of this clinic in reducing demand on the emergency department and inpatient services.

Methods

This was a single centre observational study completed at the Royal Jubilee Hospital (RJH), a tertiary care teaching hospital, in Victoria, British Columbia. The Urgent Medical Assessment Clinic (UMAC) at RJH is a rapid access Internal Medicine clinic supported by Vancouver Island Health Authority. Patients are referred to UMAC via a standardized referral form (see Appendix 1).

Demographic data was collected in a retrospective manner from the electronic medical record used in the UMAC clinic (OSCAR) over two distinct one-month periods (May 2016 and November 2016). These dates were chosen to reflect potential growth in the clinic over time and sampling convenience. Information collected included number and type of referrals seen, and acuity and expediency (in terms of referral time to consultation time) of referrals seen using a temporal comparison to assess usage of the clinic over time.

In addition, a prospective analysis was completed during a four-week period in November 2016. All requests for admissions to the Internal Medicine Clinical Teaching Unit (CTU) at RJH were tracked. Specifically, we identified any patient deemed as needing admission (as determined by the emergency room [ER] physician) referred to the CTU service who, after consultation, was instead discharged home with expedited follow-up at UMAC. This was considered by the research team to constitute a diverted hospital admission. CTU consultations for management advice, that were diverted admissions without follow-up provided through UMAC, or that occurred via telephone consultation were excluded from analysis. The reason for consultation and

time to follow-up was also tracked. The number of diverted hospital admission was compared to the total number of CTU admission during the four-week period of study. Cost analysis on diverted admissions was completed using a base cost of \$1065 per day (Canadian Dollars) used by our institution for an average hospital admission based on Canadian interprovincial rates.

Permission to undertake our study was provided by the Information Stewardship, Access, and Privacy department of Island Health and the Information Steward for the UMAC clinic at Royal Jubilee Hospital.

Results

Clinic Demographics

There were a total of 62 clinic referrals in May 2016 which increased to 85 in November 2016. This showed a growth of 36% in clinical referrals over a five-month period, although preoperative assessments made up the majority of this increase. Almost half of all referrals were received from ER physicians (48%), with family physicians (34%), and specialists (18%) making up the remainder (Table 1). The most common referrals were for cardiovascular conditions but were quite varied including malignancy and autoimmune disease work-ups (Figure 1).

The acuity of referrals varied, however the majority of referrals from the emergency department were triaged as urgent (to be seen within five days). Most referrals were seen outside of the target range in May; however, all referrals were seen within target in November (Table 2).

Table 1. Comparison of Referrals by Physician Specialty between May and November 2016

	Total Number of Referrals	
	May 2016	November 2016
Emergency Physician	30 (48.3%)	39 (45.3%)
Family Physician	21 (33.9%)	29 (33.7%)
Specialist	9 (14.5%)	17 (19.8%)

Diverted Admissions

During the four-week study period in November 2016 a total of four patients met criteria for a diverted admission through the emergency department. This represented a 6.1% diversion rate of the total of 66 admissions to the Internal Medicine CTU during the same period. All patients diverted from the emergency room to follow-up at UMAC were seen within five days in the UMAC clinic and none required immediate readmission following these appointments.

The reason for consultation for these four patients included congestive heart failure exacerbation, chronic obstructive pulmonary disease exacerbation, undifferentiated chest pain, and undifferentiated shortness of breath. The average length of stay based on CIHR data from 2015-2015 for a medical admission is between five to nine days depending on diagnosis with an average of 7.05 days.² Based on our local cost of \$1065 per day

Figure 1. Comparison of type of diagnoses seen between May and November 2016.

Table 2. Comparison of Time to be Seen by Acuity of Referral between May and November 2016

Acuity of Referral*	Time to being seen (# of days) from referral to consultation	
	May 2016	November 2016
Within 5 days	5.8	3.4
5 – 10 days	15	8.6
10 – 40 days	n/a	15
Not specified	7.7	3.3

*Suggested time in business days from referral to consultation

for a hospital stay, the diversion of these four patients from admission represents a potential cost savings of \$30,033 over the four-week study period (with a range of \$21,300 to \$38,340).

Discussion

This study demonstrates that our local rapid access clinic, UMAC, provides consults on patients for a wide variety of Internal Medicine issues in an expedient manner. Appropriate triaging of patient cases ensures that referrals from the emergency department are seen in a timely manner, potentially decreasing the risk of re-presentation. Additionally, the clinic appears to serve as a potential diversion to inpatient hospital care to a select patient population through the provision of a diverse and timely medical consultative service in the ambulatory setting. Although causation for diversions cannot be proven directly from our study, in our institution consultations to IM from the ER are generally reserved for those patients who are felt to warrant inpatient care. ER physicians regularly refer to the UMAC clinic without Internal Medicine review, thereby potentially further limiting hospital admissions beyond our study numbers.

Diverted hospital admission were made possible through a number of factors. Foremost, the patients were physically seen by the consultant in the ER and deemed appropriate for rapid outpatient follow-up which provided support to the emergency department physician. Secondly, there was ample availability in the clinic for patients to be seen within an appropriate timeframe (i.e., within five days for an urgent referral), this prevented re-presentation to the emergency department. While we had a small study population, further analysis of a larger cohort of diverted patients would help identify specific patient characteristics that would likely result in a successful diverted hospital admission.

Although our study looked primarily at the emergency department and inpatient effects of a rapid access IM clinic, the outpatient benefits are likely just as valuable. A 2016 article showed that a dedicated rapid access heart failure clinic was associated with a decrease in hospital admissions for heart failure.⁵ This study included only patients referred by their general practitioner, unlike our study which included patients referred by general practitioners, emergency department physicians, and other subspecialists. Other studies have found similar benefits with integration between primary and specialist care.⁶ Overall, it appears the availability of a rapid access Internal Medicine clinic provides general practitioners reassurance their patients will be reviewed in a timely manner, potentially reducing future emergency department visits for more urgent care.

Although not included in our study, the rapid access clinic is often used to provide short-term care to patients following hospital discharge. Discharging patients from the acute hospital setting to community care, is often challenging requiring close follow-up. A study from the United States found that a dedicated follow-up visit, within 7 days of discharge from hospital, was associated with a lower risk of 30-day readmission rates for medicine patients.⁷ Although dedicated follow-ups from hospital discharge were not tracked in this study, it is common practice at our institution to have follow-up in the rapid access clinic following an Internal Medicine hospitalization. Rapid access clinics provide an ideal avenue to bridge this gap and minimize the risk of hospital visits and readmissions.

Although our study was limited by its observational nature and small volumes of patients studied, it does provide preliminary data for hospital administrators and policy makers regarding the quantifiable value of outpatient rapid access clinics. Even though the presumptive length of stay for patients ultimately not admitted is likely shorter than the national average, decreasing up to 6% of hospitalizations is undoubtedly cost effective in the majority of health care systems. In the future, further study over a longer time period involving multiple centres would be beneficial to corroborate and better quantify our findings.

Conclusion

Rapid access Internal Medicine clinics are an increasingly utilized resource in our institution and across the country. Rapid access clinics provide another referral resource for community physicians, reducing the burden on emergency department services and provide an alternative to hospital admission for a population of patients. Our study showed a 6% reduction in internal medicine admissions. Further study is needed to corroborate these findings, however consideration to rapid access clinics should be undertaken by health authorities to reduce the demand on inpatient services.

References:

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Appendix 1 - UMAC Referral Form

Urgent Medical Assessment Clinic (UMAC) – RJH Intake Form

Instructions:

Fax this form and any other relevant data to the RJH UMAC Clinic.

Date of Referral (DD/MMM/YYYY): _____

Patient First Name: _____ Last Name: _____

Daytime Telephone: _____ MRN (or PHN): _____

Evening Telephone: _____ Birthdate (DD/MMM/YYYY): _____

Referring Physician: _____ MSP: _____

☐ Royal Jubilee Hospital 250-370-8220

☐ First Available		
☐	☐	☐
☐	☐	☐
Fax: _____		
Reason for Referral: ☐ Urgent ☐ Non Urgent		
☐ Cardiac history with impact on daily living ☐ Anti-coagulant therapy ☐ Moderate to severe respiratory disease ☐ Diagnosed or suspected obstructive sleep apnea w/ other co-morbidities ☐ Poorly controlled diabetes ☐ Morbid obesity (BMI greater than 35) in conjunction with other identified triggers ☐ Severe liver disease ☐ Severe renal disease ☐ Follow-up from hospital admission ☐ Other: _____	☐ Brief history (please describe): _____ _____ _____ _____	
For Surgical Patients Only (in addition to criteria above, indicate reason for referral in advance of surgery):		
☐ ASA Classification 3 or 4 <ul style="list-style-type: none"> ○ ASA 3: patient with severe systemic disease ○ ASA 4: patient with severe systemic disease that is a constant threat to life 	☐ Patients requiring anemia management for procedures that may result in major blood loss	
Estimated Surgical Date: _____	Procedure: _____	
Medications (PharmaNet):		
UMAC CLINIC ONLY		
Triage Code (UMAC Physician Only) ☐ Resident Appropriate	☐ w/ Treadmill	Appointment Date/Time (MM/DD/YYYY)

*Revised November 30, 2016 by Jo-Lee Bertrand