Emergency Departments and Urgent Care in Winnipeg: Exploring data and describing users

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MANITOBA CENTRE FOR HEALTH POLICY

Summary of the report: *An Initial Analysis of Emergency Departments and Urgent Care in Winnipeg*
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- Patient wait times and physician diagnoses are not collected during emergency department (ED) visits. These data are extremely important to understand patterns of ED use.
- We counted 2,400 frequent ED users in our study. These people had almost 80,000 contacts with the health care system in one year.
- Mental illness, particularly substance abuse, is very common amongst frequent ED users.

It is late at night. You've fallen, hurt your wrist and fear it may be broken. A friend offers you a ride to an emergency department (ED), and reminds you that Urgent Care (UC) at the Misericordia Health Centre is also available. Is an ED the right place for you to go to? Should you go to UC or wait to see your family doctor in the morning? How long will you have to wait to receive care? Every day, hundreds of people in Winnipeg are faced with these questions.

Now, imagine that you are a health care planner, responsible for managing EDs. You might have a few questions yourself: Who actually uses EDs and how serious are their health care needs? How long are wait times for EDs and are they longer now than in the past? Are there people who visit EDs frequently, and what are some of the reasons for these visits? Having this type of information is no small matter. For example, in Winnipeg there are about 201,000 visits to our six adult EDs per year—that's almost 551 visits per day, or 23 visits per hour.

Until recently in Manitoba, we didn't have very good answers to these questions. Aside from a couple of studies, no researchers have looked at how EDs and UC are used. Given the importance of this topic, Manitoba Health asked the Manitoba Centre for Health Policy (MCHP) to investigate ED and UC use in Winnipeg. Specifically, we looked at two questions:

1. What kind of information do we have about EDs and UC in Winnipeg? Can the present data help us understand how EDs and UC are used?
2. Some people use EDs and UC more frequently than others. What are some of the characteristics of these frequent users? Where do they live in Winnipeg, how sick are they, and do they also visit other health care services frequently?

The answers to these questions are provided in a recent report published by MCHP, titled *An Initial Analysis of Emergency Departments and Urgent Care in Winnipeg*.

To do this research, we took a close look at data from the six adult EDs (Concordia, Grace, Health Sciences Centre, St. Boniface, Seven Oaks and Victoria hospitals) and also from the one UC site (Misericordia Health Centre) in Winnipeg, from April 1, 2000 and March 31, 2005. These data were linked to the anonymized administrative health data housed at MCHP, which includes records of physician, hospital and drug use for almost all people living in Manitoba. By linking all of these data, we have been able to tell a detailed story about ED and UC use in Winnipeg.

About the Data

As the ED data were new to MCHP, our first role was to describe the type of information collected by EDs, and also to determine the quality of these data. After careful analyses, we reached many positive conclusions about these data. First and foremost, we found that data were available for almost all ED visits. This gives us an accurate picture of the number of ED

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visits in a given year, and lets us describe almost all ED patients by their method of arrival, how sick they are, and where they are sent after a visit. Because we were able to compare the ED data to administrative data housed at MCHP, we were able to confirm that the ED data were quite accurate, when it came to things like when someone was hospitalized after an ED visit, or when someone might have died during a visit.

Unfortunately, the ED data also have three major limitations. First, while we know how long most ED visits last, there is no information on how long people wait to be seen by an ED doctor. Only information about the total duration of an ED visit is captured, which combines wait and actual treatment times. So, we don't know how long ED wait times are, or if patient wait times have increased in recent years. Second, physician diagnoses (to determine whether the patient had a broken bone or a heart attack, for example) are not recorded in the ED data. While we know, generally, the seriousness of a visit (that is, how "urgent" it is), we don't really know the actual medical reason for the visit. This type of information is essential for planning purposes. As the third limitation, we noticed that some ED sites in Winnipeg collect their data differently. This makes it difficult to compare across ED sites, especially for things like how patients arrive at EDs, and how to count the number of "scheduled" visits (physicians sometimes schedule ongoing ED visits for people, for things like blood transfusions and wound care).

It is important to note that the UC data does not have these limitations. For example, patient wait times and physician diagnoses are collected during most UC visits. This allows us to describe in more detail the patterns of UC use in Winnipeg.

About ED and UC Visits in Winnipeg

Would you be surprised to learn, that in 2004/05, 91,959 Winnipeggers 17+ years old had at least one ED visit? That's almost 1 out of every 5 adults living in Winnipeg. How about the fact that almost 50% of hospital admissions are from ED visits? Clearly, EDs in Winnipeg are busy places. What follows is some basic information about these visits.

- On arrival to EDs, people are assessed ("triaged") as being either non–urgent (e.g., minor cuts), less urgent (e.g., sprains and broken bones), urgent (e.g., fairly minor injuries, but lots of pain), emergent (e.g., people having seizures or bad chest pains) or resuscitation (e.g., unstable or without vital signs). In 2004/05, 40% of all ED visits were triaged as being less urgent or non-urgent, while 16% of these visits were triaged as emergent or requiring resuscitation. This means that a large portion of ED visits are for people who have fairly minor medical problems.
- In 2004/05, about 1 in 2 ED visits (55%) lasted less than 4 hours, while 1 in 4 (25%) lasted 6 or more hours. Visit durations have actually increased in recent years, for all types of visits except those triaged as "resuscitation". Without improvements to the data, it is impossible to tell if this trend is due to longer wait times, longer care times, or a combination of both.
- People are sent home after the majority (74%) of their ED visits, and are hospitalized during 17% of ED visits. Patients leave without seeing a doctor during about 6% of ED visits; fortunately most of these patients are triaged as being less urgent or non–urgent.

What about data for UC? Well, with only one site, far fewer Winnipeggers (21,079) visited UC versus EDs in 2004/05. More UC users live in communities close to this site, although UC is certainly used by people from all over Winnipeg. Also, we've mentioned that more data are available for a given UC visit. Figure 1 shows how UC wait times vary by triage code, with the sickest patients (emergent visits) having the shortest waits. In other words, despite longer wait times for some people, those who need care the most receive it the fastest. Is this also the case for EDs? Impossible to say without better data.

Defining Frequent Users

We defined frequent ED users as people with 7 or more ED visits in one year. While this is a fairly small group of people (about 2,400), they had 27,222 ED visits (out of a total of 200,810 visits) during our study period. Putting it another way, in one year 2% of ED users were responsible for 14% of all ED visits. In fact, adding up ED visits and visits to other health care services (such as doctors, hospital admissions, contacts with UC and Health Links Info Santé), this small group of people had 79,876 health care contacts during the study period. Clearly, describing frequent ED users has implications for the broader health care system.

What are some of the characteristics of frequent ED users? First and foremost, mental illness (anxiety, dementia, depression, personality disorder, schizophrenia and substance abuse) is very common amongst frequent ED users. Over half (54%) of the frequent ED users we studied have been diagnosed at some point as having two or more of these mental illnesses, and most (85%) of highly frequent users (those with 18 or more visits in a year) had two or more of these conditions (Table 1).

Frequent ED users have many other unique characteristics. For example, 37% of frequent users and 57% of highly frequent users resided in the core area of Winnipeg (in Point Douglas or Downtown), and many of these people have been frequent ED users for at least two years.

While frequent ED users tend to have many other health care contacts, this is only true for highly frequent users if these contacts are patient–initiated (i.e., highly frequent users don't seem to have a large number of hospitalizations, or visits to specialists). We were also surprised to find that highly frequent users

Figure 1: Percent of Urgent Care Visits Where Patients Waited Less Than Two Hours, 2004/05

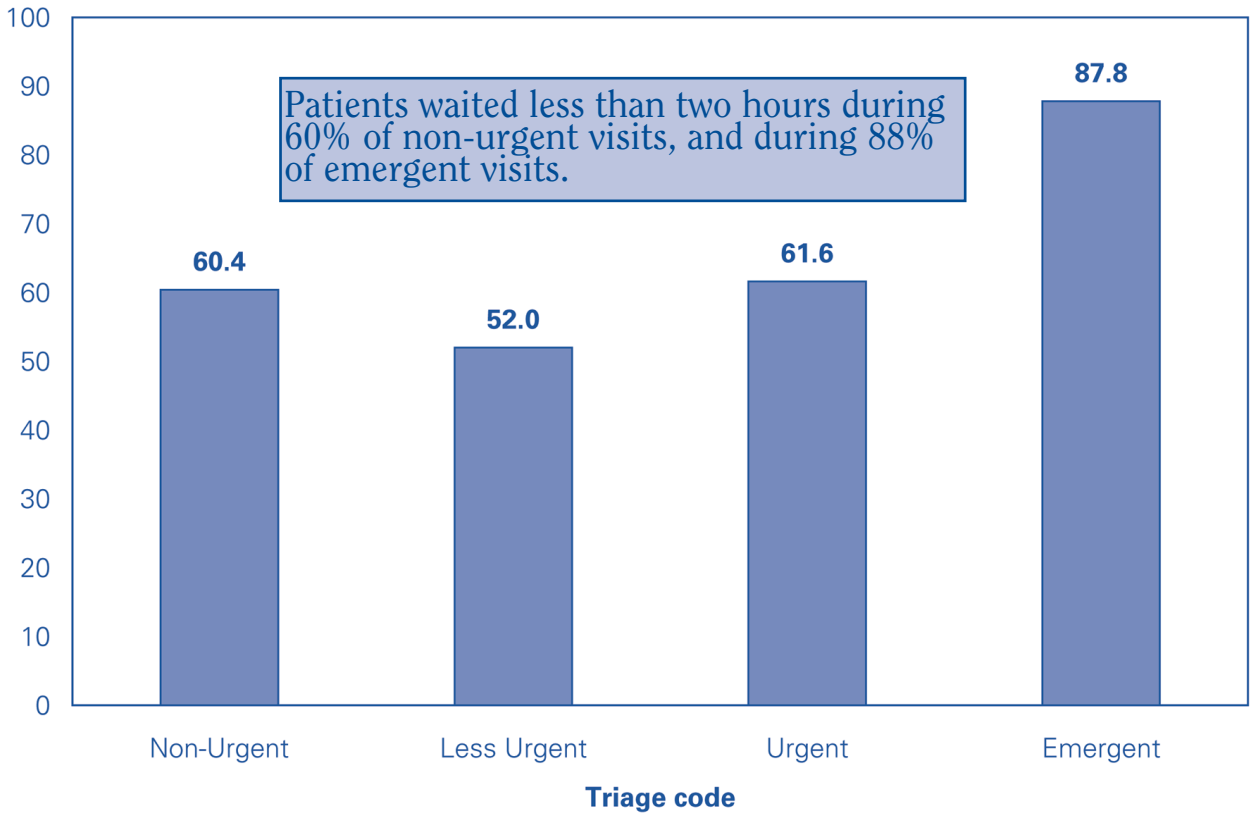

Table 1: Percent of Emergency Department Users with Previous Mental Illness Diagnoses

85% of highly frequent ED users had two or more previous mental illness diagnoses, compared to 12% of single users.

Number of previous mental illness diagnoses	Percent of Users		
	Single Users (1 visit)	Frequent Users (7+ visits)	Highly Frequent Users (18+ visits)
0	65.3	23.8	4.0
1	22.4	22.5	11.2
2+	12.2	53.7	84.8

arrived to almost half of their ED visits by ambulance, yet often these patients were triaged as less urgent or non–urgent, and quite often they left without seeing a doctor. These findings support our conclusions that frequent ED users and especially highly frequent users tend to have complex health–related challenges, and have lives that are quite different than most residents of Winnipeg. Further, while frequent users tend to visit several ED sites, these patients make up 24% of all visits to the adult Health Sciences Centre. Clearly, frequent ED use is very common at this site.

A small portion of UC patients also had many UC visits. While these frequent UC users share some similarities with their ED counterparts, they have one big difference. During the study period, more than two–thirds of the visits for frequent UC users were scheduled in advance, for things like blood transfusions and wound dressings. From these and other results, it certainly looks like UC is fulfilling a much needed role in Winnipeg, by providing follow–up and ongoing care to people in need. Regardless, frequent ED versus UC users seem to be facing some very different issues.

Where do we go from here?

Several recommendations are made in this report. Most importantly, we need better data to conduct important research about ED use, especially for understanding patient wait times. In fairness, it is important to say that the WRHA will be trying out a new ED data system, and this should help in the future. Until then, given the importance of ED utilization in Winnipeg, making key improvements to the current data will have many benefits.

Our remaining recommendations focus on frequent ED users. Our results demonstrate that these patients, while small in number, have many visits to EDs and also have many additional contacts with the health care system. Mental illness is very common amongst these individuals, and many of them live in the core area of Winnipeg. Frequent users often visit EDs after normal working hours. Quite often these patients arrive by ambulance only to leave without seeing a physician. Given this information, it is clear that frequent ED users have a range of complex health problems. Innovative strategies that involve EDs, other health care providers and community–based programs are likely required to improve the provision of care to these people.

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