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**Medical tests play key role in emergency department wait times:  
U of M study**

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The time it takes to get results from medical tests is a key factor affecting wait times in Winnipeg emergency departments (EDs), a new study by the Manitoba Centre for Health Policy (MCHP) at the University of Manitoba has found.

The study, Factors Affecting Emergency Department Waiting Room Times in Winnipeg, analyzed data from the six Winnipeg hospitals with adult emergency departments (also known as emergency rooms): Concordia, Grace, Health Sciences Centre, Seven Oaks, St. Boniface and Victoria.

“We found that the number and type of medical tests and scans done in the emergency department have a large effect on wait times,” said the study’s lead author, Dr. Malcolm Doupe, associate professor in the department of community health sciences, Max Rady College of Medicine, Rady Faculty of Health Sciences. “More than half of ED patients have an X-ray, urine test or other diagnostic test. From discussions with our stakeholders, we learned that it can be very time-consuming for patients to undergo tests, for medical professionals to interpret the results, and for staff to take action based on the results.

“Our study suggests that these processes could be improved to ensure wait times are as short as possible.”

A crowded waiting room does not necessarily predict a long wait. The study found that the number of patients in the ED had only a small effect on wait times of newly arriving patients.

Similarly, the number of ED patients waiting to be admitted into hospital had only a moderate effect on the ED wait times of other patients.

The number and type of diagnostic tests performed was the factor having the largest effect on wait times.

The study is the first to analyze data from the Emergency Department Information System (EDIS), which was implemented in Winnipeg hospitals in 2009. EDIS captures information such as the number of patients arriving, how long they stay, the urgency of their concerns and the type of tests they receive.

To determine what factors most influence wait times, researchers linked EDIS data to health-care data from the Manitoba Population Research Data Repository, which is housed at MCHP. All personal information is removed from the data before it arrives at MCHP.

The study first looked at trends in ED visits over a 10-year span (2003 to 2013). Then it used the most recent data (from 2012/13) in a detailed study of factors affecting wait times. Findings include:

- In 2003, there were about 550 ED visits per day in Winnipeg. That increased to about 610 visits per day by 2013.
- High-urgency or very high-urgency patients – such as those who are not breathing or having sudden, sharp chest pains – hardly ever wait to see a doctor. They are usually seen immediately.
- Very few ED visits (1 per cent) are for very highly urgent concerns. Most patients have illnesses or injuries that are medium-to-low urgency, such as shortness of breath or a sore throat.
- The breakdown of patients is as follows: Very high urgency: 1 per cent; High urgency: 16 per cent; Medium urgency: 38 per cent; Low urgency: 44 per cent.
- The number of patients leaving the ED without seeing a doctor, or without a doctor saying their visit is complete, increased over the study period. One in 10 patients is now in this category. Further study is needed to identify the reasons for this trend, Doupe said.

“This study highlights some important new findings,” Doupe said. “It shows that adding more treatment areas to the ED or freeing up more beds in the hospital may not be the most effective approach to reducing wait times for Winnipeggers.

“Our results indicate that wait times are not just a matter of capacity, and that emergency-department reform should focus on doing certain things differently, not on creating more space.”

The study report recommends that future work with ED providers should ensure that:

- guidelines clearly indicate when diagnostic tests should be ordered;
- the process for ordering, preparing, conducting and interpreting tests is timely;
- enough equipment and personnel are available to conduct tests when needed;
- patients who need to be admitted are transitioned from ED to hospital in a timely manner.

The full report: *Factors Affecting Emergency Department Waiting Room Times in Winnipeg*, can be downloaded from the MCHP website at: [umanitoba.ca/medicine/units/mchp](http://umanitoba.ca/medicine/units/mchp).