

Clinical trial finds virtual ward does not reduce hospital readmissions

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A virtual ward, a new model of care that provides support to high-risk and complex patients in the community for a few weeks after discharge from hospital, did not prevent hospital readmissions as hoped in a clinical trial in Toronto.

Hospital readmissions are common and costly and no intervention has reliably reduced them. Virtual wards, pioneered in Britain 10 years ago, were thought to have the potential to reduce readmissions, but had not been rigorously evaluated by researchers.

Dr. Irfan Dhalla, a physician at St. Michael's Hospital, led a randomized trial in Toronto to determine whether a virtual ward could improve health outcomes and reduce readmissions in a high-risk population.

The results of the trial were published today in the *Journal of the American Medical Association*.

Patients in the control group received the kind of care they would usually receive—generally a typed summary given to them and their [primary care](#) physicians when they were discharged from [hospital](#), prescriptions, counseling from the resident physician and-or other members of the health care team, arrangements for home care as needed and recommendations and-or appointments for follow-up care with the primary care physician and specialists.

The 1,923 [patients](#) involved in the trial had been discharged from

general internal medicine units at St. Michael's, the University Hospital Network and Sunnybrook Health Sciences Centre.

In addition to the usual care, patients assigned to the virtual ward were "admitted" to the ward on the day they were discharged from hospital, given information about what kind of services they would receive through the ward and a phone number to call if they needed help.

The virtual ward team, based at Women's College Hospital, met every morning to discuss new and existing patients and to design and execute individual care plans. Each virtual ward patient's primary care physician received a letter by fax informing them that his or her patient had been admitted to the virtual ward. The virtual ward physician was strongly encouraged to speak to the primary care physician by phone soon after the patient was admitted, whenever necessary during the virtual ward admission and prior to virtual ward discharge.

The virtual ward team included care co-ordinators, a part-time pharmacist, a part-time nurse or nurse practitioner, a full-time physician and a clerical assistant. Most of the staff worked for the Toronto Central Community Care Access Centre, which is responsible for publicly funded home care services in Toronto.

The care plan typically involved the patient being discussed at the daily interprofessional team meeting on the day after hospital discharge, followed by the care coordinator seeing the patient at home within a few days. After that, patients were assessed over the phone, at home, in a clinic at Women's College Hospital or if necessary at another location such as the family physician's office.

Dr. Dhalla, who is also an associate scientist in the Li Ka Shing Knowledge Institute of St. Michael's Hospital, said the trial did not put patients on a more positive trajectory, as he and his colleagues had

hoped. The small difference in readmissions at 30 days after discharge was not statistically significant, and there was no difference at 90 days, six months or one year after discharge.

Dr. Dhalla, a general internist, said there were several possible reasons why the virtual ward did not reduce readmissions.

- The health care system in Ontario is fragmented and it was difficult for the virtual ward to provide truly integrated care. For example, it was difficult for many virtual ward team members to communicate with many of the patients' [primary care physicians](#) by phone or e-mail, making collaborative care difficult.
- Different hospitals had different electronic health records systems, making it difficult to know what care a patient had received or was currently receiving.
- Because this virtual ward served patients discharged from four hospitals, the interventions began after discharge rather than during the hospitalization.

Dr. Dhalla, who is also vice-president for health system performance at Health Quality Ontario, noted that this virtual ward trial was much larger than some earlier studies with more positive outcomes, and included older patients and patients from several different sites.

"It remains possible that a virtual ward might reduce hospital use in high-risk patients in a cost-effective manner in a differently structured [health care](#) system, where home-based, primary, hospital and emergency care are more closely integrated." he said.

Provided by St. Michael's Hospital

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