

# CASE STUDY: *Teledermatology initiative*

Prepared by MNP for the Shared Care Committee, a joint committee of the BC Medical Association and the Ministry of Health

## Why Teledermatology?

According to the Canadian Skin Patient Alliance's Report Card on Access to Dermatological Care and Treatment in Canada 2012, the wait times for a Dermatologist consultation after a referral from a Family Physician are increasingly growing longer in British Columbia. While the Canadian Skin Patient Alliance considers five weeks to be the benchmark for wait times for non-urgent consultations, a survey conducted on behalf of the Alliance in 2011 stated that "half of British Columbians wait at least 10 weeks for an initial consultation with a dermatologist" and "one-quarter of patients must wait at least four months for an appointment." According to the Report Card, British Columbia's worst wait times were logged in remote areas of the province, where some patients have to wait between one and two years for an initial consultation. Furthermore, delays in appointment access to dermatological care in British Columbia are mainly seen as related to the shortage of Dermatologists in the province.

***BC wait times for dermatological care are "growing progressively worse" according to the Canadian Skin Patient Alliance. Median wait times (i.e. the minimum time that half of patients must wait for an appointment) have reportedly doubled from four to eight weeks between 2001 and 2006.***

According to the CDA Workforce Survey, as cited in: Report Card on Access to Dermatological Care and Treatment in Canada 2012. Canadian Skin Patient Alliance.

The aim of the Shared Care Committee's Teledermatology initiative is to improve access to dermatological consults for Family Physicians in urban, remote or functionally isolated communities in British Columbia. The initiative is intended to reduce per capita spending for patients and the system by leveraging technology to reduce the burden of accessing geographically isolated Specialists.

### Teledermatology initiative Objectives

- Reduce patients' need to travel for a Specialist consult.
- Increase the capacity of Specialists by reducing the number, time and cost of face-to-face consults.
- Increase the capacity of Family Physicians by providing case-specific learning, creating a knowledge base of cases treated and improving access to Specialist advice and consult.

## How Does It Work?

Through the initiative, Family Physicians are able to send a digital photo of the affected area on a patient's skin, along with relevant medical patient information, to a secure website for later viewing and assessment by a Dermatologist. This process is referred to as 'store and forward'.

The initiative is intended to leverage the benefits of a teledermatology program, [consultderm.com](http://consultderm.com), initiated and developed in Alberta.

A similar website, [bc.consultderm.com](http://bc.consultderm.com), was developed in British Columbia and a pilot project on Salt Spring Island commenced in October 2011. The Consult Derm process used in BC and other jurisdictions is shown in the text box below.

### Consult Derm™ Process

1. Referring Family Physician
  - Sees a patient with a dermatological problem.
  - Has the patient sign an Imaging and Medical Information Consent Form.
  - Takes a digital photo(s) of the patient's problem.
  - Logs into Consult Derm.
  - Uploads the images and provides a brief history.
2. Teledermatologist
  - Logs into Consult Derm.
  - Reviews the images and history.
  - Provides an impression, a 'note' or educational comment and recommendations in the form of a management plan.
3. Referring Family Physician
  - Is sent an email alert.
  - Logs into Consult Derm and retrieves the consult, calls in the patient to review.

The system is widely-used by Family Physicians and Specialists across Alberta and the Northwest Territories, on Prince Edward Island, as well as in other countries like the United States and New Zealand.

Consult Derm has been used by over 500 Family Physicians in Alberta and the Northwest Territories over the last two years.<sup>1</sup>

## Program Impacts and User Satisfaction

With a turnaround time from store and forward teledermatology referral to consult of about a week, the Teledermatology project on Salt Spring Island has completed 115 teledermatology referrals as of July 1, 2012.<sup>2</sup>

According to a patient satisfaction research paper by Dr. Jacqueline Cooper, the Teledermatology project has been well-received by patients. Findings related to satisfaction levels among the 33 patients who participated in the Teledermatology pilot project revealed that:

- Ninety-five percent of patients strongly agreed or agreed that store and forward teledermatology was more convenient than the traditional referral system of going off island to a dermatology clinic.
- All patients (100%) were comfortable with pictures being taken and medical history uploaded through the secure web site.
- Seventy-three percent of patients were confident that the Dermatologist could make an accurate diagnosis using the store and forward teledermatology system. The remaining patients were 'neutral'.
- Eighty-six percent of patients were satisfied with the teledermatology consult. Only one patient was unsatisfied due to time delay.
- Eighty-six percent of patients prefer store and forward teledermatology to the traditional referral system.

## Program Efficiency and Economy

A Canadian Agency for Drugs and Technologies in Health Report summarizes the findings of economic evaluations of teledermatology.<sup>3</sup> According to the report, the average total cost per patient is comparatively lower with store and forward teledermatology versus conventional dermatological care, especially when costs associated with lost productivity are considered.

Traditional face-to-face dermatological consultation or real-time dermatology using teleconference requires coordination of patient and physician schedules as well

as overhead and resources. According to the Canadian Agency for Drugs and Technologies in Health Report, the application of teledermatology technology, on the other hand, can provide a more efficient and economical solution to care.<sup>4</sup>

From a Family Physician's perspective, the only costs are the digital cameras, which range from \$150 to \$300. The initial FP office visit with picture taking, referral and follow-up would be billed as a usual "0100" type service.

## Effectiveness

Research indicates that this service can be effective and reliable, save time, save cost and can be accepted and appreciated by patients and referring physicians.<sup>5</sup>

Dermatology studies show that:<sup>6</sup>

- The diagnosis and treatment plan made using the system is as effective as in person processes.
- Most patients (more than 80%) prefer teledermatology to live dermatology visits.
- This form of teledermatology is cost-effective to the system in terms of both travel and incidental costs, as well as loss of work income for patients having to travel long distances to see a Dermatologist.
- In Alberta, Consult Derm has reduced the average wait time to see a Dermatologist from 104 days to less than 3 days.
- Over 500 referring Family Physicians currently use the system in Alberta and the Northwest Territories, accounting for more than 1,500 consults per year.

## Consult Derm Screen Shots



<sup>1</sup> Dr. Shane Barclay. *Teledermatology for BC: A pilot project sponsored by the Shared Care Committee of the BCMA and Ministry of Health.* PowerPoint Presentation. February 2012.

<sup>2</sup> Dr. Shane Barclay. July 12, 2012.

<sup>3</sup> Sarah Ndegwa, Wendy Prichett-Pejic and Sarah McGill. *Teledermatology Services: Rapid Review of Diagnostic, Clinical Management, and Economic Outcomes.* Canadian Agency for Drugs and Technologies in Health's 2010 Report. October 2010.

[http://cadth.ca/media/pdf/H0502\\_Teledermatology\\_Report\\_e.pdf](http://cadth.ca/media/pdf/H0502_Teledermatology_Report_e.pdf).

<sup>4</sup> Louise Gagnon. *Remote Viewing: Teledermatology Increases Access to Specialists in Canada.* Dermatology Times. April 1, 2008.

<sup>5</sup> David Moreno-Ramirez, Lara Ferrandiz, Adoracion Nieto-Garcia, Rafael Carrasco, Pedro Moreno-Alvarez, Rafael Galdeano, Esther Bidegain, Juan J. Rios-Martín and Francisco M. Camacho. *Store-and-Forward Teledermatology in Skin Cancer Triage Experience and Evaluation of 2009 Teleconsultations.* 2007. 479-483.

<sup>6</sup> Dr. Shane Barclay. *Teledermatology for BC: A pilot project sponsored by the Shared Care Committee of the BCMA and Ministry of Health.* PowerPoint Presentation. February 2012.