

Canada Inforoute Santé Infloway du Canada

# Making an Impact with Consumer Health Solutions



©Canada Health Infloway 2014 June 3, 2014

Canada Inforoute Santé Infloway du Canada

## Meet the Panel

- Moderator:
  - Fraser Ratchford, Group Program Director, Consumer Health and Innovation, Canada Health Infloway
- Panelists:
  - Dr. Melanie Murray, Oak Tree Clinic
  - Alison Taylor, Canopy Integrated Health
- Time will be available at the end of the presentations for audience Q&A

©Canada Health Infloway 2014 3

Canada Inforoute Santé Infloway du Canada

## Presenter Disclosures

- **Presenter:**
  - Fraser Ratchford
- **Relationships with commercial interests:**
  - Nothing to declare

©Canada Health Infloway 2014 2

Canada Inforoute Santé Infloway du Canada

## *Infoway's vision*

### Healthier Canadians through innovative digital health solutions



©Canada Health Infloway 2014 4

**Consumer Health Solutions Program**

- The Consumer Health Solutions Program, initiated in 2010, aims to educate and empower Canadians by providing electronic access to their health information and health care services through investments in:

Spreading Use with jurisdictional consumer portals	Keeping Patients at Home with remote patient monitoring solutions	Innovating & Learning through local/targeted initiatives
<ul style="list-style-type: none"> <li>Start-up/planning projects</li> <li>Deploy Projects</li> </ul>	<ul style="list-style-type: none"> <li>Start-up/planning projects</li> <li>Deploy Projects</li> </ul>	<ul style="list-style-type: none"> <li>Demonstration projects</li> <li>ImagineNation Challenges</li> </ul>

Supported by foundational investments:  
To understand CHS in Canada | To engage with stakeholders | To trial and learn from innovative solutions

Program co-invests to accelerate solutions that respond to Canadians' priorities:

- e-booking
- e-visit
- e-request for prescription renewal
- e-view

5

**Canadian interest is rising...**

- Interest in digital health is across all age groups



- 90% of those that access their own health information online describe the experience as positive

- The more that consumers are aware of digital health, the more comfort they with it

©Canada Health Infoway 2014

**Consumer health solutions are a priority**

- 89% of Canadians want to take full advantage of digital health tools and capabilities
- What they want and are likely to access:
  - 90% - Ability to view lab results online (e-view)
  - 80% - Consult with their provider online (e-visit)
  - 89% - Send an e-request for a prescription renewal
  - 89% - Make appointments electronically (e-booking)



Harris/Decima Consumer Experience/Use Survey, 2014


©Canada Health Infoway 2014

6

**"Uses" are having impacts**

Of the Canadians who used consumer health solutions in the past year a significant proportion avoided an in-person visit as a result :

- e-request for prescription renewal (63%)
- e-visit (58%)
- e-view (47%)




©Canada Health Infoway 2014

Canada InfoRoute  
Health Santé  
Infoway du Canada

"What digital health has done to my life is empower me to become a partner with my doctor."  
Alexa Thompson, Halifax, NS

"I have the information I need to better manage my diabetes and high blood pressure now that I have access to results through the patient portal."  
Gregor Ramsay, Carp, ON

"Digital health helps me manage my health because ... I am never actually out of touch with my health care team. If anything happens while I'm travelling I can help advise the team."  
Cheryl-Anne Simoneau, Montreal, QC



©Canada Health Infoway 2014 9

Canada InfoRoute  
Health Santé  
Infoway du Canada

# Let the Panel Begin!

©Canada Health Infoway 2014

Canada InfoRoute  
Health Santé  
Infoway du Canada

Digital health in Canada:  
Sara and Marcus' story



©Canada Health Infoway 2014 10



Canada InfoRoute  
Health Santé  
Infoway du Canada

Dr. Melanie Murray  
Oak Tree Clinic, BC


12

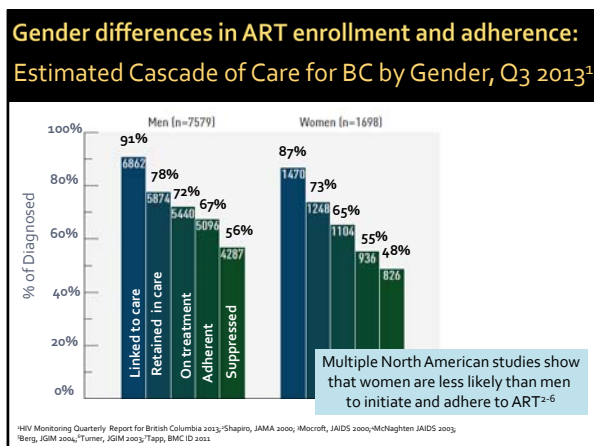
## WelTel at OakTree: mHealth to Improve Health

Melanie Murray MD, PhD, FRCPC  
Assistant Professor, UBC  
ID Physician, Oak Tree Clinic  
June 3, 2014

BC WOMEN'S  
HOSPITAL+  
HEALTH CENTRE  
FOUNDATION



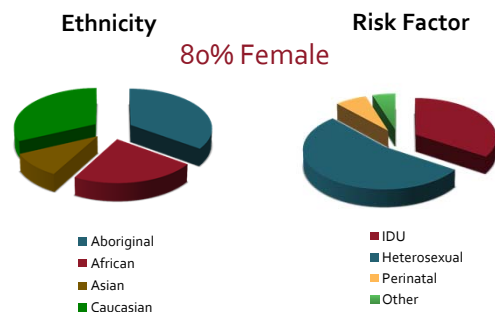


## Faculty/Presenter Disclosure

- **Faculty:** **Melanie Murray**
- **Relationships with commercial interests:**
  - **Grants/Research Support:**  
Bristol-Meyers-Squibb, Gilead Sciences
  - **Speakers Bureau/Honoraria:**  
Bristol-Meyers-Squibb, Gilead Sciences, Merck
  - **Consulting Fees:** N/A
  - **Other:**  
Telus (Has provided in-kind phone support)



## Oak Tree Clinic: Patient Population



## WelTel Kenya 1

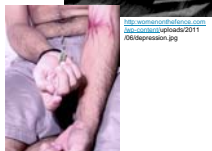


- RCT – WelTel Kenya 1
- Kenya, 538 participants
- SMS
- May 2007-Oct 2008
- **FINDINGS:**
- SMS patient support significantly improved ART adherence and rates of viral suppression (First report)
- SMS patients 24% more likely to be adherent to ART
- SMS patients 19% more likely to have suppressed VL
- Lester et. Al. Lancet 2010 Nov 27;376(9755):1838-45. Epub 2010 Nov 9.

*"Mambo?"*  
The single Kiswahili word for "How are you?" arrives in a weekly text message from the AIDS clinic in Nairobi.

## Barriers to adherence

- Forgetting
- Drug use
- Co-morbid depression
- Side effects
- Lack of social support
- Competing priorities



## Pilot Study


6 months, 25 participants

### 5 X 5 Groups:

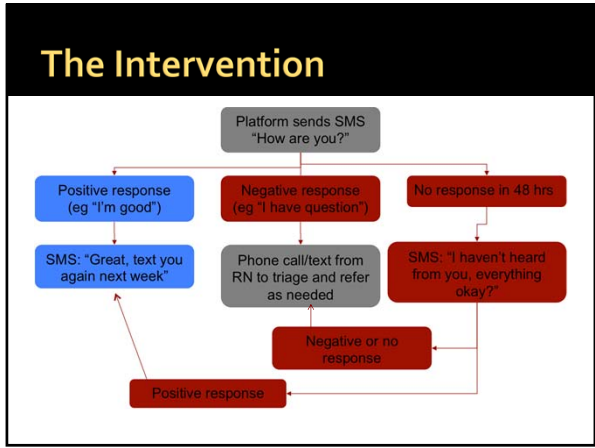
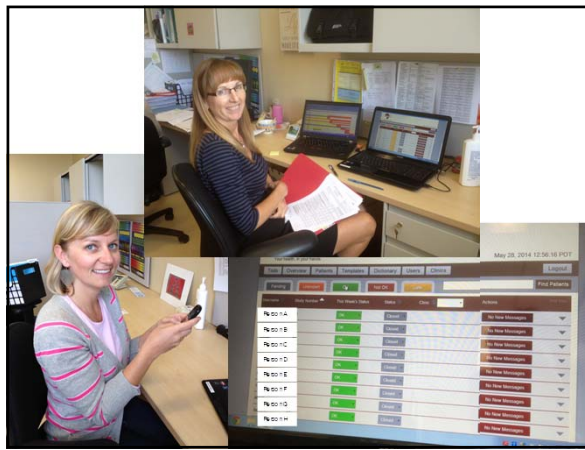
- **'Youth'** - 5 participants aged 14-24 years of age.
- **'Mature'** - 5 participants 50 years of age and older.
- **'ESL'** - 5 participants who are immigrants to Canada, defined as having been born outside of Canada, with English as a second language (ESL).
- **'Remote'** - 5 participants identified as having remote residence - defined as requiring more than 3 hours travel time to reach clinic.
- **'Non-suppressed'** - 5 participants whose HIV therapy is failing - defined as CD4 count less than 200 and viral load >250 on two consecutive occasions.

## The Intervention

- Weekly text message x 6 months using an automated text messaging platform....
- Qualitative interviews and questionnaires at baseline and study end.



http://bell-canada.be.funcip.de/images/2/bell-canada-international-text-messaging.jpg



- ## Participant Identified BENEFITS
- Improved psycho-social health
  - Improved adherence
  - Perceived improvement in general health
  - Better engagement in care
  - Perceived improved in quality of care
  - Learning / improved ability to text

## Improved Adherence

*"I've learned to take my meds every day in the last six months...I wasn't taking them daily, or I wasn't actually taking them at all...And it's a lot to do with being able to talk about it, through the texting...they let me know that it would be you know, the symptoms would go away, or they, just to hang in there and, keep on trying, and take them so that, you know, there's just somebody else there for me... In writing that you see it, and, and it feels a hell of a lot better to know that."*

– Participant #15, Low CD4

## Engagement in care

*"Having this text stuff with my doctor was great...If I hadn't had it, I probably wouldn't have went in the hospital. I knew I was getting sick when I couldn't even drink water and that day I was just like wondering, 'what am I gonna do, what am I gonna do?' and then my phone beeped and low and behold, it was the hospital. 'Hey, how are you?' Like, 'uh, not great...' So when I said 'not good,' they immediately contacted [name]...By the time I got over there, it was all set up for me...I didn't have nothing to worry about."*

– Participant #27, Distance

## Improved Care of Self

**Interviewer:** "What would you say are the greatest benefits that you received from being able to send and receive text messages with your healthcare provider?"

**Participant:** "The greatest thing I got out of that was really learning how to love myself and take care of myself, and value and appreciate myself and my life."

**Interviewer:** "And that was through the texting?"

**Participant:** "Yes it was. It was a very valuable experience for me."

## Study Identified CHALLENGES

- Participants' learning how to text
- Assistance required to text
- Language related for ESL group
- Participants' changing phone numbers
- No or limited mobile phone reception
- Lost phones
- Technical glitches with platform
- Service provider issues

## WeiTel OAKTREE: Repeated Measures study of efficacy

- 85 highly vulnerable patients, uncontrolled HIV
- 1 year of intervention
- Primary Endpoint:
  - Change in Viral load
  - Number undetectable VL's at end study
- Secondary Endpoints:
  - Adherence to medications
  - Attendance at appointments
  - CD4 counts
  - Quality of Life
- Cost effectiveness analysis

## How the Program has been Adopted and Adapted....

- Participants text with problems of all kinds...
  - When ill
  - Requests for appointment times or changes
  - Med refills & dealing with side effects
  - Morale support/counseling
  - To share that they are doing well....

## The Intervention

- Weekly text message x 12 months using our automated text messaging platform....
- If no cell phone one is provided



<http://bell-canada.be/furpc.de/maga03-bell-canada-international-voicemailing.pdf>

## How the Program has been Adopted and Adapted....

- Doctors and nurses use the system to...
  - Reach out to participants otherwise hard to reach – for check ins
  - Convey concerns re: test results
  - Arrange meetings / test
- The system has become an integral part of the clinic....it is a methodical, consistent service which acts to organize outreach efforts....and may improve outcomes while saving time.



## Acknowledgements

Our Team:

- Dr. Richard Lester
- Evelyn Maan
- Karen Friesen
- Nancy Makela
- Sara O'Shaughnessy
- Daljit Mahal
- Mia van der Kop
- Kirsten Smillie
- Joshua Abaki

Our Team:

- Dr. Neora Pick
- Dr. Mary Kestler
- Dr. Arianne Alimenti
- Dr. Laura Sauve
- Dr. Gina Ogilvie
- Dr. Deborah Money
- Natasha Van Borek
- Juanita Maginley
- Sarah Levine








Faculty/Presenter Disclosure

Presenter:  
**Alison Taylor**

---

Relationships with commercial interests:

---

- Owner, Canopy Integrated Health Partner
- Jane Clinic Management Software



Alison Taylor


Canopy Integrated Health

34



Faculty / Presenter Disclosure

- Faculty / Presenter:  
Alison Taylor,
- Relationships with commercial interests:  
Owner in Canopy Integrated Health and  
Partner in Jane Clinic Management  
Software.

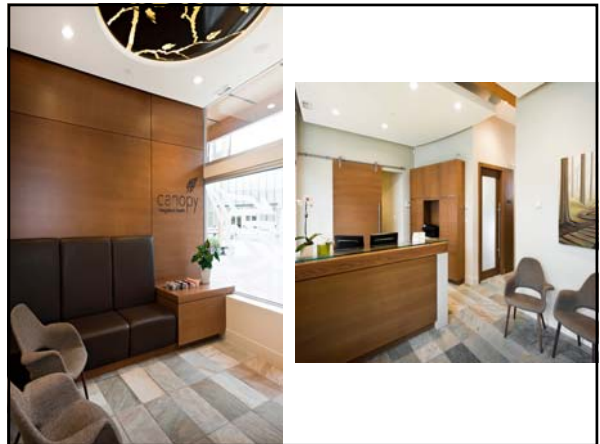
 Overview

- Opened an Integrated Health Clinic in January of 2011
- Commissioned Online Booking/EMR software from Thought Shop
- Needed to work with a variety of disciplines and be patient friendly




 Overview

- Used privately for a year
- Partnered with Thought Shop to expand the software into a full Clinic Management System

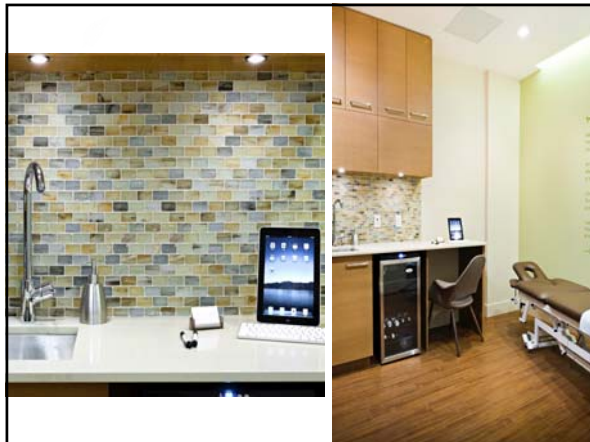





 **Yearly Booking Stats**

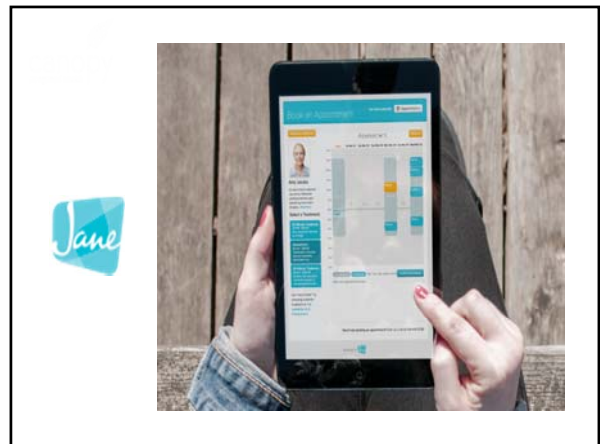
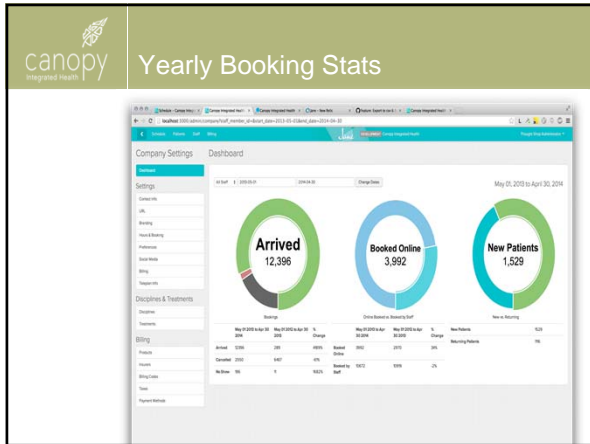
Past year:  
- 3,992 booked online - avg: 332 / month  
- 14,664 total bookings

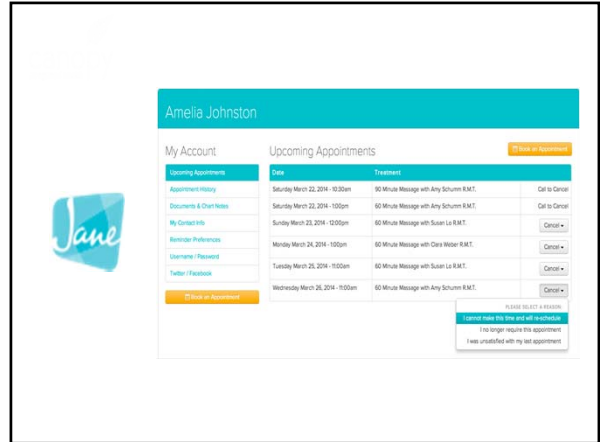
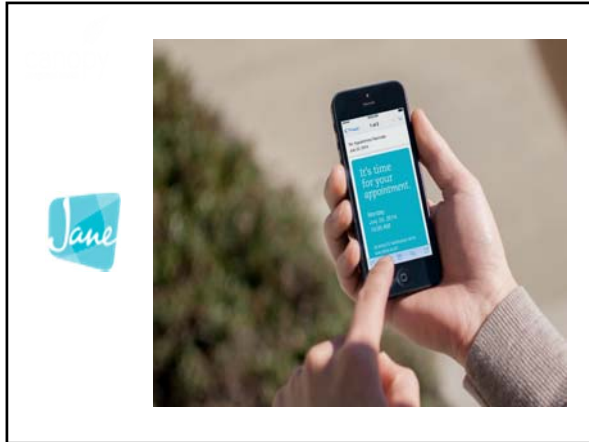
Year previous:  
- 2,970 booked online - avg: 247 / month  
- 13,889 total bookings



 **Yearly Booking Stats**

Change:  
- Total bookings + 5%  
- Online bookings + 34%  
- Bookings by Staff - 2%



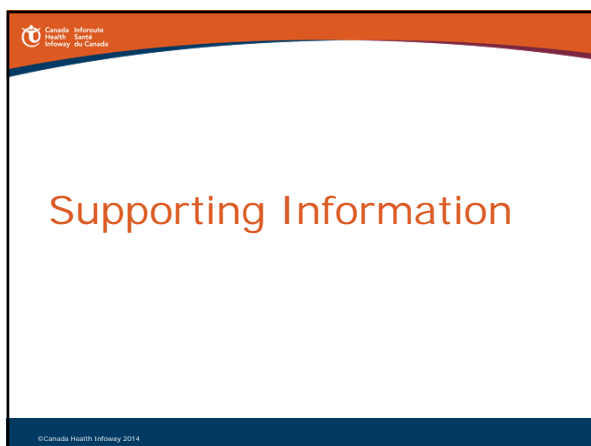






## The Pilot Study

- **Study design:**
  - Prospective pilot study involving two phases to be conducted over a period of 6 months.
  - No control arm.
  - Enrolled participants: study intervention + standard of care at Oak Tree.
- **Timeline:**
  - January-December 2012



## Inclusion Criteria

- **Sample Size:**
  - We enrolled 25 patients and 5 health care providers.
- **Patient Inclusion Criteria:**
  - ≥14 years.
  - HIV+.
  - Qualify to be selected for one of the 5 X 5 groups.
  - Currently on antiretroviral therapy, or initiating therapy on day of enrollment.
  - Able to communicate (read and speak) in English or has and anticipates continued availability of an interpreter for the duration of the study.

## The Intervention

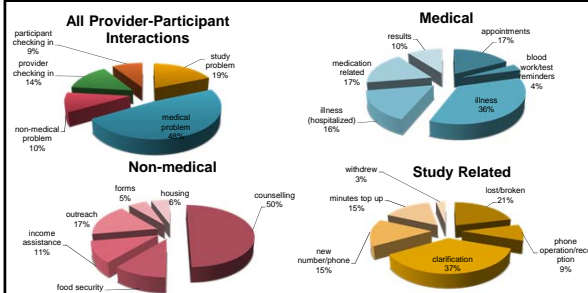
- **If patients have no cell phone....**
  - They are provided with a basic phone and unlimited texting for the duration of the study.
  - They are taught to use the phone/text as required.
- **If patients have a cell phone with limited texting...**
  - Their plan is upgraded to include unlimited texting.
  - They are taught to use the phone/text as required.
- **If patients have a cell phone with unlimited texting....**
  - They are taught to use the phone/text as required.

## Inclusion Criteria

- 1) Attended Oak Tree Clinic for  $\geq 1$  year prior to study entry to permit historical comparison analysis.
- 1) Age  $\geq 14$  years.
- 2) CD4 count  $\leq 500$  cells/mm<sup>3</sup> or previous prescription for antiretroviral therapy (other than for pregnancy) prior to the control year, (indicating clinical indication for HIV therapy).
- 3) Any detectable viral load ( $\geq 200$  copies/mL) in the control year.

AND....

## Breakdown of Patient-Health Care Provider Interactions



177 interactions (outside of weekly positive responses). Of 136 problems, 62.5% were medical, 13.2% requested non-medical allied health support, and 24.3% were study related. 93 contacts were initiated by participants, and 43 by providers; 81 were dealt with through texting, 48 phone calls, 5 in person

## Inclusion Criteria

- 5) Consensus by the clinical team that patient is high risk (i.e. poor engagement in care, difficult to contact, poor or non-adherence to ARV therapy, advanced HIV infection/AIDS, unstable housing situation, recent/active problem substance use, intimate partner violence, mental health factors).

OR

- 5) Release from a correctional facility.



### Change in VL: 30 patients, 6 mo.

