

# Telemedicine

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# Conflict of Interest

- I am an independent contractor physician
- I provide telemedicine services both privately in my practice and through contract with Dialogue
- I accepted no assistance or funding in the preparation of this talk

# Objectives

**At the end of this plenary session the participant**

- Can recognize some requirements involved in the practice of telemedicine (jurisdictional, professional and technological requirements)
- Comprehend some of the major challenges, dangers and benefits of telemedicine
- Identify some basic best practices with regards to practice of telemedicine, particularly with regards to the limits in scope of practice

# Myths regarding telemedicine

- ... is dangerous and only “tolerated” because of the global pandemic
- There’s a pandemic so anything goes so we can see patients
- It is new
- Represents a ‘cultural shock’ & our patients are not ready for it
- Very few Canadians have access to telemedicine services

# Some statistics - Environics Nov 17, 2020

- 1 out of 2 Canadians reported frustration with Canadian healthcare
- 70% of Canadians believe virtual care represents the future
- While the majority of Canadians have access to a family physician,
  - 46% will only be able to see a healthcare professional after 4 days for minor health concerns
  - 22% say it would take more than a week
- 82% of working Canadians agree that their employer should provide access to virtual healthcare

**MILLIONS ALREADY HAVE ACCESS TO TELEMEDICINE SERVICES**

# Digital Health Week (Canada Health Infoway)

- An overwhelming majority (92%) of Canadians want technology that makes health care as convenient as other aspects of their lives.
- More than half (53%) of Canadians who have used health technology in the past year say it helped them avoid an in-person visit to a provider or an emergency room.
- Of those Canadians who received virtual care during the pandemic, 91% were satisfied with the experience, 86% agreed that virtual care tools can be important alternatives to seeing doctors in-person, and more than three-quarters (76%) are willing to use virtual care after the pandemic.



Canada Health **Infoway**  
**Inforoute** Santé du Canada

# Metova's July 2020 telemedicine survey concluded:

(from IT Online [Link](#))

- 81% would choose telemedicine for their next consultation, If given the option
- 79% have wanted to connect with a medical professional using video conferencing
- 96% would find it useful if their doctor or insurance company provided medical equipment to ensure a more productive telemedicine appointment. (i.e. blood pressure, temperature, etc., to provide vital readings during the session)
- 97% say that at least some of their past doctors visits could have been done virtually
  - 65% say that most (47%) or all (17%) of their past doctors visits could have been done virtually
- **Almost two-thirds feel telemedicine is better than in-person visits for the same type of medical appointments (only 13% think it is worse)**
- Over 80%, if given the option, would choose telemedicine for their next medical appointment
- **Nearly 70% have had a video consultation with a medical professional and nearly 40% of those had their first telemedicine experience since the COVID-19 pandemic began**

# More timely stats (Telus)

**2 in 3**

Canadians would use virtual care if it was provided in their employee benefit plan

**71%**

of Canadians are willing to trade some of their current benefits for virtual care

**67%**

of millennials want virtual care access

**69%**

of parents and caregivers want virtual care access

**70%**

of those dealing with chronic health conditions want virtual care access

**1 in 3**

Canadians say they would co-pay for access to virtual care services



## By the numbers: the case for virtual care in Canada

- 20% of Canadians wait 7+ days to see their doctors
- 61% of family doctors say they can't accommodate urgent appointments
- 40,000 Canadians visit an ER every year just to renew prescriptions
- 68% of Canadians skip or avoid medical appointments due to barriers like long wait times
- Canadians take 2-6 days off per year for doctors visits; those with kids take double
- 70% of ER and clinic visits can be replaced by virtual consultations without any impact on care quality
- 69% of Canadians say they would use virtual healthcare when office visits are inconvenient
- 71% of Canadians want to trade some of their healthcare benefits for access to virtual care



# More timely stats (Telus)



**60%**

**of visits became virtual** rather than in-person by the end of April (up from 20%).<sup>3</sup>



**240%**

**growth in virtual care,** and 114% growth in virtual mental health (new users over existing users).<sup>8</sup>



**81%**

**satisfaction among patients** was reported when asked about the modality of their virtual visit.<sup>9</sup>

## The next frontier: Virtual mental health.

A clear side-effect of the changing social and cultural circumstances of many Canadians in the first half of 2020 has been a decrease in overall mental health and wellness.

A shocking 56% of Canadians have reported negative impacts to their mental health since the outbreak of this global pandemic.<sup>17</sup>

A recent survey found that although only 5% of those surveyed reported high-to-extreme levels of anxiety prior to the pandemic, that number increased to 20% after the outbreak.<sup>17</sup>

Leading causes for COVID-related mental health issues include:<sup>17</sup>



**66%**

Social isolation



**57%**

Concern for loved ones



**56%**

Fear of contracting COVID-19



**51%**

Financial concerns

# What is telemedicine or “Virtual Care”

- **Telehealth:** Referring to health information services, health care education, and health care services in a broad sense
- **Telecare:** Monitoring technology.
  - This technology includes mobile monitoring devices, medical alert systems, and telecommunications technology like computers and telephones.
- **Telemedicine:** (narrower scope) education over a distance and the provision of health care services through the use of telecommunications technology.

*Telemedicine refers to the use of information technologies and electronic communications to provide remote clinical services to patients. The digital transmission of medical imaging, remote medical diagnosis and evaluations, and video consultations with specialists are all examples of telemedicine.*


# What are the basic requirements?

- Inform yourself:
  - provincial guidelines & jurisdiction ( MB, QC, NB, PEI need permit) Ab (5) SK (13)
  - CMPA / insurance rules about e-communications and patient consent
- Proper attire and setting (no pets, controversial material, office-like)
- Sufficiently fast connection (minimal) and video camera \* connected to a secure network (not Starbucks)
- Identify yourself, your expertise (and remain within)
- Identify your patient (medicare card and/or photo ID) and their location -  
**JURISDICTION IS WHERE? WHERE THE PATIENT IS !**
- Informed patient
  - Secure setting where they are alone
  - Consent obtained, advising them of the limits of telemedicine
- Notions of scope of practice, drugs which you cannot prescribe
- Mechanism for dealing with problems outside of your safe scope

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# How do I get started?

- Which service(s)? You can use any video platform but...
  - Look for PHIPA compliance and a service intended for medicine
  - Integrate with EMR if adjunct to your physical practice has some advantages but this is new to many EMR providers
- Contacting patient and maintaining patient data including e-mails
  - Obtain consent
  - Educate patient
- It's not just 'anything goes' because of the pandemic
  - CMPA and governments still require proper procedure
  - Document everything done verbally because of the pandemic !
  - College statements have increased latitude because of the pandemic

# Some telemedicine models

- Adjunct to your practice - many of you during pandemic
- Dedicated telemedicine doctors and services
- Specialized services with narrow scopes - Diabetes Sleep Medicine
- Telemonitoring of health with devices
- Adjunctive support doctor to doctor
- Assisted examination and advice to paramedical personnel
- **Remuneration models** remain a problem. Where does it fit in?
  - Provincial
  - Public  $\leftrightarrow$  private
  - Employer based (3<sup>rd</sup> party payer exemption) "Company Doctor"

**But you can't examine!**

Is this any better than the telephone?

70%

Examples of wh

- Common infections with minimal ex
  - Sinuses, throat infections, uncomplicated minor wound infections, Lyme disease
- Examples of common family medicine
  - Prescribing and adjusting birth control
  - Basic screening, lipid assessment (Best)
  - Thyroid medication adjustments and hyp
- Dermatology: almost anything from
  - Fungal infections, acne, folliculitis, vir
- Mental health
  - *What do we not cover?* Bipolar disorder where suicidal/health risk particularly
- Travel medicine, STD Screening, PRRP prescription, PAP tests one day!





# Other examples

- Iron deficiency and other deficiencies.. Celiac disease, IBD, pernicious anemia, eating disorders, restless leg syndrome, glossitis, hair loss, etc...
- Vitamin D deficiency and education - all day long!
- Sleep apnea, testosterone deficiency
- Weight loss where appropriate
- MSK in the pandemic: C7 neuropathy with motor weakness refused twice at the ER (physio assessment stat, MRI, EMG 6 weeks later, neuro pending)
  - Carpal tunnel syndrome (not recommended)
  - Simple epicondylitis diagnosis (not recommended)
- Simple MSK remains a “no man’s land” (but you can’t help it.. Some problems are so simple they diagnose themselves) - NEW MANOUEVRES NEEDED

# Examples of what I don't do... shared care

- Abdominal pain
- Lower respiratory tract
- Neurology issues (there is plenty in following an examined migraine patient)
- Musculoskeletal issues
  - Physiotherapists in Quebec can examine and report and you can order tests

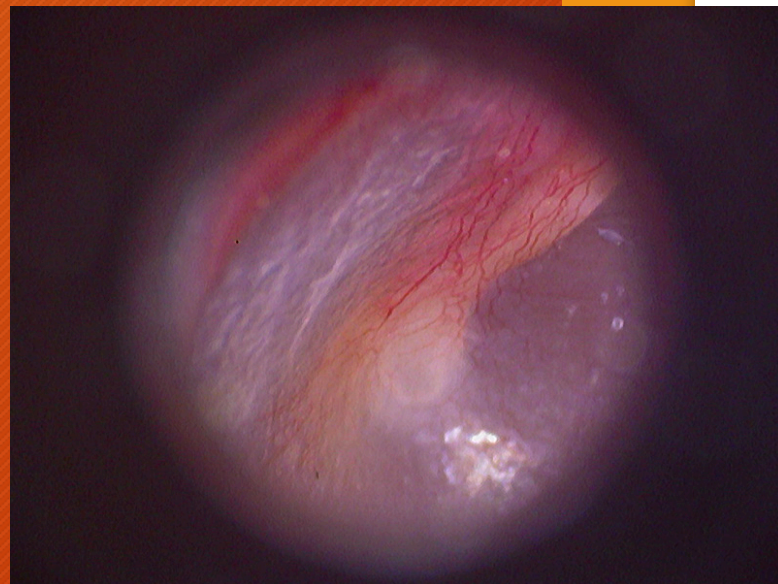
# Some examples of COVID response

- Interactive digital assistance (Chloe) to help answer questions and conduct appropriate questionnaires when access to 811 services were limited and until they were everywhere!
- Links & direction 811 services, questionnaires (province/region specific), FAQ for COVID
- Triage and direction, education for exposed patients to minimize spread
- Often: triage to direct people with serious issues to ER STAT (appendicitis, acute abdomen)
- Back to work guides and counselling, mask wearing videos / guides
- Webinars for mental health, explaining to children, what is anxiety and depression
- Alcohol withdrawal advice and medication
- Ongoing access to service and expansion of our scope of practice wherever we felt it was in best interest, renews usually outside scope including limited renewals for psychostimulants
- **Sample disclaimer** “Note: in light of the current COVID-19 pandemic, certain restrictions related to the practice of telemedicine have been modified and after careful reflection of care options.... “

# Distance Examination Technology

From Fireflyglobal.com

- Can be used in office or for assisted examination (example: healthcare station, oil rigs, etc...)
- FDA approved
- That familiar image:
- \$417 Cdn



Home

Products

Applications

DE500 Digital Video Otoscope



# Distance Examination Technology

- Non approved. For 'ear wax' \$15 from Wish.com - Image is substandard but there is potential



Overview Related

Shop products related to this item

3in1 LED USB Otoscope Digital Scope Ear Cleaner Inspection Camera for Android/PC

★★★★★ (330 reviews)

**\$15** ~~\$16~~

Color: Black

**Buy**

♥ Add to Wishlist

The screenshot shows a product listing on the Wish.com website. The main image shows a person using the otoscope, with a large inset showing the camera's view of an ear. The product title is '3in1 LED USB Otoscope Digital Scope Ear Cleaner Inspection Camera for Android/PC'. It has a 5-star rating from 330 reviews and is priced at \$15, down from \$16. A 'Buy' button is prominent, along with an 'Add to Wishlist' option. The page also includes a 'Shop products related to this item' section with a grid of smaller product images.

I am interested in TytoCare for my organization.

Learn more

## Just like visiting the clinic

Tyto is a handheld exam kit and app that lets you perform guided medical exams with a healthcare provider, anytime, anywhere



### Ear

Investigating the ear canal for ear symptoms



### Lungs

Listening to lung sounds to investigate coughs and congestion symptoms



### Heart

Monitoring heart sounds for abnormalities



### Throat

Looking down the throat to investigate symptoms in the throat or voice box



### Heart rate

Measuring the heart rate



### Temperature

Measuring body temperature



### Skin

Taking images of the skin to assess bug bites, rashes, and other skin conditions



### Abdomen

Listening for abnormal abdominal sounds

Fever

Sore Throat

Coughs

Constipation

Dis

How

With Tyto, a healthcare provider can examine your skin, abdomen, heart, and many of the most common symptoms of many of the most common conditions.

- Ear infections
- Cold and flu
- Fever
- Headaches
- Eye irritation
- Congestion
- Sinus pain
- Allergies
- Sore throat
- Coughs and colds
- Bug bites and rashes
- Constipation

Tyto can also be used to diagnose many other conditions and monitor your health.

# Dangers and benefits

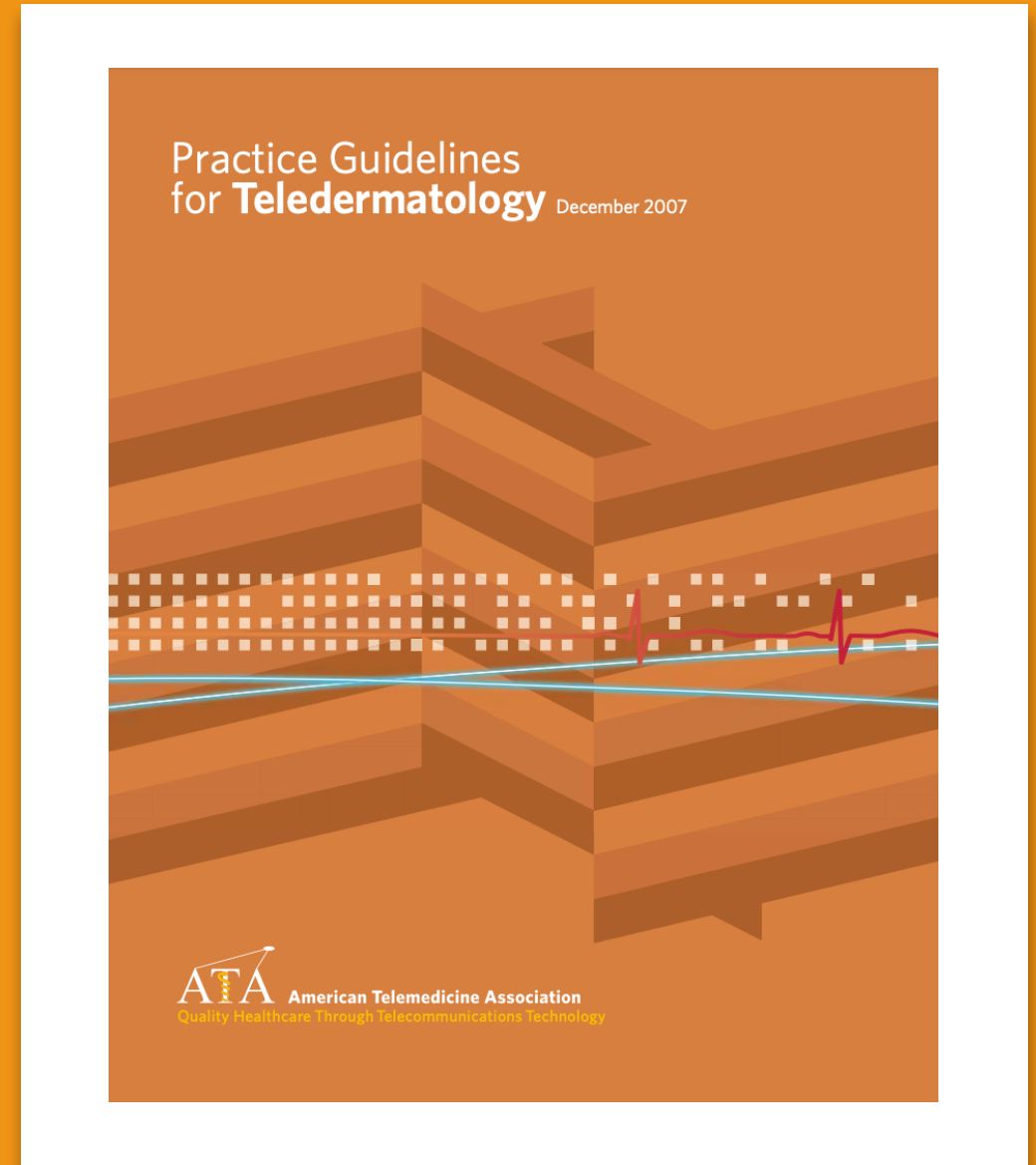
- Convenience versus safety and the 'traditional exam'
- Consumerism versus professionalism and 'tradition'
- People without means or access internet

## **But truth be told....**

- What about an oil rig or a native community?
- What about a global pandemic?
- What about an understaffed healthcare system / 24 hr ER wait?

# Would it shock you..

- To know that there have been guidelines for the practice of Teledermatology since 2007 from the American Telemedicine Association
- There are **heart-failure telemonitoring** programs in the USA that reduce all-cause mortality
- Physician-related medication errors were 3X higher in patients were a doctor didn't use rural ED  $\leftrightarrow$  pediatric critical care teleconferencing solutions
- Simple app reminders in diabetes picked up more adverse events that nurse calls or patient-detection ([link](#))

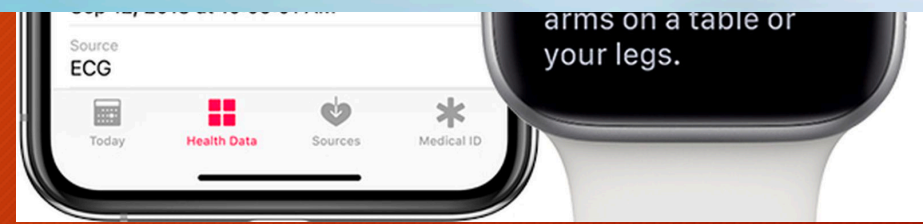




# But telemedicine just sends everyone to ER..

- **Referral bias:** what about the hundreds of people that are treated not needing any ER or walk-in clinic redirection? You'll rarely hear that because... you are not seeing them !
- Hopefully the triage & referrals to walk in clinic, ER or specialists permit better usage of resources in a more timely fashion

# Telehealth Devices



# Study: Cardiogram's DeepHeart detects diabetes through smartwatches

By **Laura Lovett** | February 07, 2018 | 11:52 am

SHARE [Share](#) 580



A new **study** from Cardiogram suggests that ordinary wearables like Fitbit and Apple watches can detect diabetes and other medical conditions when integrated with Cardiogram's DeepHeart app.

"Twenty-four percent of people with diabetes, and 88.4 percent with pre-diabetes, don't realize they have it," Brandon Ballinger, CEO of Cardiogram, told MobiHealthNews in an email. "We don't want to turn people into patients, but by catching diabetes early, we



The study, which was funded by Cardiogram and conducted in partnership with the University of California San Francisco, found that the DeepHeart app was 85 percent accurate in distinguishing between people with and without diabetes. The app was also able to detect high blood pressure with 80 percent accuracy, and sleep apnea with 83 percent accuracy.

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# Competing Interests?

- Safety versus convenience
- Access versus none
- Medicine versus consumerism



## Hair loss treatment

The truth is, hair loss isn't a physical health concern. But it can be very emotional; whether you embrace it, shave it, or treat it. If hair loss is bothering you, we want to help with FDA-approved medication and a doctor or nurse practitioner who can put you on the right treatment plan.

Start online visit



Free online visit

### Treatment overview



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Rx + OTC treatments



Free, unlimited follow ups



No commitment / cancel anytime

# Examples of telehealth services in Canada

## GENERAL TELEMEDICINE

- Ontario Telemedicine Network
- Virtual Clinics
- Akira, Babylon, Dialogue, Maple, Teladoc
- ‘Do it yourself’ (doxy.me)
- Add-on to your EMR
- Mixture of public and private models

## SPECIALIZED / NARROW SCOPE

- BEACON mental health / CBT
- Hasu eCounselling
- Inkblot therapy
- HALEO online sleep clinic with therapists and app for sleep therapy

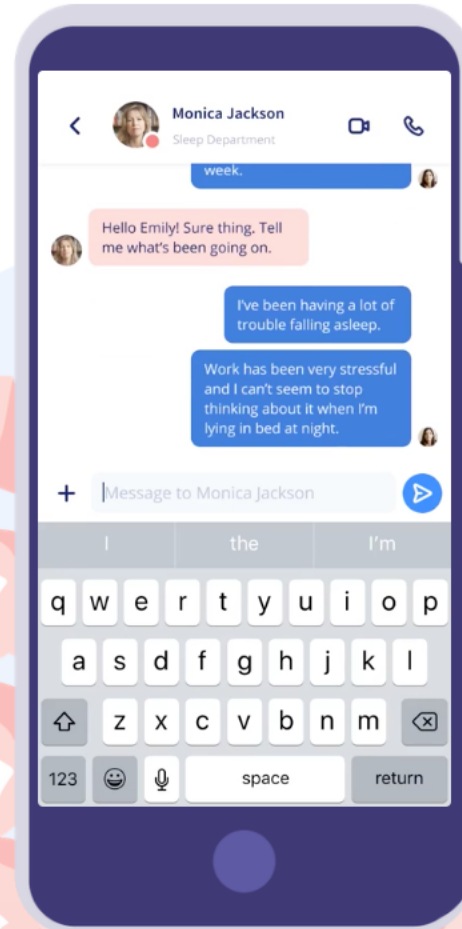
Meeti

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Therapy

July 8, 2020

RESEARCH F

Cognitive beha

"Before HALEO, I would give my sleep a score of 3.5 out of 10. Now, I would give it a solid 8 out of 10."



Olivier Beaudoin-Poulin  
Customer service agent, Desjardins



**CUSTOMER RATING**

in the therapist's skills.

University.

# Some conclusions

- Telemedicine exists in many forms, not just replacing the traditional visit
- Care requires access and there is more than one way to provide that
- Who's not ready? **The medical profession and governments**
- Remuneration modalities are outdated and do not reflect your time and expertise and access to that expertise
- Patients and healthcare personnel need instruction on privacy issues
- Many issues can be efficiently solved via telemedicine with efficiency for the patient and the system and environmental and lifestyle impact
- Access to specialized services and ancillary services (e.g. CBT, sleep) can improve healthcare and deliver on services not otherwise accessible

# Some conclusions

- Telemedicine in its most basic reform requires very little but those ‘basics’ MUST be done well (inform)
  - Identify and locate the patient, warn them of dangers, stay in expertise, no ‘bad’ drugs !
- Telemedicine can be a useful adjunct to your practice
- Telemedicine improves access, not just geographically
- There is a limited scope of practice and both staff and patients need be aware
- Need for a physical exam remains and imposes a heavy burden / judgement
- Evidence based rules and modified examination techniques could potentially expand telemedicine’s scope and further study is needed



# Useful references

- Quebec college guide: <http://www.cmq.org/publications-pdf/p-1-2015-02-01-en-medecin-telemedecine-et-tic.pdf>
- Covid-19 Pandemic Update to the above: <http://www.cmq.org/publications-pdf/p-1-2020-03-31-fr-les-teleconsultations-realisees-par-les-medecins-durant-la-pandemie-de-covid-19.pdf>
- [Pandemic: an accelerator of change](#) (Quebec college videos)
- The CMA Virtual Care Playbook: [https://www.cma.ca/sites/default/files/pdf/Virtual-Care-Playbook\\_mar2020\\_E.pdf](https://www.cma.ca/sites/default/files/pdf/Virtual-Care-Playbook_mar2020_E.pdf)