Technology-enabled Knowledge Translation for Digital Health: Principles and Practice

Kendall Ho
Professor
Department of Emergency Medicine, UBC
Lead
Digital Emergency Medicine

Friday, June 29 2018
#ktconnects
• Single portion recipe
• Batch (300 portions)
• Branding
• Distribution channels
Knowledge Translation Defined (CIHR)

• Knowledge synthesis
• Knowledge dissemination
• Knowledge exchange
• Knowledge application (ethically-sound)
Knowledge to Action

Graham ID et al.
Technology Enabled KT...

- Health Professionals-patient communicate clearer?
- Patients have better outcomes?
- Improved evidence-based decisions easier?
- Knowledge exchange with colleagues faster?
Digital Emergency Medicine

Patients & Caregivers

Acute (hospital)  Community (home)
1. **Dizziness and Vertigo** (Nat ...) feel that the room is spinning, being ... up too quickly from sitting is easily ... https://www.nlm.nih.gov/medlineplus

2. **Benign positional vertigo**
   Vertigo - positional: Benign paro
   Benign positional vertigo is also caused by a problem in the inner ... https://www.nlm.nih.gov/medlineplus

3. **Dizziness and vertigo - afi**
   Meniere disease - aftercare: Ben describe two different symptoms you feel like you might faint. ...
Patient Portals

Login to my ehealth
My ehealth is a new and exciting alternative, providing you with secure, efficient and timely access to your laboratory test results.

Email: [input field]  Password: [input field]

Forgot your password?

Login

New User?
Register here for an account.

Select your preferred language: [English]

If you have participated in a clinical trial, and would like information on participating in a survey about your experiences, please click on the following button

Clinical Trial Survey Information

Digital Emergency Medicine

a place of mind

The University of British Columbia

Faculty of Medicine
Downloading Apps to your Smartphone

1. Open:

2. Search: “First Aid”

3. Download:
Apple OS: Medical ID
Medisafe Medication Reminder and Pill Organizer
By MediSafe Inc.
Open iTunes to buy and download apps.

Manage your medications
Don’t let them manage you

Never miss a pill again
We’ve got your back
Emergency Department App for Patients

• Communicate with ED HPs
• Provide just-in-time information
• Capture necessary test results
• Capture discharge information
• Liaise with GPs & primary care
• …
4 Digital Trends in Knowledge Translation:

Prescribe web sites, & Apps
Digital Emergency Medicine

Health Practice

Patients & Caregivers

Acute (hospital)

Community (home)
Free on: iPhone | iPad | Windows | Android | Web
Creating the FOAMed network

by Mike Cadogan

I have been trying (with limited success) for the last 5 years to define the use of social media in emergency medicine and critical care. Trying to persuade other healthcare professionals of the importance of online communication and collaboration as well as the immense potential of social media in the development of educational resources. But nobody would listen. I really felt that we had the scope to pull fragmented educationalists together into one place with one medium, one goal and one agenda – to provide high quality free open source medical education.

Attitudes of Health Professional Educators Toward the Use of Social Media as a Teaching Tool: A Global Cross-Sectional Study.

O'Souza K, Henningham J, Zou R, Huang J, O'Sullivan E, Last J, Ho K.
Collegial Consultations

What do you think?

Could this be TB?

Speed and accuracy of mobile BlackBerry Messenger to transmit chest radiography images from a small community emergency department to a geographically remote referral center.

Scheuermeyer F, Grunau B, Cheyne J, Grafstein E, Christenson J, Ho K.

Speed and accuracy of text-messaging emergency department electrocardiograms from a small community hospital to a provincial referral center.

Scheuermeyer FX, Grunau BE, Findlay T, Grafstein E, Christenson J, Lang E, Rowe B, Ho K.
Real Time Virtual Support in BC

95 EDs

1100 MDs

2 million Pt visits/yr


Aku-Laban RB1, Orebri S1, Lindstrom RB1, Archibald C1, Everill K2, Ho K1, Khazie A1, Lund A2, Mackinnon C1, Markham R4, Marsden J1, Martin E2, Christensen J1.
4 Digital Trends in Knowledge Translation:

Virtual References & Consultations

Prescribe websites, & Apps
Mobile Digital Access to Wireless Network (mDAWN)

3 months results:
- A1c 7.41 to 6.77
- Weight loss 3.51 lb
- Systolic BP reduction
- Health stress reduction
- Diabetic empowerment
Telehealth for Emergency Community Continuing of Care Connectivity via Home monitoring

From hospital to home: Safe & high quality care

Supporting Heart Failure Patient Transitions From Acute to Community Care With Home Telemonitoring Technology: A Protocol for a Provincial Randomized Controlled Trial (TEC4Home)

Remote Monitoring for Heart Failure Patients in BC

“This is the best I have felt in 2 years.”

“This is the longest I have stayed out of hospital”

“I may not let Telus in the door to collect the equipment” (joking)

“people who have not seen me for a while tell me ‘What a difference’” and “even your voice is stronger”

Phase 1 (3 hospitals, 70 pt):

- 59% decr. Readmissions
- 44% decr. ED revisits
- 44% decr. Per patient cost
- Improved Quality of Life
HF Phase 2 2018-19: 19 Sites

Greater Vancouver Area

COPD Stroke
4 Digital Trends in Knowledge Translation:

- Prescribe websites & Apps
- Virtual References & Consultations
- Deploying Wearables & Sensors
BC Virtual Health Grand Rounds (BCVHGR) -
Using Remote Presence Robotic Technology to
Deliver Care to Rural and Remote Communities

Bringing Primary, Emergency & Specialized Healthcare to
the People through Technology: What's Working In
Demonstration & Simulation Studio for Health (DaSSH)
4 Digital Trends in Knowledge Translation:

- Prescribe web sites, & Apps
- Virtual References & Consultations
- Deploying Wearables & Sensors
- Sharing Digital Strategies
Issues and Considerations

• eHealth literacy
• Paradoxical marginalization
• Privacy & confidentiality
• Data storage and security
• Increased time & efforts in workflow
• How to keep up?
Path Finding: 6 Reinforcing Steps

- Introduce the culture of knowledge translation
- Engage individuals & animate partnerships
- Establish a system of KT (science based)
- Reinforce the system for change
- Evaluate for outcome
- Keep improving

Clinicians, Policy, Community, & Academic Co-creation

Introduce the culture of knowledge translation
What makes a GREAT piano?

- Purity of each note
- Depth/warmth
- Connectivity/Harmony between notes
Success in “Knowledge Translation”

- Patient & caregiver engagement
- Collegial knowledge exchange
- Health system synchronization
Let’s build a community for digital emergency medicine!

Kendall Ho
Kendall.ho@ubc.ca

BC Emergency Medicine
@UBCdigem

www.youtube.com/ “UBC digem”

emergency.med.ubc.ca “DigEM interest group”
digem.med.ubc.ca
More resources

- For more information on KT and to explore our resources, visit www.msfhr.org/our-work/activities/knowledge-translation

- Archived webinar recordings: www.msfhr.org/ktconnects

@msfhr
@Arthritis_ARC

www.msfhr.org
www.arthritisresearch.ca