Knowledge Translation 101

Kelly Warmington, BEd MEd PMP

Knowledge Translation and Exchange Specialist Education Resource Group | Learning Institute

July 4, 2014





About me...











Leading to our vision of...

Healthier Children. A Better World.™



Bringing value to

To deliver quality services within an integrated system

Improved health outcomes

Stakeholder Value

Research translated to practice

Quality education and training

Lead in World-Class Quality and Service Excellence

Create a culture of service excellence

Champion continuous improvement

Optimize patient safety

Improve equitable and timely access

Strengthen enterprise performance management

Foster clinical research excellence

Enhance Child Health Systems

Identify, promote and advocate for evidence-based solutions to address key child health issues in Canada

Implement knowledge translation strategies to facilitate rapid uptake of new knowledge

Build strategic partnerships and pursue opportunities to collaborate both internally and externally

Engage in global opportunities to enhance child health and build capacity

The Knowledge Translation Program develops partnerships, resources, and training to strengthen KT capacity within the hospital and beyond.

KT Specialist Role

Train – KT Professionals Train – Researchers/ Practitioners

Train – Ad hoc

Liaise – Knowledge Exchange Host – KT Events

Consult – Internal

Network

Clarify – Plain Language Education Initiate – New KT Activities

Showcase – KT Stories

Engage – Committee Work

Innovate

Develop - PD





Learning Objectives

Participants will be able to:

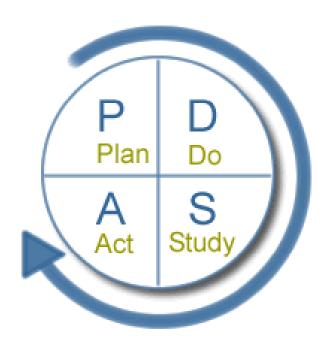
- 1. Define knowledge translation (KT) and related terms.
- 2. Summarize the components of a KT plan.
- 3. Discuss evidence-based and emerging KT strategies.
- 4. Identify KT planning resources.





Do you have a background in...

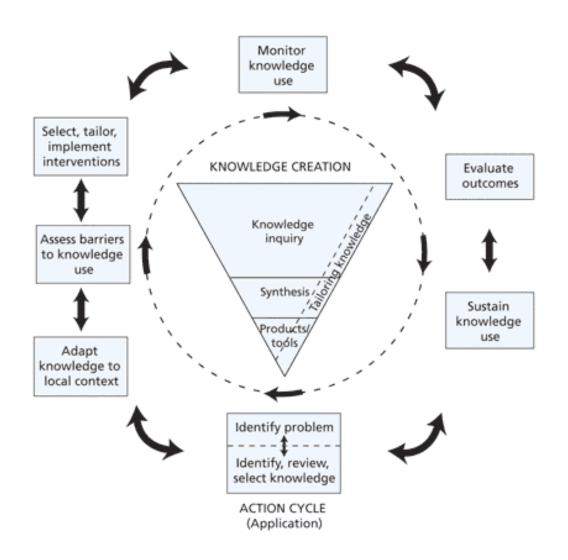
- Quality Improvement?
- Project Management?
- Research?
- Behavioural Science?
- Communications?
- Education?







Knowledge to Action Cycle



OR...

- Consolidated Framework for Implementation Research (Laura Damschroder et al.)
- Theory of Planned Behaviour (Icek Ajzen)
- Stages of Change (Prochaska and DiClemente)
- Diffusion of Innovation (Everett Rogers)

• ...

Vasco da Gama http://vimeo.com/45757954 http://eenet.ca/about-us/





TREATISE

ONTHE

SCURVY.

IN THREE PARTS.

CONTAINING

An Inquiry into the Nature, Caufes, and Cure, of that Difeafe.

Together with

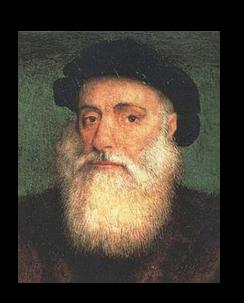
A Critical and Chronological View of what has been published on the Subject.

By JAMES LIND, M.D.

Fellow of the Royal College of Physicians in Edinbergh.

The Second Entrion corrected, with Additions and Improvements.

L O N D O N:
Printed for A. Millan in the Strand,
MDCCLVII:



104

 1497 Vasco da Gama and crew of 160, of which 100 die of scurvy; citrus suspected as cure

146

 1601 Capt. James Lancaster sails with four ships; one given 3 tsp lemon juice daily: 0% mortality compared to 40% mortality on other 3 ships

48

 1747 British Navy doctor James Lind conducts randomized trial of 6 treatments for scurvy; again citrus proves effective

70

 1795 British Navy declares citrus a part of diet on all navy ships

368

 1865 British Board of Trade adopts 'innovation' at the policy level due to ground-up adherence

The 368 year gap is down to 17...

- 17 years to translate evidence from discovery into health care practice¹
- But, only 14 % of it is believed to enter day-to-day clinical practice²
- For every \$1 spent on new discoveries → \$0.01 is spent on disseminating information³

- 1. Balas EA, Boren SA. 2000
- 2. Westfall JM, Mold J, Fagan L. 2007
- 3. Woolf. 2006





Translated to Practice!

Issue:

In the mid 90s SickKids was performing 16-20 infant heart transplants/year.



Innovation:

ABO-incompatible heart transplantation for infants. West et al. (2001) published results of ABO-incompatible heart transplants in 10 infants.

Implementation:

After the institution of ABO-incompatible heart transplants, mortality rates among infants awaiting a transplant fell from 58% to 7%. The post-transplant 1-year survival rate was 80% (comparable to those who receive ABO-compatible hearts).



SickKids

KT Pop Quiz

How many journal articles would you have to read each day to stay up to date in your field?

- i. 5
- ii. 10
- iii. 15
- iv. 20
- v. 25



(Shaneyfelt, JAMA 2001, anecdotal)





TERMINOLOGY



SickKids •

Knowledge Translation

Knowledge translation is the exchange, synthesis and ethically-sound application of knowledge - within a complex system of interactions among researchers and users - to accelerate the capture of the benefits of research for Canadians through improved health, more effective services and products, and a strengthened health care system.

CIHR





Knowledge translation is about the application and use of the best available evidence to benefit health and well-being

Evidence?





GOLD STANDARD?

Hazardous journeys

Parachute use to prevent death and major trauma related to gravitational challenge: systematic review of randomised controlled trials

Gordon C S Smith, Jill P Pell

Evidence

Academic research Practitioner expertise and experience Intended population/Local context

(Adapted from the PARiHS model)





Knowledge translation
Knowledge mobilization
Knowledge exchange
Dissemination
Implementation

Translational research

TERMINOLOGY

Knowledge management

Technology transfer Commercialization

Knowledge Mobilization

Getting the right information to the right people in the right format at the right time, so as to influence decision-making.

Social Sciences and Humanities Research Council of Canada. From the French conceptualization – mobilisation – making ready for service or action – Peter Levesque.





Implementation

Implementation is the use of KT strategies to adopt and integrate evidence-based interventions and change practice patterns within specific settings.

Knowledge **Translation** Implementation

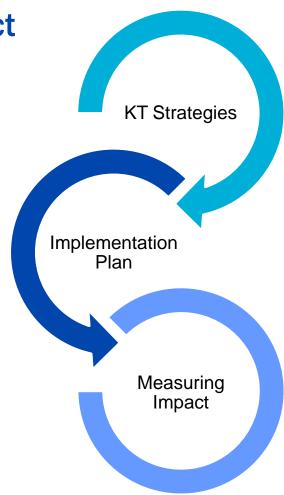
Community Engagement Program, Clinical & Translational Science Institute, University of California





Strategies, Implementation and Impact

- What KT strategies will you use and why?
 - What...
- How will you implement your strategies?
 - Who, when, where, how...
- With what impact?
 - How will you know...

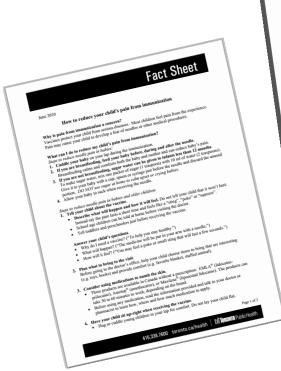


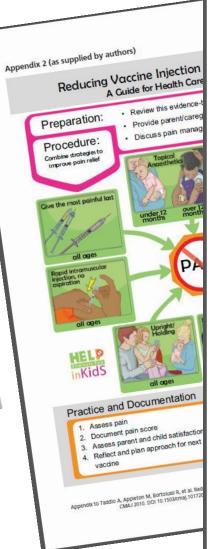




Reducing Pain During Immunization

Dr. Anna Taddio







The 4 P's of Pain Management during Vaccine Injections A Clinician's Guide: Babies up to 1 year old

Vaccine injections can be painful and stressful for bables, parents and clinicians, but you can really make

For your next vaccine injection, plan with parents to make it less painful and stressful.

- Ask parents to: 1) Apply topical anaesthetics to numb the skin these can be purchased at a pharmacy without a prescription. 2) Give the baby sugar water for comfort - make sugar water at home or at the clinic by mixing 1 teaspoon
 - of sugar with 2 teaspoons of water.
 - 3) Distract the baby use an age-appropriate item.

Read the 4 P's of vaccination pain management below and combine these evidence-based strategies to improve pain relief.

For more information and a video, visit the SickKids (The Hospital for Sick Children, Toronto, Canada) website: www.aboutkidshealth.ca/pain-free-injections

STEP 1: PHARMACOLOGICAL (PAIN MEDICINE)



TOPICAL ANAESTHETICS

- Available products: lidocaine (Maxilene™), tetracaine (Ametop™), lidocaine-prilocaine (EMLA*).
- Apply to injection site 30 to 60 minutes before injection. Two doses may be needed (one for each arm or leg) If 2 or more injections are being given.

 May cause temporary reddening or whitening of skin – this is normal. If a rash appears it could be an allergic reaction – be aware of this.

instruct parents to avoid acetaminophen, ibuprofen, ice or cold sprays before injection – these have not been proven to reduce injection pain. After injection, acetaminophen or ibuprofen may be used to relieve fever or discomfort.



 Have parents give the baby sugar water to drink right before the injection.

STEP 2: PHYSICAL (BODY POSITION AND ACTIVITY)



Have parents hold the

- baby on their lap or hug them during injection. This helps the baby stay still and feel secure. Advise parents not to
- hold their baby too tightly this can increase pain and

BREASTFEED

- · Encourage mothers to breastfeed their baby before injection, and continue during and after injection. If 1 injection is planned, have the
- parent position the baby to expose 1 leg; expose both legs for 2 or more injections.
- · If the baby cannot be breastfed, have parents offer a bottle or pacifier before injection and continue during and after injection.

STEP 3: (PSYCHOLOGICAL (THOUGHTS AND BEHAVIOURS)



Direct parents to stay calm and use a normal speaking voice. This will help the baby stay calm. If they are nervous, prompt parents to take slow, deep breaths before and during

injection, while holding the baby. They should breathe so their stomach expands, not their chest.

 Distract the baby. Some distractions that can. be used: rocking, cuddling, singing, talking, sucking (breastfeeding or pacifier). Distract with toys or objects

(bubbles, pop-up books, rattles) only when the baby is calm enough to do so; otherwise, distress may be increased.

STEP 4: PROCEDURAL (INJECTION TECHNIQUE)



NO ASPIRATION

- Perform all Intramuscular injections quickly without prior aspiration. Aspiration is unnecessary because the sites used for vaccination are devoid
- of large blood vessels.

ORDER OF INJECTION

- When multiple injections are to be given, inject the most painful one last.
- There is insufficient evidence for or against simultaneous injections



These are scientifically proven ways of reducing pain in babies during vaccine injections. Talk with the parent about what worked and plan ahead to make the next vaccination less painful.

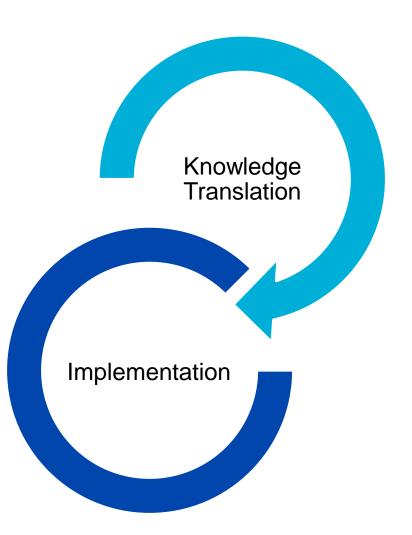






Implementation

Is it being done with **fidelity**, to **scale**, and is it **sustainable**?







Fidelity

http://www.youtube.com/watch?v=dMAS2S51bM8





Why is KT important?

- Estimates from research in the US and Netherlands:
 - 30-45% of patients are not receiving care according to scientific evidence
 - 20-25% of care provided is not needed or potentially harmful

Grol, 2001; McGlynn et al., 2003; Shuster et al., 1998.

 In a study of eight health policy-making processes in Canada, only one process had citable health services research used in all stages of the policy-making process

Lavis, 2002.





KT Strategies Work

- The probability of providing the right care can be increased by up to:
 - 68% through educational outreach and social marketing
 - 250% by offering feedback to clinicians about their performance
- Office reminders for cholesterol treatments prevented 7 times more deaths than the cholesterol reducing drugs

Woolf & Johnson, 2006.





Obstacles to KT

- High costs of translating
- **✗** Don't know who to involve
- **x** Lack of skills and expertise
- Fear of compromising excellence for relevance
- **X** Lack of academic incentives



AND

Lack of autonomy/decision-making power

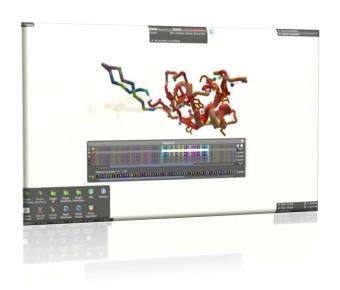
- Lack of organizational culture for KT
- **✗** Volume of evidence





SickKids Survey, 2003

The Power of Collaboration



Online gamers have solved a molecular biology puzzle that may lead to new drugs to fight HIV...

Foldit is a game in which players compete and co-operate to find the best ways to **fold a protein** into a 3D structure based on the laws of physics.

The problem solved by *Foldit* players recently involved a protein from the virus that causes **AIDS in rhesus monkeys**.

Researchers have been trying to figure out its shape for 15 years. *Foldit* players managed to solve the puzzle in just a few days.

CBC News Sept 19, 2011





Peer-reviewed Video Publication



MRI







SickKids®

MaRhhhhhI







Q & A

kelly.warmington@sickkids.ca



SickKids

KT PLANNING



SickKids

Knowledge Translation Planning Template®



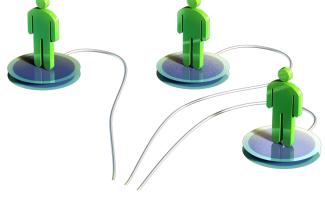


INSTRUCTIONS: This template was designed to assist with the development of Knowledge Translation (KT) plans for research but can be used to plan for non-research projects. The Knowledge Translation Planning Template is universally applicable to areas beyond health. Begin with box #1 and work through to box #13 to address the essential components of the KT planning process.

(2) Degree of Partner Engagement (3) Partner(s) Roles (1) Project Partners (4) KT Expertise on Team scientist(s) with KT expertise researchers from idea formulation straight through (1) What do the partner(s) bring to the after idea formulation & straight through consultant with KT expertise consumers - patients/families project? the public at point of dissemination & project end knowledge broker/specialist (2) How will partner(s) assist with decision makers beyond the project KT supports within the organization(s) developing, implementing or private sector/industry KT supports within partner evaluating the KT plan? Consider: Not all partners will be engaged research funding body at the same point in time. Some will be organization(s) Action: Capture their specific roles in collaborators, end users or audiences, or volunteer health sector/NGO KT supports hired for specific letters of support to funders, if requested. people hired to do specific activities. practioners task(s) other

Key Components of a KT plan

- 1) Who are your **partners** and **knowledge users**?
- 2) How and when will you **engage** them?
- 3) What are your **main messages**?
- 4) What are your **KT goals**?
- 5) What **KT strategies** will you use?
- 6) How will you **implement** your strategies?
- 7) With what **impact**? ...and how will you **know**?
- 8) What **resources** are required (budget, staffing, skills, etc.)







Getting Started with Implementation

Answer the following questions for each local setting (real or virtual).

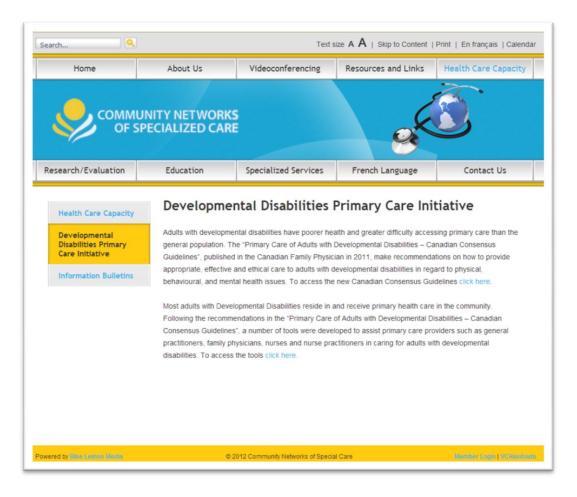
- 1. What should be transferred?
- 2. To whom should the knowledge be transferred?
- 3. By whom should the knowledge be transferred?
- 4. How should the knowledge be transferred?
- 5. With what effect should the knowledge be transferred?

Adapted from Lavis et al. 2003





KT vs. Implementation





de soins

Clinical Review

Primary care of adults with developmental disabilities

Canadian consensus quidelines

William F. Sullivan ND CCP PND JOSEPH M. BETS MBRON MS: FRCPyNth FCCMD Elspeth Bradley PND MBIS FRCP FRCPPyth Tom Cheetham ND CCP Richard Denton ND CCP FCP FRANS JOhn Heng NA Brian Hennen NA ND CCP David Jovec ND CCP Mauren Kelly BN NAM AMPIK KOTOSSY YONG LUNSky PNC CPYNth Shirly McMillian BN NN CDON

Abstrac

Objective To update the 2006 Canadian guidelines for primary care of adults with developmental disabilities (DD) and to make practical recommendations based on current knowledge to address the particular health issues of adults with DD.

Quality of evidence Knowledgeable health care providers participating in a colloquium and a subsequent working group discussed and agreed on revisions to the 2006 guidelines based on a comprehensive review of publications, feedback gained from users of the guidelines, and personal clinical experiences. Most of the available evidence in this area of care is from expert opinion or published consensus statements (level III).

Main message Adults with DD have complex health issues, many of them differing from those of the general population. Good primary care identifies the particular health issues faced by adults with DD to improve their quality of life, to improve their access to health care, and to prevent suffering, morbidity, and premature death. These guidelines synthesize general, physical, behavioural, and mental health issues of adults with DD that primary care providers should be aware of, and they present recommendations for screening and management based on current knowledge that practitioners can apply. Because of interacting biologic, psychoaffective, and social factors that contribute to the health and wellbeing of adults with DD, these guidelines emphasize involving caregivers, adapting procedures when appropriate, and seeking input from a range of health professionals when available. Ethical care is also emphasized. The guidelines are formulated within an ethical framework that pays attention to issues such as informed consent and the assessment of health benefits in relation to risks of harm.

Conclusion Implementation of the guidelines proposed here would improve the health of adults with DD and would minimize disparities in health and health care between adults with DD and those in the general population.

Résume

Objectif Mettre à jour les lignes directrices canadiennes de 2006 sur les soins primaires aux adultes ayant une déficience développementale (DD) et présenter des recommandations pratiques fondées sur les connaissances actuelles pour traiter des problèmes de santé particuliers chez des adultes REF YUNIO X as group, acuts wan developmental disabilities (IXO) have poore health and greater difficulty accessing primary care than does the general population. They have different patterns of lines and complex interactions among comorbidities. These guidefines update the general, physical, behavioural, and mental health recommendations for adults with IXO, percially for those Lovenius and an entral health recommendations for adults with IXO, percially for those conditions not screened for by routine health assessments of the percent population. Exhibit always, such as informed consent and assessment of benefits in relation to risks, are addressed. Among the most important pulsates are consideration of athypical manifestations of pain and distress in action with the properties for a strong recommendation to avoid inappropriate long-term use of antipoychotic medications to address of address.

POINTS DE REPÈRE Collectivement, développementales (DD) sont en moins de l'ensemble de la population. Les maladies évoluent différemment et présentent entre elles des interactions complexes chez ces personnes. Les lignes directrices font la mise en jour des recommandations pour la santé générale, physique, comportementale et mentale des adultes avant une DD, en particulier pour les problèmes qui ne sont pas dépistés dans les évaluations systématiques de la santé dans la population éclairé et l'évaluation des bienfaits par rapport aux risques. Parmi les mises à jour les plus importantes, on peut mentionner les manifestations atypiques de la douleur

Implementation

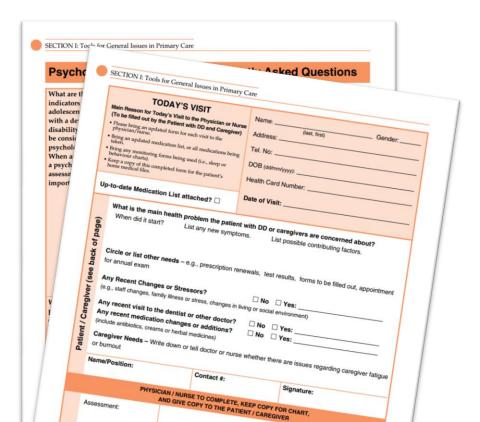
(e.g., rolling out of a specific tool in a specific setting)

To whom? By whom? How?With what effect?

KT Strategies

(e.g., products)

Network Website Guidelines Tools



Who are your knowledge users?

- Who needs to hear your message?
 - Who impacts or is impacted by your work?
- How well do you know them?
 - Readiness for change?
 - Barriers?
- What existing knowledge channels can you capitalize on?

Institute for Work & Health, Knowledge Transfer & Exchange Workbook





Knowledge Users: Improving Knowledge Utilization

- Involve your audience(s)
- Message(s) and KT activities should be audience-specific
- Face-to-face interaction works best
- Communicate for your audience, not for yourself
 (Give people the information they need, not what you think they need)





aboutkidshealth

Trusted answers from The Hospital for Sick Children



KT Goals

- Raise awareness
- Generate interest
- Promote practice change
- Promote behaviour change
- Encourage policy change
- Encourage public action

- Share knowledge
- Inform decision-making
- Inform research
- Commercialization
- Patent
- Other





The Message: What are main messages?

- Messages are the lessons others can take from your work, e.g. decision-makers
- They are not just findings. They explain:
 - what the findings mean,
 - why they are important,
 - what action should be taken as a result









What is the Main Message?

Dr. Schwebel's research found that distractions such as texting and talking on the phone impaired participants' ability to cross the street safely, but listening to music posed the greatest risk.

(AboutKidsHealth)

SMIT: Single Most Important Thing?

BLAM: Bottom Line Actionable Message?





Unplug your iPod before crossing the street

What Kids Should Do

Dr. Schwebel says kids should:

- Unplug their iPods while crossing the street
- Avoid texting or talking on the phone
- Pay full attention to the road and other surroundings

The Evidence

Distractions that impaired children's ability to cross the street safely included:

- Listening to music
- Texting
- Talking on the phone





Resources and Budgeting

Website Development

Travel for education/ conferences/ meetings

Hiring a KT Broker Open Access
Publication

Mailing/Distribution

Production/ Creative Services/ Printing

Technology
Transfer/
Commercialization

Media Product (ie. video)

Internal/ External Services

Venue

Equipment

Media Release

Art Installation

Web 2.0



SickKids

KT STRATEGIES



SickKids

State of the Evidence for KT Strategies



Participatory research

Interactive small groups

Educational outreach

Reminders

Computerized decision support

Multi-disciplinary collaboration

Mass media campaign

Financial intervention / incentive

Mostly

Academic Detailing



Conferences, courses

Opinion leaders/ Champions

Educational materials

Patient-mediated interventions

Performance feedback

Educational strategies

Audit & Feedback

Substitutions of tasks

 Multifaceted interventions are more likely to improve practice than single interventions

Boaz et al., 2011



KT Brokers

Communities of Practice

Patent license

Social media

Arts-based KT

Unknown

8

Continuous quality improvement

Didactic meetings

Mixed Limited

Grol R & Grimshaw J, 2003.





What are 'Tailored Interventions?'

Tailored interventions are 'strategies to improve professional practice that are planned taking account of prospectively identified barriers to change'.

(Baker et al. 2010)





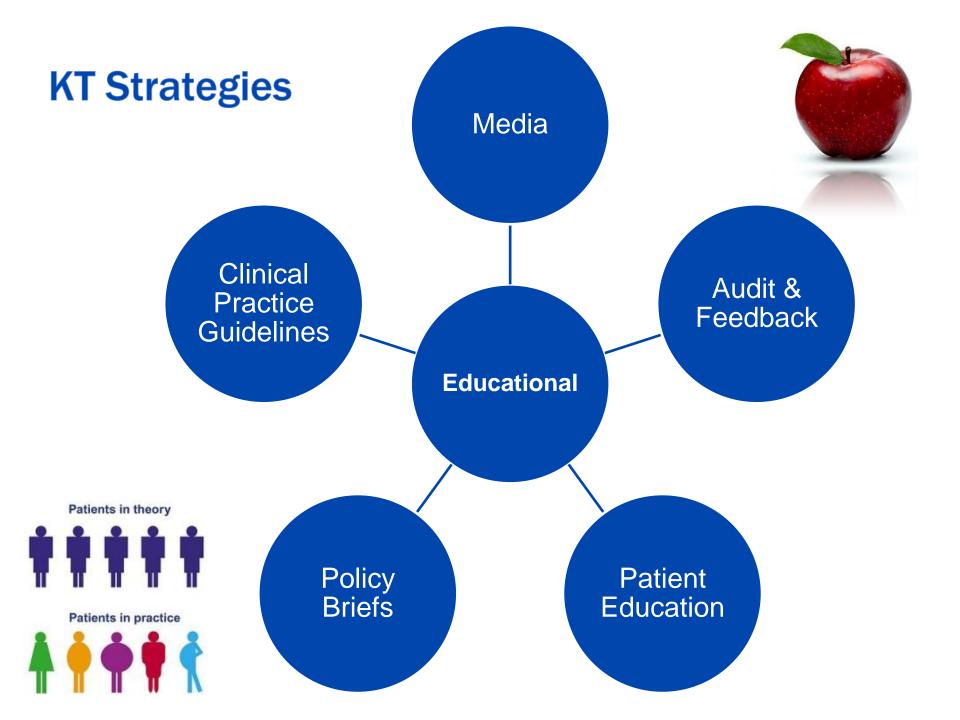


KT Strategies

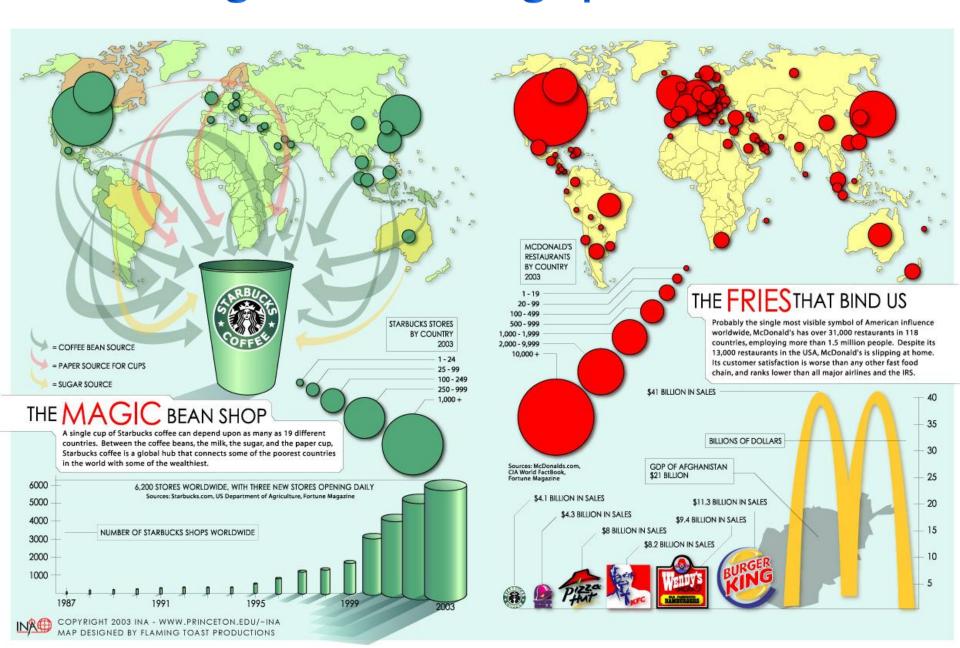




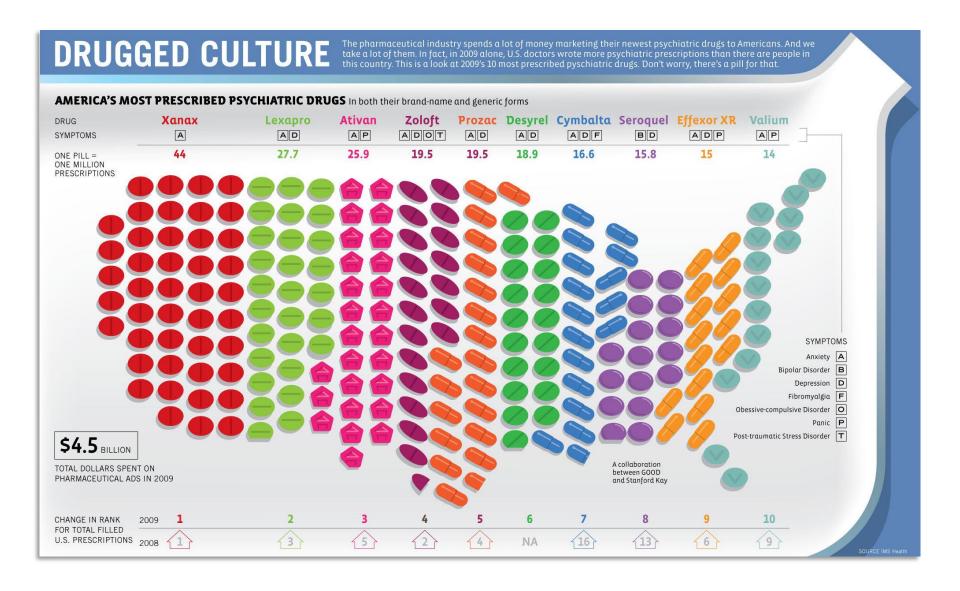
Financial Incentives



Something Different - Infographics



Something Different - Infographics



KT Strategies



Social Media

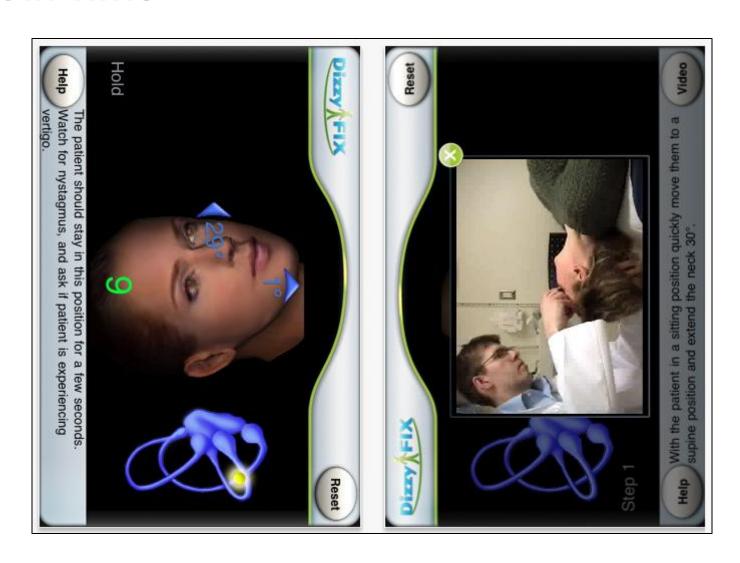


Technology-Based

Decision Support

Reminders

Just-in-Time



#socialmedia_funfact

- > 1 billion unique users visit YouTube each month
- > 6 billion hours of video are watched each month (that's almost an hour for every person on Earth)



- 100 hours of video are uploaded every minute
- 80% of YouTube traffic comes from outside the US

(https://www.youtube.com/yt/press/statistics.html)





#socialmedia_funfact

- 300 million people use LinkedIn
- 2 new users join LinkedIn every second



(Smith, Digital Marketing Ramblings 2014)





Healthcare: A Slow Adopter of Social Media

Healthcare Values	Web 2.0 Values
Risk Adverse	Risk Taking
Information comes from authoritative sources	Anyone can create an account
Long lead times for development	Quick deployment
Controlling data	Information contributed by and distributed to all
Intellectual property closely guarded	Use licenses with as few restrictions as possible

Sharp J. (2007), eHealth, The Cleveland Clinic, slide adapted from S. Bovaird

Considerations: ethics, best practices, practicality, ROI







KT Strategies



N. Walji Cystic Fibrosis

Arts-Based Strategies



McIntyre and Cole
The Alzheimer's Project
(http://www.oise.utoronto.ca/legacy/research
/mappingcare/history_alz.shtml)



K. Boydell First Episode Psychosis

RESOURCES



SickKids

PLAN...KT Planning Template

Knowledge Translation Planning Template®

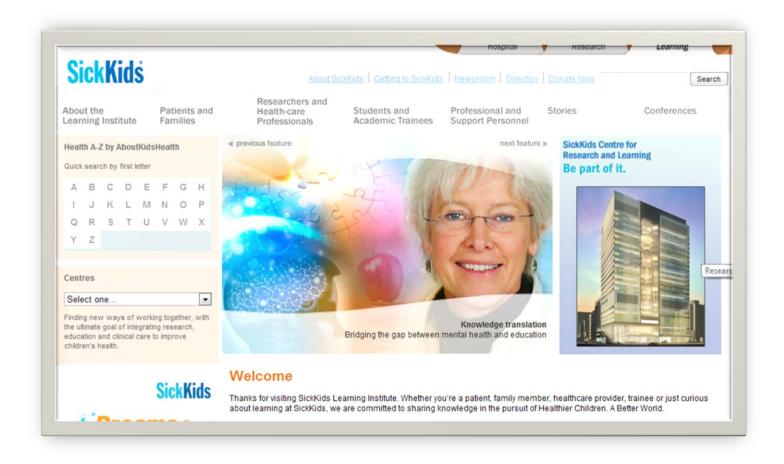




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READ...KT Stories





(http://www.sickkids.ca/Learning/Stories/Knowledge-Translation/Knowledge-Translation-Stories.html)



WATCH...KT Video Vignettes







ENGAGE...SKTT, KTPC KT Training











LINK TO LEARN...KT Community of Practice



CANADIAN KNOWLEDGE TRANSFER and EXCHANGE COMMUNITY of PRACTICE

OME ABOUT KTECOP

MEMBERSHIP

NEWS AND EVENTS

CAREERS

RESOURCE LIBRARY

CONTACT



Canadian Knowledge Transfer and Exchange Community of Practice

NEWS AND EVENTS

Project Coordinator

To search, type and hit enter

WELCOME TO KTECOP

The Canadian Knowledge Transfer and Exchange Community of Practice (KTECOP) is a network of KTE practitioners and researchers who share KTE practices and experience, build peer relationships for information exchange and support, build KTE capacity, advance knowledge of KTE effectiveness, and share KTE events, job opportunities and other related KTE activities. More >

LOGIN STATUS

You are not currently logged in.

Username

Daceword

PLAY TO LEARN...KT Game™

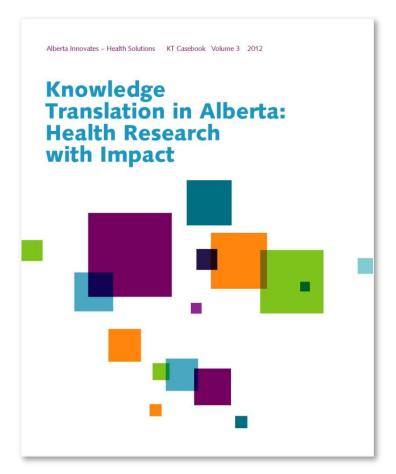








EMULATE...KT Casebooks



- Alberta Innovates (3):
 http://www.aihealthsolutions.ca/rtna/ktcase
 book.php
- CIHR: http://www.cihr-irsc.gc.ca/e/30744.html
- http://www.inspirenet.ca/resources/interiorhealth-kt-casebook-sharing-storiesevidence-informed-practice
- SPHERU:

http://www.spheru.ca/news/items/spheruscasebook-looks-at-the-great-knowledgetranslation-work-from-across-canada.php





Main Messages

- Evidence is a broad term.
- KT is about relationships; it's ongoing and collaborative.
- Consider, engage and respect partners and knowledge users; it's worth it.
- KT plans should be flexible, inclusive, feasible and appropriate (to the evidence). FIFA!
- There are many KT strategies and planning resources available to you.





Learning Objectives

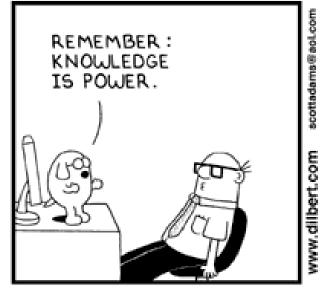
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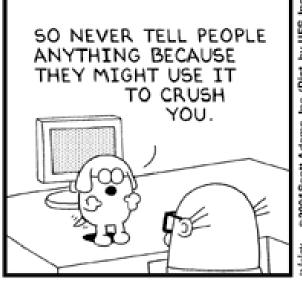
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- 3. Discuss evidence-based and emerging KT strategies.
- 4. Identify KT planning resources.

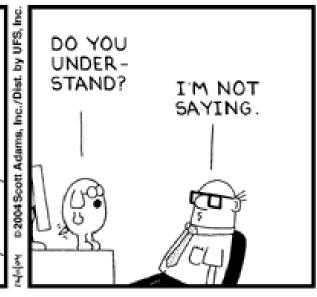




Thank you.







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Questions?

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