Evidence-Based Medicine Through an Indigenous Lens

Welcome.
We will begin shortly.

Canadian Pharmacists Association
Association des pharmaciens du Canada

General Housekeeping

- Session will be approximately 60 minutes:
  - 45 minutes from all of our speakers, 15 minutes for audience Q&A
- Accredited for 1.00 CEU under CCCEP file #: 8002-2020-2961-L-P; a Statement of Completion will be emailed after the webinar
- All material will be publicly posted on the CPhA website after the webinar, links will be emailed to you
- Use questions box for technical support at anytime and for Q&A at end

PHARMACY
ASSOCIATION
OF SASKATCHEWAN

Today's Speaker

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Canadian Pharmacists Association | Association des pharmaciens du Canada

PHARMACY PR

Disclosure

No conflicts to disclose.

Disclosure

Please note:

- The content in this webinar is not meant to discredit or delegitimize what is taught, learned, and practiced in pharmacy
- The content is meant to promote introspection and metacognition regarding what we teach, learn, and practice in pharmacy
- I too am a Western trained pharmacist who practices within the structures of Western medicine and I will continue to do so

The difference is just that – naming the knowledge system behind the practice.

Mitigating Bias

A decolonial and Indigenous lens will be applied to Evidence Based Medicine (EBM) as we know it as a means of re-focusing the bias we all share regarding EBM.

Learning Objectives

- Summarize Evidence Based Medicine (EBM) through an Indigenous lens
- Name and critically evaluate EBM with regard to the knowledge system(s) that inform it
- Describe intercultural counseling strategies that honour Indigenous approaches to health and wellness

Evidence Based Medicine through an Indigenous Lens

UNIVERSITY OF SASKATCHEWAN

Land acknowledgement

As we gather today, I would like to acknowledge I am delivering this presentation from Treaty 6 Territory and the Homeland of the Métis.

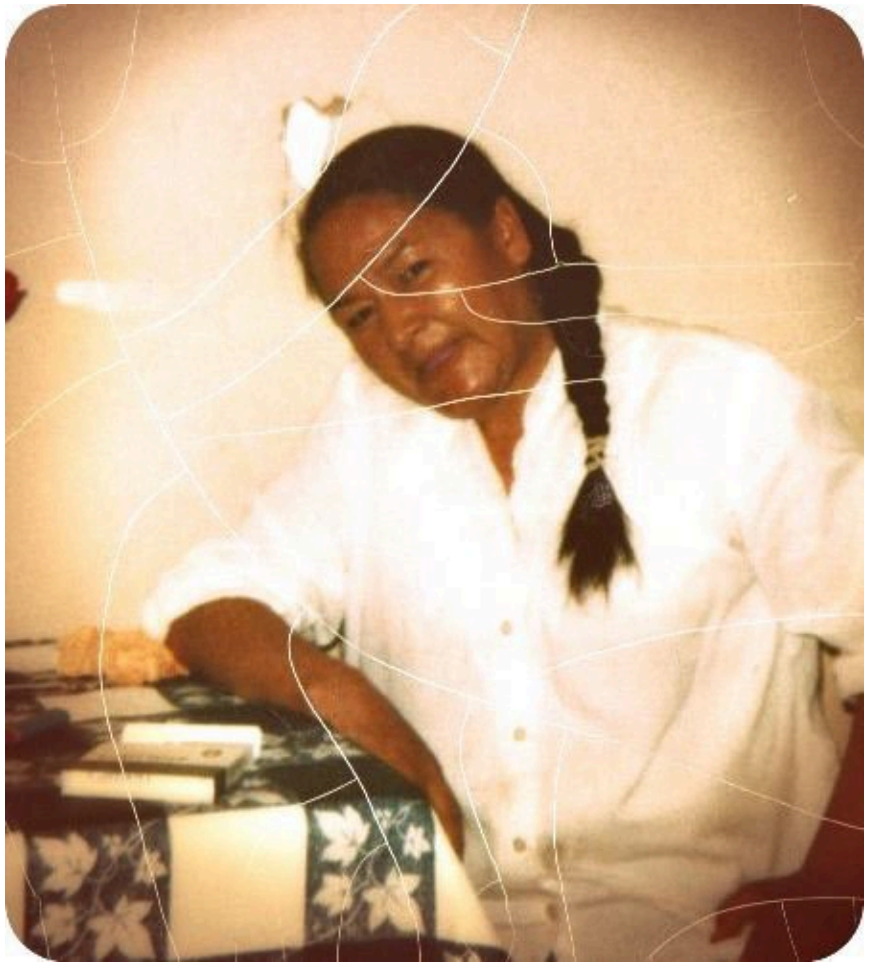
Thank you for joining in from the traditional lands where you each reside.

Poll question:

Which of the following groups of people are included in the Canadian definition of Aboriginal (Indigenous) people:

a. First Nations
b. Non-status First Nations
c. Inuit
d. Métis
e. All of the above
f. Only a and b
g. Only a, b, and c
h. Only a and c
i. Only a, c, and d

My relatives



Marina Elder (Grandma)

Peter Gilbert (Great Grandpa)

Your / Our Worldview

- Every person has their own unique outlook on the world
- Informed by:
  - Generations before you
  - Your family, your friends, your political views
  - Your dis/abilities, your ethnicity, your height
  - Your gender, your sexual orientation,
  - The year/generation and city/country you were born in
  - The profession(s) of your parent(s)/caregiver(s), the teachers you have had, etc.

Let’s talk about evidence …

“Jaris – if you really want to make a difference, forget about ‘Indigenous.’

Go buy a statistics textbook.

Read it. Learn it. Use it.

That’s where the big money is.

That’s where you’ll make a difference.”

Western Knowledge

- In the Canadian health care and education systems, and in the scientific community, Western knowledge is treated as the most legitimate form of knowledge

(Ermine, 2000; Reading, 2013)

Western Knowledge

- The drastic privileging of Western knowledge is problematic in the healthcare context where **epistemic racism** *(domination of knowledge)* *and* **systemic racism** *(when systems treat people differently based on ethnicity or race)* work together to **delegitimize Indigenous research and evidence**, which impacts resource allocation and access to culturally appropriate care

(Matthews, 2017)

SURPRISE Lecture on Statins

Let's take a look at a summary chart on statins from the RxFiles website.

Let's zone in on the number needed to treat (NNT) for statins in relation to various patient groups.

https://www-rxfiles-ca.cyber.usask.ca/rxfiles/uploads/documents/Lipid-QandA-Update-Oct04.pdf

Table 1: NNTs for Statins in Various Risk Groups – Major Trial Data (Standardized for 5 years) [15] *

Typical Patient in Trial	Trial Drug & Dose	Number of patients treated for 5 years for 1 less cardiovascular event (generally CHD death or non-fatal MI +/- revascularization)		Comments
		CV Event	all-death	5yr Mortality Rate % in Placebo→Treated Group
DM or IFG (BG≥6), **CVD**, male 58yo, LDL ~ 4.9, (**2°** prevention)	**4S**-subgroup [16]; n=678 [5.4yr] Simvastatin 20-40mg od	10	18	•highest risk: DM with CVD benefit the most
History of MI, angina, male, 58yo, LDL= 4.9 (**2°** prevention)	**4S** [17]; n=4,444 [5.4yr] Simvastatin 20-40mg od	13	33	•Recent 10 year follow up data shows beneficial outcomes preserved [18] 10.6→7.6
Acute Coronary Syndrome, male, age 58yo, LDL=2.7 (**2°** prevention)	**PROVE-IT** [7]; n=4,162 [2yr] Atorvastatin **80mg** od **vs** Pravastatin 40mg od	15	NS	•ALT >3x ULN: 3.3 vs 1.1% [NHH=46] •statin started within 10 days; evaluated over 2 years
		•Kaplan-Meier curves separate after 6 months (**NNT 38 / 2yrs**).		
DM, CHD or other CVD, BMI 28.6$_{ave}$, BP 148/82$_{ave}$ (**2°** prevention)	**HPS** -subgroup [19]; n=3,051 [4.8yr] Simvastatin 40mg od	17	na	•90% type 2 DM, average >9yrs since diagnosis (10% type 1, ave >28yrs since diagnosis)
High risk with or without history of CHD; LDL=3.9 (1° & **2°** prevention)	**HPS** [5]; n=20,536 [5yr] Simvastatin 40mg od	19	57	•benefit regardless of initial LDL, in **females** [n=5,082], and in older population (up to age 80) 14.6→12.9
DM, high risk, but no CHD BMI 28.6$_{ave}$, BP 148/82$_{ave}$ (1° prevention)	**HPS** -subgroup [19]; n=2,912 [4.8yr] Simvastatin 40mg od	23	na	•90% type 2 DM, average >9yrs since diagnosis (10% type 1 DM, ave >28yrs since diagnosis)
Type 2 **DM**, no CHD, male, 62yo, LDL 3.0, hypertension (1° prevention)	**CARDS** [20]; n=2,838 [4yr] Atorvastatin 10mg od	25	NS	•benefit even when LDL already ≤3mmol/L; **trial halted early** •high risk diabetes group (+1 additional risk factors) 7.3→5.4
		•Acute Coronary Events Only: **NNT = 43** / 5yrs)		
Male, ~55yo, 44% smoker, LDL=5 (1° prevention)	**WOSCOPS** [21] n=6,595 [4.9yr] Pravastatin 40mg od	41	(109? p=0.051) NS	•trial included high risk patients (15% hypertension, 5% angina) 4.2→3.3
Male, 63yo, no CHD, hypertension+3 additional risk factors, LDL=3.4 (1° prevention)	**ASCOT** [4]; n=10,305 [3.3yr] Atorvastatin 10mg od	60	NS	•average: 3.7 risk factors in addition to hypertension (eg. age, male, microalbuminuria, smoker, family history, diabetes [25%]) 6.2→5.5
		•Kaplan-Meier curves separate at ~6 months & **trial halted** at **3.3 years** given apparent benefit (**NNT 91/3.3yrs**).		
Female – hypertension +3 risk factors), no CHD, LDL=3.4 (1° prevention)	**ASCOT** [4] -subgroup n=1,942 [3.3yr] Atorvastatin 10mg od	???	na	•no benefit apparent in the **female** subgroup •MI or Fatal CHD: 1.9% atorvastatin vs 1.8% placebo.
		•Women with hypertension and 3+ risk factors, these women appear relatively low risk		
Male or **Female** with high cholesterol, & 0-1 risk factors	Not studied	???	na	•NNTs, if significant would be very high, so trials not likely to ever be done

1°=Primary prevention **2°**=Secondary prevention **ALT**=alanine aminotransferase **BG**=blood glucose **CRP**=C-reactive protein **CHD**=coronary heart disease **CVD**=cardiovascular disease **DM**=diabetes mellitus **IFG**=impair fasting glucose **LDL**=low density lipoprotein **na**=not available **NNT(H)**=number needed to treat (harm) **NS**=non-significant **ULN**=upper limit of normal **yr**=year

*The above table is devised to demonstrate general differences in the potential for benefit as demonstrated in outcome trials. The quantitative values indicated are subject to various assumptions and should be interpreted with this in mind. (Note: typical patient may not reflect range of patient risk in trial; 5 year NNTs are extrapolated from major trials, a few of which had quite different durations of 2yrs [PROVE-IT], 3.3yrs [ASCOT]; trial design excludes unusual patients and generally required patients to survive a 4 week "run-in" period before inclusion in the trial.

Statins

For the **highest risk group** …

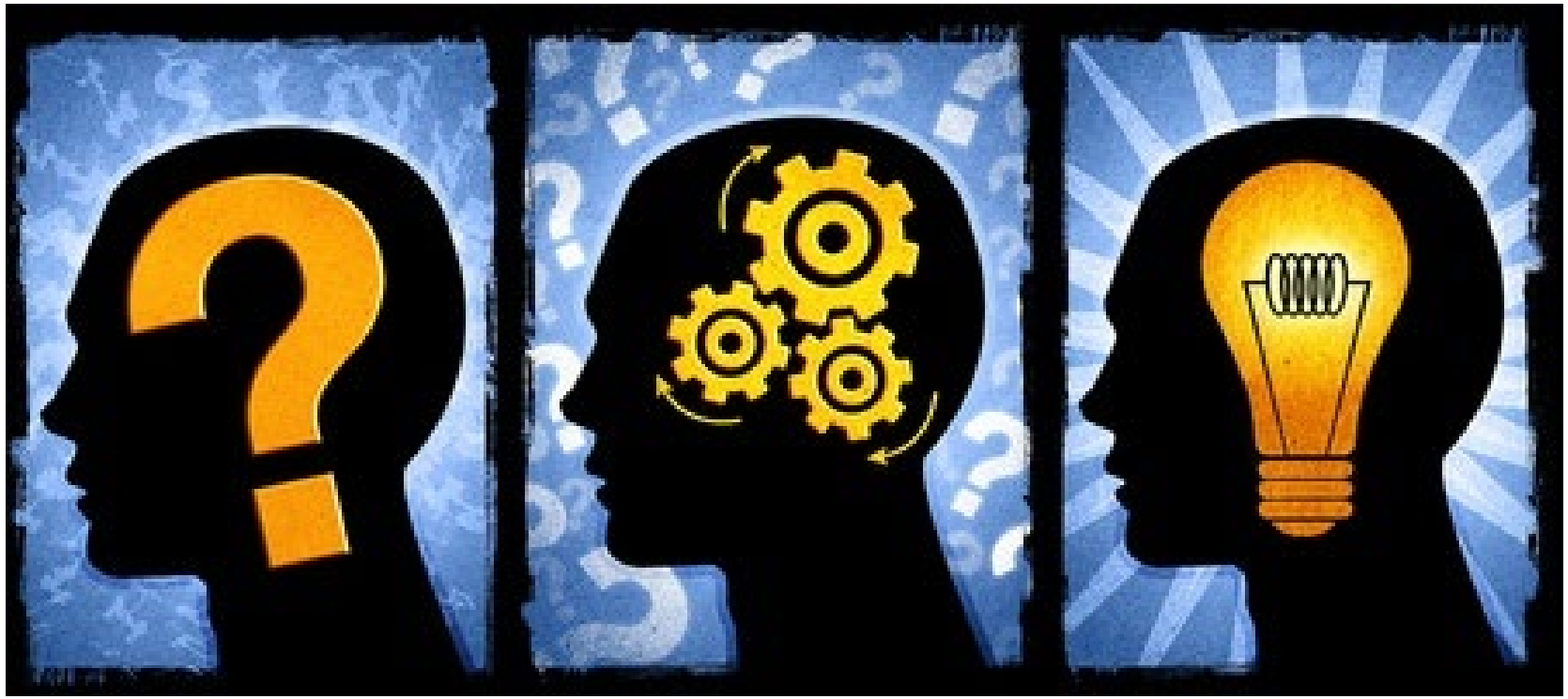
- People with **T2DM *and* CVD** (2º prevention) (with average patient being male, 58 years old, and with an LDL of 4.9 mmol/L)
- **1 CV event** (CHD death or non-fatal MI +/− revascularization) is prevented **for every 10 patients** treated with a daily statin for **5 years**

Statins

For a **lower risk group** …

- People with hypertension + 3 additional risk factors (1º prevention) and LDL of 3.4 mmol/L
- **1 CV event** (CHD death or non-fatal MI +/- revascularization) is prevented **for every 60 patients** treated with a daily statin for **5 years**

Now, let's be critical …



Statins

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- **90%** of patients like this who are treated with a daily statin for **5 years** will **NOT** achieve the desired outcome

Statins

For a **lower risk group** …

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- **1 CV event** (CHD death or non-fatal MI +/- revascularization) is prevented **for every 60 patients** treated with a daily statin for **5 years**
- **98%** of patients like this who are treated with a daily statin for **5 years** will **NOT** achieve the desired outcome

Statins

- Be honest … we love statins
- Statins have made the list of most commonly dispensed prescription medications for decades
- Statins do “nothing” for more people than they do “something” for
- Sure – the “something” is quite serious – and a great benefit for (arguably) a low risk

Statins

- **We publicly fund statins for each of these situations.**
- So … how does this compare to our use (or non-use) and discussion and evaluation of non-Western medicines and approaches to health and wellness?

“Other”

- When we have discussions about “complementary alternative medicine,” we criticize and examine it with careful scrutiny
- We want to know how the discipline started, how it evolved, what is taught (and what isn’t), and what evidence informs that discipline’s work
- **Why don’t we do this to ourselves?**

Questions to think about:

- Who “invented” statistics as we know it in medical literature?
- Who “invented” the p-value?
- Who decided that a p-value of <0.05 was where we draw the line?
- How do we know we are “right” about something?
- What is the emphasis on reproducibility in determining what is “right?”

“Other”

- I understand that the ways in which we teach, learn, and practice pharmacy are precisely what makes it “pharmacy”
- I am not suggesting we stop these practices; I am suggesting we **name** them for what they are: Western knowledge, practices, and approaches.

Self-assessment & reflective questions …

In your pharmacy and education journey …

- WHO was teaching you?
- WHO wrote the text books?
- WHO were the leaders of the programs and universities?
- WHAT knowledge systems are consulted for teaching and learning in pharmacy?
- WHAT knowledge systems are turned to in the practice of pharmacy?

Reflect …

“How often do I …”

- **NAME** the knowledge system that what I am learning, teaching, and/or practicing comes from
- **ACKNOWLEDGE** the worldview from which I am approaching my learning, teaching, and/or practice

Culture Shifts

- There has been increased recognition of the importance of Indigenous knowledge to the health and wellness of Indigenous people
- As a result, there have been increased efforts to integrate Indigenous and Western knowledge into health care practice and policy

Indigenous Knowledge

- Indigenous knowledge is unique to each community and rooted in “place”
- Has developed and evolved over time within a specific and localized context through lived experiences, observations, holistic investigative and problem-solving processes

Battiste, 2002; Ellison, 2014; Martin Hill, 2003; Tagalik, 2018

Western Knowledge

- Western knowledge is built on the concept of **positivism**
  - Places value on knowledge gathered empirically through scientific inquiry and assumes that there is a **single truth** to be discovered
- Evidence gathered by other means is viewed as “inconclusive and ideological”

Braun, Browne, Ka’opua, Kim, & Mokuau, 2014; Martin, 2012; University of Ottawa, 2009

Indigenous Knowledge

- Colonial policies and practices, such as the residential school system, sought to eradicate Indigenous knowledge
- This **cognitive imperialism** privileged Western knowledge and methodologies above other types of knowledge and successfully reinforced the idea that Western knowledge and methodologies are the most legitimate

Battiste, 2002; Martin, 2012; Walker, Whitener, Trupin, & Migliarini, 2015

Where is Indigenous Knowledge?

- Indigenous knowledge is largely absent from Canadian research, policy and practice because its methodologies do not fit within the positivist paradigm
- **Further … where do we turn to inform clinical practice guidelines?**
- **Will we find Indigenous knowledge on Medline?**

Braun et al., 2014; Dunn, 2014; Martin, 2012

Evidence-Based Practice

- **“Best medical practices”** are determined both through empirical study, where effects can be **observed, measured, and tested**, and through expertise from experienced practitioners with the goal of increasing the effectiveness and efficiency of treatment

Dunn, 2014; Kirkham et al, 2007

Evidence-Based Practice

- Ideally, evidence-based practice integrates ***all*** **forms of evidence and knowledge**
- However, a limitation of evidence-based practice/medicine is that research and practice are primarily conducted through a Western lens, which often does not take into account context, traditions, or Indigenous ways of knowing

Jude, 2016; Kirkham et al., 2007

Evidence-Based Practice

- Evidence-based practice/medicine tends to privilege empirical research derived from Western methodologies over that developed through expertise and experience
  - *Think about ranking and grading systems*
- May inhibit Indigenous practitioners from using traditional Indigenous knowledges to provide the best care for their clients

Doane & Varcoe, 2008; Estabrooks, 1998; Kirkham et al., 2007, Lucero, 2011

Empirical Research

- The assumption that empirical research is more valid than other types of research disregards the value of Indigenous health and medical knowledge that has been “accumulated by trial and error over many centuries and in some cases millennia.”

(Obomsawin, 2007, p. 8)

Research into Practice: Self-assessment

- How does research start?
- How much money is needed for research?
- Where does the money for research come from?
- Who reviews research grant applications?
- What methodologies are considered valid?

What ISN'T the answer?

- The answer is NOT to "Westernize" Indigenous knowledges, medicines, and practices
  - They have already been researched – just not using Western methodologies
- Requesting Westernized information and studies about Indigenous knowledges, medicines, and practices maintains the status quo and upholds Western medicine as superior

How do we rank evidence?

- Grade A, B, C, D
- Which of the grades of evidence are found in clinical practice guidelines?
  - See next slide for multiple choice question

Poll Question:

- Which grade(s) of evidence are found in clinical practice guidelines?
  a. Grade A
  b. Grade B
  c. Grade C
  d. Grade D
  e. All of the above

Reflect

When you review clinical practice guidelines for any disease state, how often do you see recommendations for:

- Sweat lodges
- Smudging
- Talking circles
- (Re)learning one's native language
- Traditional Indigenous medicines
- Moon time considerations

Reflect

- All of the previous traditional Indigenous practices, medicines, and approaches to health and wellness have been used and recommended for thousands of years
  - Would we ever assign a Grade D (consensus) evidence score for these medicines/practices?
  - Why? Why not?

Ethical Space: In our learning and practice

- A space where Western and Indigenous health practitioners can learn together
- Concept of ethical space might provide a useful framework for dialogue regarding strengths and differences between Indigenous and Western knowledge and facilitate practitioners learning from each other.

Ethical Space

- Ethical space fosters an environment where practitioners of Western and Indigenous medicine can come together as equals and have a dialogue on topics that impact the holistic health and well-being of Indigenous peoples

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Other strategies not discussed today

- Two-eyed seeing
  - Multi-science
  - Not “multiculturalism in science”
- It is important that researchers reflect on how Indigenous and Western knowledge are interpreted, and how structures continue to perpetuate bias against Indigenous knowledge

“Evidence”

- In order to work toward reconciliation in the health care system, **Indigenous knowledge and evidence must be recognized as legitimate and integral** to the health and well-being of Indigenous people

(Gomes et al., 2013; Matthews, 2017)

“Evidence”

- Although colonial policies and practices have worked to suppress Indigenous knowledge, traditional teachings, much like Indigenous people, are resilient.

(Rogers et al., 2019)

How can both knowledge systems come together?

- Findings suggest that the integration and blending of Indigenous and Western knowledge in the health care system can be facilitated by:
  - Leaders and decision-makers prioritizing this integration
  - The research community accepting traditional evidence as valuable and valid
  - Integrating Indigenous knowledge and approaches to health care into health education curriculum.

Reflect

Ask yourself …

- "How do I (*or,* how will I) have discussions about evidence-based medicine in my practice?"
  - With patients, families, other practitioners

Intercultural Counseling Strategy

- Name the knowledge system(s) from which you are working with *(when/where appropriate)*

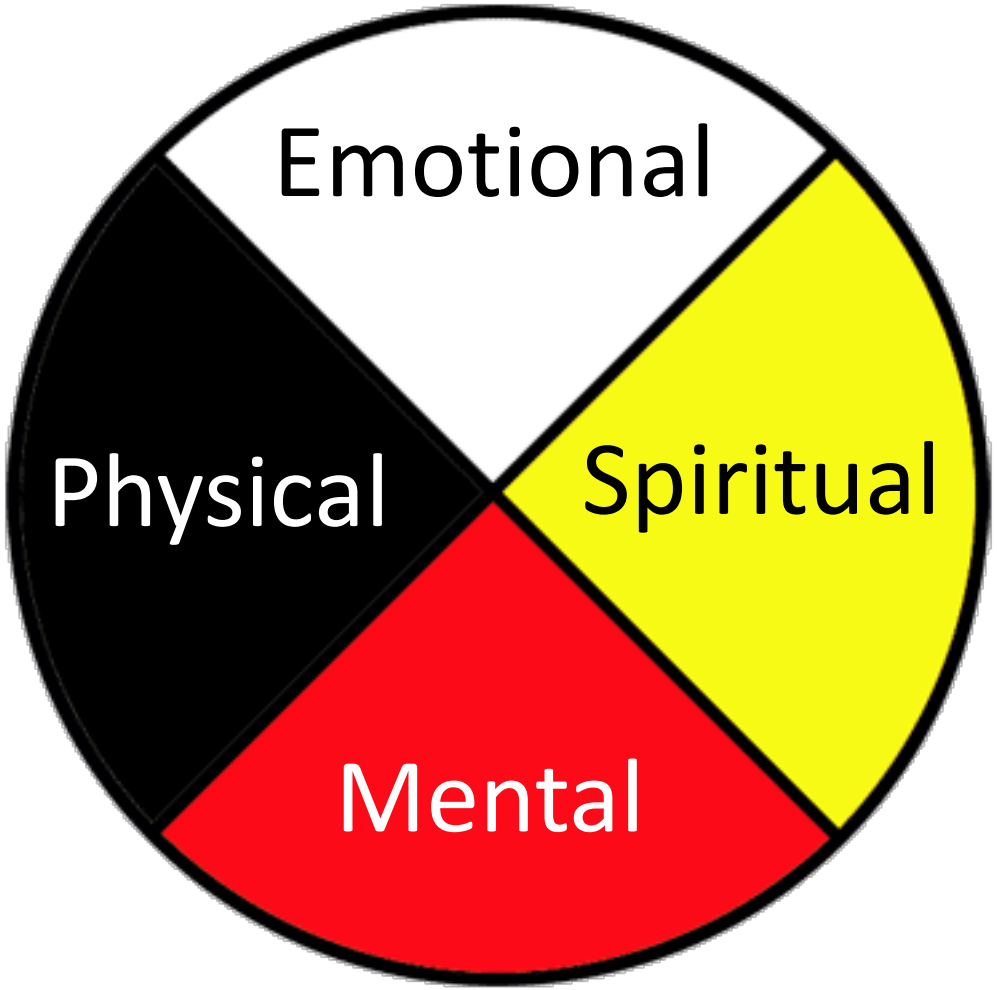
- Phrase any “criticism” of other medicines, practices, and approaches in a way that will not feel patronizing

    - “That is really interesting. My training in Western medicine did not include _____, but based on what I do know, it doesn’t sound like _____ will be harmful.”

Considerations

- Note:
  - Asking a patient to share information about _____ (or looking it up yourself) immediately privileges Western knowledge systems
  - Such information, if available, will likely be criticized through a Western lens

Thank you!



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References

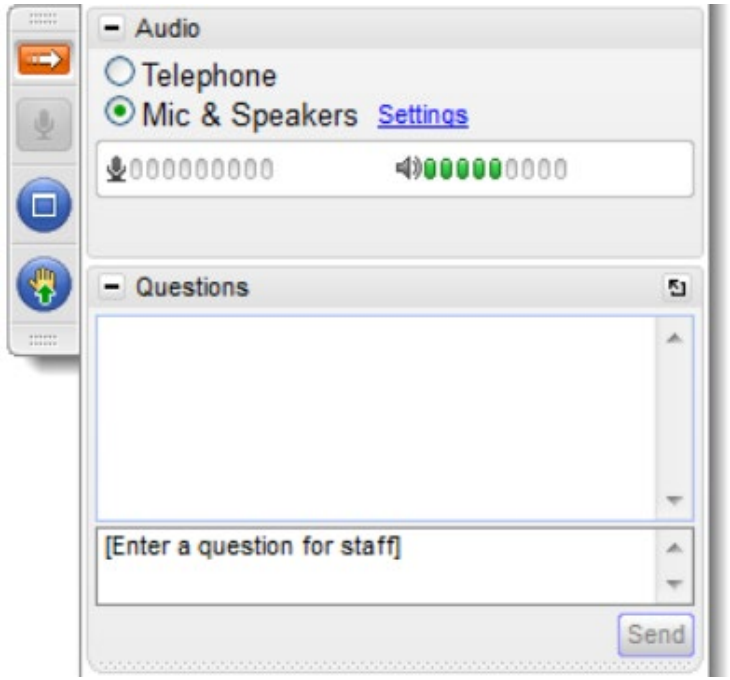
- Battiste, M. (2002). Indigenous knowledge and pedagogy in First Nations education: A literature review and recommendations. Ottawa, ON: Indigenous and Northern Affairs Canada.
- Braun, K.L., Browne, C.V., Ka'opua, L.S., Kim, B.J., & Mokuau, N. (2014). Research on Indigenous Elders: From positivistic to decolonizing methodologies. The Gerontologist, 54, 117-126.
- Dunn, M. (2014). Linking Indigenous and Western knowledge systems. The theory of knowledge.net. Retrieved April 23, 2018 from https://theoryofknowledge.net/the-tok-course/tok-optional-themes/knowledge-and-indigenous-societies/indigenous-and-western-perspectives/
- Doane, G.H., & Varcoe, C. (2008). Knowledge translation in everyday nursing: From evidence-based to inquiry-based practice. Advances in Nursing Science, 31(4), 283-295.
- Ellison, C. (2014). Indigenous knowledge and knowledge synthesis, translation and exchange (KSTE). Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Ermine, W. (2000). Aboriginal epistemology. In M. Battiste & J. Barman (Eds.), First Nation education in Canada: The circle unfolds (pp. 101-11). Vancouver, BC: University of British Columbia Press.
- Ermine, W., Sinclair, R., & Browne, M. (2005). Kwayask Itotamowin: Indigenous research ethics. Saskatoon, SK: Indigenous Peoples' Health Research Centre.
- Ermine, W. (2007). The ethical space of engagement. Indigenous Law Journal, 6, 193- 204.
- Estabrooks, C.A. (1998). Will evidence-based nursing practice make practice perfect? Canadian Journal of Nursing Research, 30(1), 15-36.
- Gomes, T., Leon, A.Y, & Brown, L. (2013). Indigenous health leadership: Protocols, policy, and practice. Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health, 11(3), 565-79.
- Jude, M.E. (2016). Thinking beyond an evidencebased model to enhance Wabanaki health: Story, resilience and change. Unpublished doctoral dissertation, University of Maine, Orono, ME.
- Kirkham, S.R., Baumbusch, J.L., Schultz, A.S.H., & Anderson, J.M. (2007). Knowledge development and evidence based practice: Insights and opportunities from a postcolonial feminist perspective for transformative nursing practice. Advances in Nursing Science, 30(1), 26-40.

References

- Lucero, E. (2011). From tradition to evidence: Decolonization of the evidencebased practice system. Journal of Psychoactive Drugs, 43(4), 319-24.
- Martin, D. (2012). Two-Eyed Seeing: A framework for understanding Indigenous and non-Indigenous approaches to Indigenous health. Canadian Journal of Nursing Research, 44, 20-42.
- Martin Hill, D. (2003). Traditional medicines in contemporary contexts: Protecting and respecting Indigenous knowledge and medicine. Ottawa, ON: National Aboriginal Health Organization. Retrieved April 22, 2018 from http://www.naho.ca/documents/ naho/english/pdf/research_tradition.pdf
- Matthews, R. (2017). The cultural erosion of Indigenous people in health care. Canadian Medical Association Journal, 189(2), E78.
- Obomsawin, R. (2007). Traditional medicine for Canada's First Peoples. Retrieved April 22, 2018 from https://soilandhealth.org/book/traditional-medicine-for-canadas-first-peoples/
- Reading, C. (2013). Understanding racism. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Rogers, B.J., Swift, K., van der Woerd, K., Auger, M., Halseth, R., Atkinson, D. et al. (2019). *At the interface: Indigenous health practitioners and evidence-based practice*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- RxFiles. (2004). Q&A: Update on Statins. Retrieved November 20, 2019 from: https://www-rxfiles-ca.cyber.usask.ca/rxfiles/uploads/documents/Lipid-QandA-Update-Oct04.pdf
- Tagalik, S. (2018). Inuit knowledge systems, Elders, and determinants of health: Harmony, balance, and the role of holistic thinking. In M. Greenwood, S. de Leeuw, & N.M. Lindsay (eds.), Determinants of Indigenous peoples' health: Beyond the social, 2nd Edition (Chapter 10). Toronto, ON: Canadian Scholars' Press.
- University of Ottawa. (2009). 'Aboriginal medicine and healing practices.' Society, the individual, and medicine. Ottawa, ON: Author. Retrieved April 23, 2018 from https://www.med.uottawa.ca/sim/data/ Aboriginal_Medicine_e.htm
- Walker, S.C., Whitener, R., Trupin, E.W., & Migliarini, N. (2015). American Indian perspectives on evidence-based practice implementation: Results from a statewide tribal mental health gathering. Administration and Policy in Mental Health and Mental Health Services Research, 42(1), 29-39.

Questions

Please type your questions in the “Questions” window in the control panel and click **Send**



Closing Notes

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- After the broadcast ends, please take a moment to complete our feedback survey
- Save the date of **February 27, 2020** for our next broadcast on Heart and Stroke

Thank you

This presentation and any resources will be available online to CPhA members at https://www.pharmacists.ca/advocacy/webinars-continuing-education/webinars/practice-development-webinars/#IndigenousHealth

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