

Preventive health care



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PRA-BC Orientation

About me

- ✧ Graduated from physics and mathematics (honours) at UBC, 2002
- ✧ MD from Northwestern University (Chicago), 2006
- ✧ Family Practice residency at University of Alberta (Edmonton), 2008
- ✧ MPH from UBC, 2011
- ✧ Public Health Residency from UBC, 2012
- ✧ Family practice in Richmond/WSBC Medical Advisor
- ✧ Site faculty for Research and Evidence-based Medicine at Vancouver Fraser
- ✧ Co-Lead faculty for Research and Scholarship at the UBC Dept of Family Practice
- ✧ Co-Lead for EBM theme in the MDUP
- ✧ Medical Advisor II, WorkSafeBC

Disclosure

- ✎ I am a salaried employee of WorkSafeBC.
- ✎ I will not be discussing WorkSafeBC in this presentation
- ✎ I own shares in my clinic, Aberdeen Health Centre.
- ✎ I bill the Medical Services Plan of British Columbia, WorkSafeBC, ICBC and privately.
- ✎ I am a salaried employee of UBC.

Objectives

- ✎ To review preventive health care with particular emphasis on the following
 - Screening tests (mammography, PSA, FIT testing/colonoscopies, PAP)
 - Vaccinations
 - Chronic disease management
 - The periodic health exam (PHE) and preventive health exams at different stages of life

So how do we decide?

- ✎ Consider this example:
- ✎ Joan is a 40 year old lady of average breast cancer risk (1/1000). She has a screening mammogram which was reported as “positive and needing further testing”. A screening mammogram has a sensitivity of 70% and a specificity of 75%. She is anxious about having breast cancer.
- ✎ What is the probability that she has breast cancer after screening positive?

Example

- ⌘ Her “pre-test probability” is $1/1000$.
- ⌘ Her “post-test probability” is $3/1000$.
- ⌘ The likelihood of her having disease is still much much lower than the likelihood of her not having disease.
- ⌘ So what do you tell Joan? She is anxious that she has breast cancer.

GRADE

- ⌘ Strong recommendations
- ⌘ “Conditional” or weak recommendations
- ⌘ Strong evidence
- ⌘ Weak evidence
- ⌘ What do they mean?
- ⌘ <https://canadiantaskforce.ca/methods/grade/>

Breast cancer recommendations

- ✎ The CTFPHC recently updated (2018) their breast cancer screening recommendations:
- ✎ *For women aged 40 to 49 years, we recommend not screening with mammography; the decision to undergo screening is conditional on the relative value a woman places on possible benefits and harms from screening. (Conditional recommendation; low-certainty evidence)*
 - Some women aged 40 to 49 years may wish to be screened based on their values and preferences; in this circumstance, care providers should engage in shared decision-making with women who express an interest in being screened.
- ✎ *For women aged 50 to 69 years, we recommend screening with mammography every two to three years; the decision to undergo screening is conditional on the relative value that a woman places on possible benefits and harms from screening. (Conditional recommendation; very low-certainty evidence)*
 - Care providers should engage in shared decision-making with women aged 50 to 74 as those who place a higher value on avoiding harms as compared to a modest absolute reduction in breast cancer mortality may choose to not undergo screening.
- ✎ *For women aged 70 to 74 years, we recommend screening with mammography every two to three years; the decision to undergo screening is conditional on the relative value that a woman places on possible benefits and harms from screening. (Conditional recommendation; very low-certainty evidence)*
 - Care providers should engage in shared decision-making with women aged 70 to 74 as those who place a higher value on avoiding harms as compared to a modest absolute reduction in breast cancer mortality may choose to not undergo screening.
- ✎ *Note that 2024 Draft Recommendations are available for public comment but have NOT been finalized.*

Breast cancer screening

- ✎ *We recommend not using magnetic resonance imaging (MRI), tomosynthesis or ultrasound to screen for breast cancer in women not at increased risk. (Strong recommendation; no evidence)*
- ✎ *We recommend not performing clinical breast examinations to screen for breast cancer. (Conditional recommendation; no evidence)*
- ✎ *We recommend not advising women to practice breast self-examination to screen for breast cancer. (Conditional recommendation; low-certainty evidence)*

Breast cancer screening

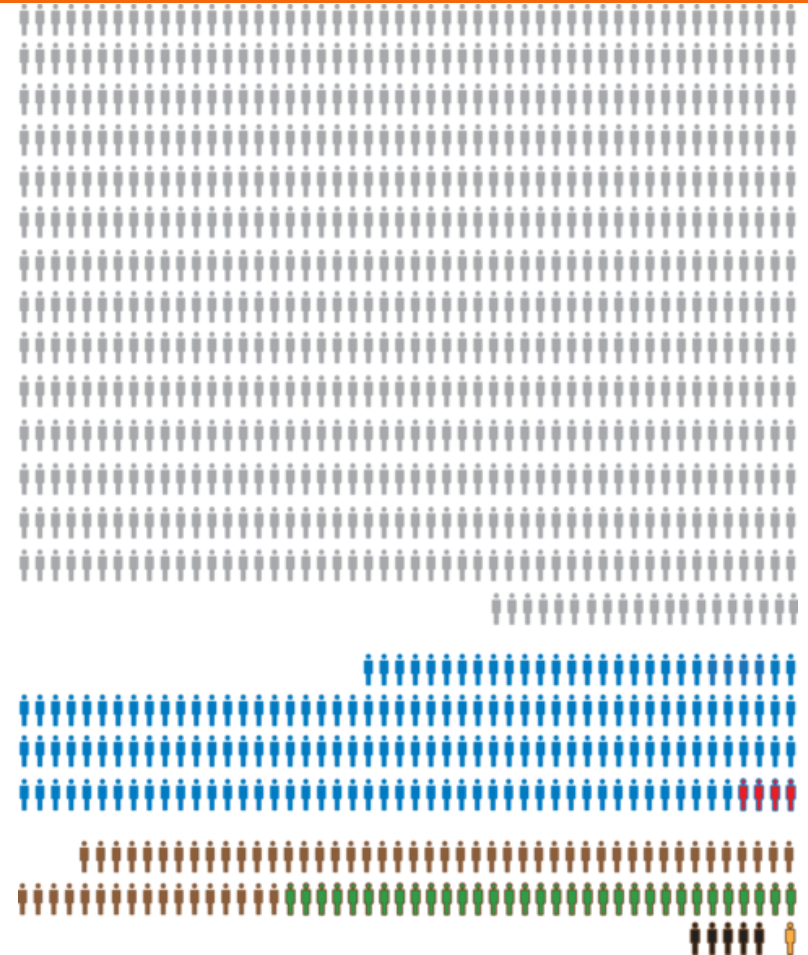
- ✎ In BC, however, the government has traditionally funded screening mammographies for women age 40 – 74.
- ✎ They continue to do so but have changed their recommendations for women aged 40-49 to “mammography is *available*”.

PSA testing

- ✎ PSA testing has always been controversial.
- ✎ Studies have been conflicting as to whether PSA actually saves lives.
- ✎ The CTFPHC recommends:
 - For men aged less than 55 years, we recommend not screening for prostate cancer with the prostate-specific antigen test. (*Strong recommendation; low quality evidence*)
 - For men aged 55-69 years, we recommend not screening for prostate cancer with the prostate-specific antigen test. (*Weak recommendation; moderate quality evidence*)
 - For men 70 years of age and older, we recommend not screening for prostate cancer with the prostate-specific antigen test. (*Strong recommendation; low quality evidence*).

PSA screening

- ✎ Results of screening 1000 men with the PSA
- ✎ 720 men will have a negative PSA test.
- ✎ 178 men with a positive PSA in whom follow-up testing does not identify prostate cancer.
 - 4 of these 178 will experience biopsy complications such as infection and bleeding severe enough to require hospitalization.
- ✎ 102 men will be diagnosed with prostate cancer.
 - 33 of these 102 prostate cancers would not have caused illness or death. Because of uncertainty about whether their cancer will progress, most men will choose treatment and may experience complications of treatment.
 - 5 men will die from prostate cancer despite undergoing PSA screening.
 - 1 man will escape death from prostate cancer because he underwent PSA screening.
- ✎ age 55–69 years, screened over a 13-year period, and with a PSA screening threshold of 3.0 ng/ml



PSA screening

- ✂ Among men who *are screened* with the PSA test, the risk of dying from prostate cancer is 5 in 1,000
- ✂ Among men who *are not screened* with the PSA test, the risk of dying from prostate cancer is 6 in 1,000
- ✂ For every 1,000 men who receive treatment for prostate cancer:
 - 114–214 will have short-term complications such as infections, additional surgeries, and blood transfusions
 - 127–442 will experience long-term erectile dysfunction
 - up to 178 will experience urinary incontinence
 - 4–5 **will die** from complications of prostate cancer treatment

PSA screening

- ✂ The BC government does NOT cover routine PSA testing on asymptomatic men.
- ✂ Men who wish to be screened have to pay 30 dollars.
- ✂ The government does cover PSA testing with biopsy diagnosed prostate cancer or for those with symptoms of prostatism.
- ✂ Different organizations (AUA, BCCA, etc) have different recommendations.
- ✂ So what should you do? Talk to your patients!

FIT testing

∞ CTFPHC recommendations:

- Normal risk individuals: There is good evidence to support the inclusion of annual or biennial fecal occult blood testing (*A recommendation*) and fair evidence to include flexible sigmoidoscopy (*B recommendation*) in the periodic health examinations of asymptomatic individuals over age 50 years.
- Normal risk individuals: There is insufficient evidence to make recommendations about whether only 1 or both of FOBT and sigmoidoscopy should be performed. (*C recommendation*)
- Normal risk individuals: There is insufficient evidence to include or exclude colonoscopy as an initial screen in the periodic health examination. (*C recommendation*)
- Above average risk individuals: There is fair evidence to support either genetic testing or flexible sigmoidoscopy of at risk individuals in FAP kindreds and screening with colonoscopy of patients in kindreds with the cancer family syndrome HNPCC. (*B recommendation*)
- Above average risk individuals: There is insufficient evidence to recommend colonoscopy for individuals who have a family history of colorectal polyps or cancer but do not fit the criteria for HNPCC. (*C recommendation*)

FIT testing

- ✎ Much less controversy surrounding FIT testing
- ✎ BC government covers FIT testing every two years from age 50-74.
- ✎ A positive FIT test is sent to the BCCA colon cancer screening program where the patient is automatically sent for colonoscopy.
- ✎ You will be sent a copy of the report.

PAP testing

- ✎ For women aged < 20 years, we recommend *not routinely screening for cervical cancer* (strong recommendation; high quality evidence) This recommendation is based on: Very low incidence of cervical cancer and no deaths due to cervical cancer
 - No studies addressing effectiveness in this age group; and
 - Evidence of minor harms to 10% of those screened
 - Some may develop more severe harms later:
 - Potential pregnancy losses subsequent to cervical treatment.
 - Strong recommendation reflects judgment of the CTFPHC that the potential harms outweigh the benefits.

PAP testing

- ✎ For women aged 20 to 24 we recommend *not routinely* screening for cervical cancer (Weak recommendation; moderate quality evidence)
- ✎ This recommendation is based on:
 - low incidence and mortality of cervical cancer among this age group;
 - uncertain benefit of screening among this age group;
 - lack of benefit found in older ages from screening at this age;
 - higher risk of false positive tests (and associated harms) among women < 30 compared to older women.
- ✎ The CTFPHC conclude that the harms outweigh the benefits, but assign a weak recommendation given the uncertainty of the evidence.

PAP testing

- ✎ For women aged 25 to 29 we recommend *routine screening* for cervical cancer every 3 years (Weak recommendation; moderate quality evidence)
- ✎ This recommendation is based on:
 - higher incidence and mortality of cervical cancer in this age group;
 - however, the limitations to Pap testing are similar to those among 20–24 year olds
- ✎ Weak recommendation reflects concerns about:
 - the rate of false positives; and
 - the harms of overtreatment

PAP testing

- ✧ For women aged 30 to 69 we recommend *routine screening* for cervical cancer every 3 years (Strong recommendation; high quality evidence)
- ✧ This recommendation is based on:
 - evidence for the positive effect of screening;
 - higher cervical cancer incidence and mortality in this age group; and
 - lower rates of potential harms, compared to younger women.
- ✧ Strong recommendation based on the CTFPHC's confidence that desirable effects of screening outweigh the undesirable effects.

PAP testing

- ✎ For women aged ≥ 70 adequately screened (i.e. 3 successive negative Pap tests in last 10 years), we recommend that *routine screening may cease* (Weak recommendation: low quality evidence)
- ✎ Recommendation based on:
 - Limited evidence that screening up to this age prevents cervical cancer development thereafter; fewer harms in this age range, but speculum exam may be uncomfortable/difficult.
- ✎ For women aged ≥ 70 not adequately screened, we recommend *continued screening until 3 negative test results have been obtained* (Weak recommendation: low quality evidence)
- ✎ Recommendation places high value on:
 - Limited evidence for screening effectiveness; and potential to detect and treat cervical cancer in this age group

HPV Primary Screening

- Now available in BC (as of February 2024).
- Self collected OR provider collected swab.
- If negative for high risk HPV, rescreen with PAP or HPV swab in 5 years.
- If positive, either proceed to PAP or colposcopy. Will be arranged by BCCA.
- This applies to patients who have had negative prior PAPs. Those with abnormalities on prior PAPs should be screened regularly with traditional PAP testing.

BCCA recommendations

Cervical Screening Initiation

Average risk women should initiate PAP testing at age 25 and continue for every 3 years until age 69.

- ✎ Interval for screening varies for higher risk women (immunocompromised, those previously treated for dysplasia).
- ✎ If women are deemed high risk, they should undergo annual screening. Women should not undergo more testing than recommended by the colposcopy clinic if they are being followed by a colposcopy clinic.

Lung cancer screening

- ✎ Recently, the BC Government has started funding a lung cancer screening program.
- ✎ Eligibility criteria:
 - 55 to 74 years of age;
 - Currently smoking or have smoked in the past; and,
 - Have a smoking history of 20 years or more.
- ✎ Have patients call 1-877-717-5864 to complete a consultation and risk assessment over the phone.

Vaccinations

- ✎ In BC, depending on where you work, you may or may not be involved in vaccinations of children.
- ✎ Some doctors choose not to be involved in vaccinations and instead refer to the local health units.
- ✎ Regardless, you will be asked about vaccines.

Vaccinations

- Ms. Xu is a 30 year old mother who just immigrated to Canada with her 2 year old son and 33 year old husband from China.
- You review her son's immunization records and realize that her son has not received the Rotavirus oral vaccine and the Men-C vaccine.
- What do you do? Where do you go to find information?

- ✎ The BC Centre for Disease Control's website is very useful for finding information pertaining to any public health issues, or in particular, vaccines.
- ✎ <http://www.bccdc.ca/dis-cond/comm-manual/CDManualChap2.htm>
- ✎ Usually there is a “minimum interval” that you will need to use when giving a vaccine.
- ✎ The Rotavirus vaccine is only for younger infants so would not be given.
- ✎ According to the BCCDC Immunization Guide, give the Men C vaccines a minimum of 8 weeks apart.

3.1 Minimum Intervals between Vaccine Doses Table

Use “minimum intervals” when a child or adolescent starts an immunization series at a later date, or falls behind the routine immunization schedule by one month or more. When the client is up-to-date for age, return to the routine age-appropriate schedule. NOTE: Refer to [1.3 Hib Schedule When The Basic Schedule Has Been Delayed](#) for minimum intervals for a three dose primary Hib series.

Vaccine (Dose 1 minimum age)	Minimum Spacing Between Doses ^①			
	Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
DTaP-IPV-Hib (6 weeks)	4 weeks	4 weeks	24 weeks ②	24 weeks AND minimum age for this dose is 4 years ②
DTaP-HB-IPV-Hib INFANRIX hexa® (6 weeks)	4 weeks	16 weeks after dose 1 AND 8 weeks after dose 2 AND minimum age for dose 3 is 24 weeks		
Pneumococcal conjugate 4 doses (6 weeks) ②	4 weeks	4 weeks	8 weeks ②	
Pneumococcal conjugate 3 doses (8 weeks) ②	4 weeks	8 weeks ②		
Meningococcal C conjugate NeisVac-C (8 weeks)	8 weeks ②			
MMR (12 months) ②	4 weeks			
MMRV (4 years)	12 weeks			
Rotavirus (6 weeks) ②	4 weeks ②			
Varicella (12 months)	12 weeks or 6 weeks ②			
Td (7 years)	4 weeks	24 weeks	10 years	
HPV-quadrivalent Gardasil® 3 doses (9 years)	4 weeks	12 weeks after dose 2 and 24 weeks after dose 1		
HPV-quadrivalent Gardasil® 2 doses (9 years) ②	5 months (or 150 days)			
HPV-bivalent Cervarix® (9 years)	4 weeks	12 weeks after dose 2 AND 20 weeks after dose 1		
Hepatitis A (24 weeks)	24 weeks			

① Minimum intervals are calculated in weeks up to 12 months and then calculated in years.

Annual Health Exams

- ✎ Mr. Wong is a 25 year old healthy man who comes to you asking for a “check-up”. How do you proceed?
- ✎ Mr. Smith is a 55 year old man with diabetes who presents for his annual “check-up”. How do you proceed?

Annual Health Exams

- ✎ Complete exams are generally not covered by MSP unless there is a medical reason (diabetes, HTN, etc.)

Discussion

- ✎ What do you do with regards to the annual health exam in your own country?
- ✎ Do you think it's worth it to offer one to everybody?
- ✎ Are there any potential harms that you can identify?
- ✎ Any potential benefits?

Annual Health Exams

- ✎ What about the evidence for this?
- ✎ A Cochrane Review found that annual health exams do not affect morbidity or mortality*.
- ✎ It does lead to increased diagnoses, however.
- ✎ The CFPC has on its website various templates for Annual Health Exams for different ages, should you choose to offer this service in your practice.
- ✎ <http://www.cfpc.ca/projectassets/templates/resource.aspx?id=1184&langType=4105>

Rourke Baby Record

- ✎ You can use the Rourke Baby Record to track a baby's developmental milestones, height/weight/HC, and give counseling.
- ✎ I use it in my practice whenever a patient presents for their immunizations.
- ✎ It is a template in most EMRs.
- ✎ <http://www.rourkebabyrecord.ca/>

Summary

- ⌘ Beware of doing “complete check-ups” in BC for health people.
- ⌘ The BCCDC Immunization Manual is helpful in determining how to vaccinate people who have fallen behind in their schedule.
- ⌘ Only certain screening tests are recommended and available in BC.