Acquiring the evidence: Guidelines

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https://pixabay.com/photos/road-road-signs-guidelines-4269664/

Objectives

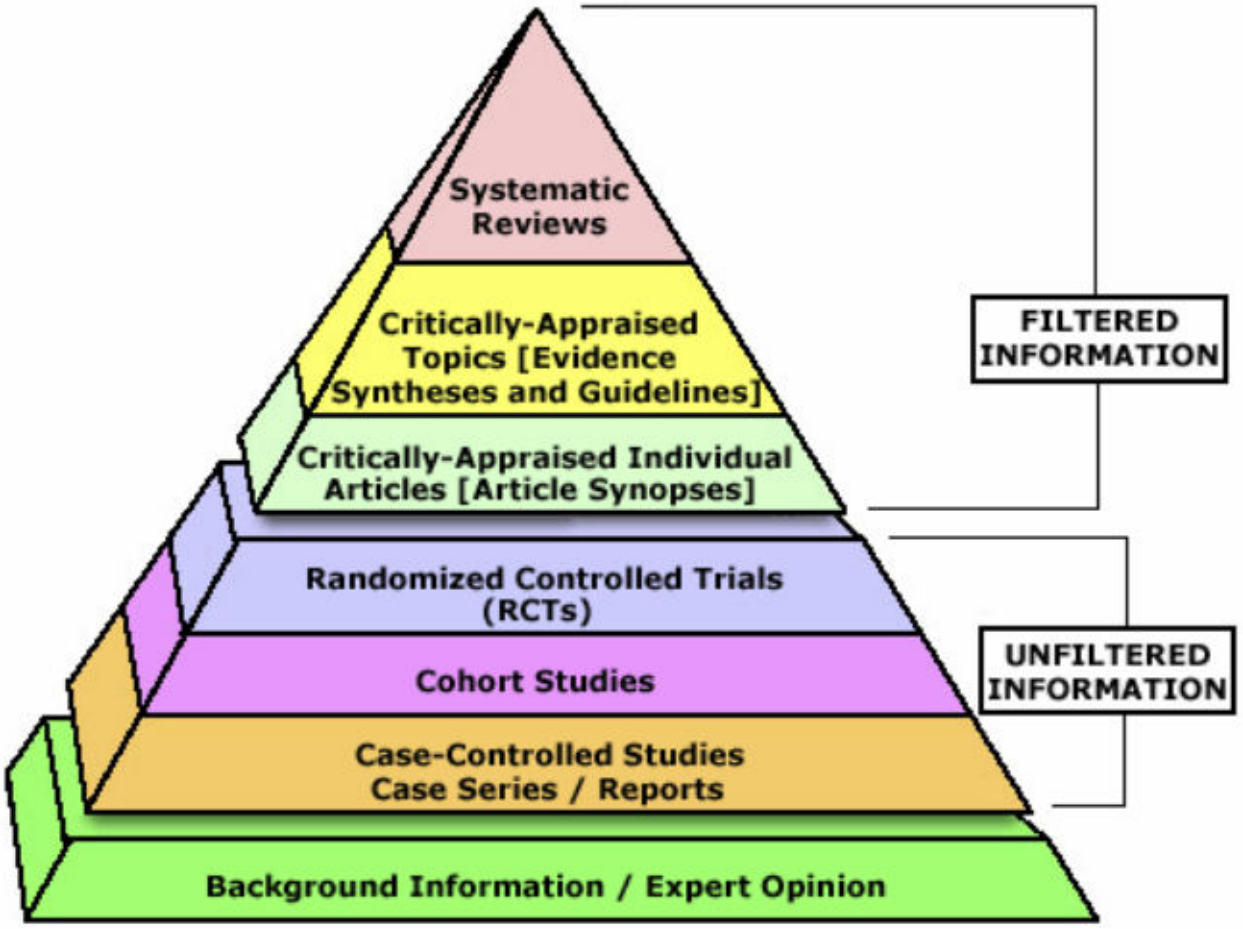
* This presentation aims to explain the development of clinical practice guidelines and introduce examples of CPGs.
* At the end of this session, the participants are expected to;
  * Describe types and levels of evidence that support practice guidelines and documents.
  * Describe criteria that ensure trustworthiness of published evidence-based guidelines.
  * Identify benefits of applying evidence-based guidelines to clinical practice.

Definition

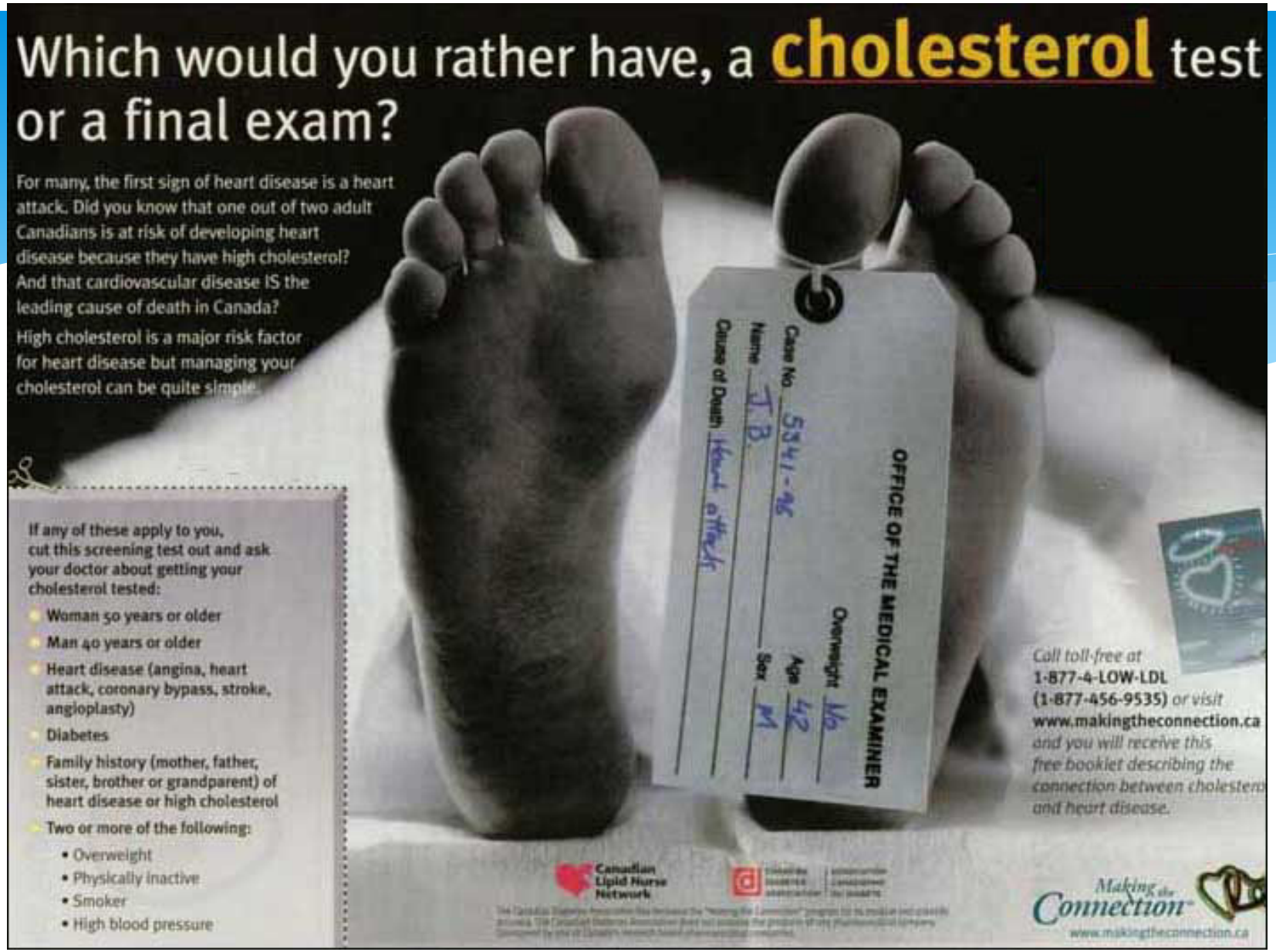
* A medical guideline (also called a clinical guideline, standard treatment guideline, or clinical practice line) is a document with the aim of guiding decisions and criteria regarding diagnosis, management, and treatment in specific areas of healthcare.
* Modern medical guidelines are based on an examination of current evidence within the paradigm of evidence-based medicine.

https://en.wikipedia.org/wiki/Medical_guideline

Hierarchy of Evidence



https://s4be.cochrane.org/blog/2013/02/14/the-ebm-pyramid/



Quick, Jonathan D., et al, correspondence, The Lancet, Vol 362, Number 9385, 30 August 2003
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AGREE Reporting Checklist
2016

AGREE REPORTING CHECKLIST

This checklist is intended to guide the reporting of clinical practice guidelines.

CHECKLIST ITEM AND DESCRIPTION	REPORTING CRITERIA	Page #
DOMAIN 1: SCOPE AND PURPOSE		
1. OBJECTIVES *Report the overall objective(s) of the guideline. The expected health benefits from the guideline are to be specific to the clinical problem or health topic.*	☐ Health intent(s) (i.e., prevention, screening, diagnosis, treatment, etc.) ☐ Expected benefit(s) or outcome(s) ☐ Target(s) (e.g., patient population, society)	
2. QUESTIONS *Report the health question(s) covered by the guideline, particularly for the key recommendations.*	☐ Target population ☐ Intervention(s) or exposure(s) ☐ Comparisons (if appropriate) ☐ Outcome(s) ☐ Health care setting or context	
3. POPULATION *Describe the population (i.e., patients, public, etc.) to whom the guideline is meant to apply.*	☐ Target population, sex and age ☐ Clinical condition (if relevant) ☐ Severity/stage of disease (if relevant) ☐ Comorbidities (if relevant) ☐ Excluded populations (if relevant)	

https://www.equator-network.org/wp-content/uploads/2016/03/AGREE-Reporting-Checklist.pdf

How is a CPG created?

* First, identify what clinical issues or problems exist. Determine what needs to be guided by current best practice?
* CPG is based on the *BEST* available evidence

* Important terms to describe research studies:
  * VALIDITY – the extent to which a study accurately measures and answers the questions being asked
  * RELIABILITY – refers to consistency; in other words, the action will produce the same results over and over

Example of CPGs

* Guidelines International Network http://www.g-i-n.net/
  * https://guidelines.ebmportal.com/

Abnormal Blood Glucose and Type 2 Diabetes Mellitus, Adults

* The AAFP recommends screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese.
* Clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity. (2015)

https://www.aafp.org/family-physician/patient-care/clinical-recommendations/all-clinical-recommendations/diabetes-screening.html

* Glucose abnormalities can be detected by measuring HgbA1c, fasting plasma glucose, or oral glucose tolerance test. Abnormal results should be confirmed.
* Adults with confirmed impaired glucose tolerance should receive counseling on healthful diet and physical activity by trained providers who work directly with program participants for at least 3 months to delay development of diabetes.
* There is limited evidence on the best rescreening intervals for adults with normal results, but screening every 3 years is a reasonable option.

https://www.uspreventiveservicestaskforce.org/home/getfilebytoken/ykjVKfmV5Jf8bL3rBx8BP7

Patient Population Under Consideration

* This recommendation applies to adults aged 40 to 70 years seen in primary care settings who do not have symptoms of diabetes and are overweight or obese. The target population includes persons who are most likely to have glucose abnormalities that are associated with increased CVD risk and can be expected to benefit from primary prevention of CVD through risk factor modification.

https://www.uspreventiveservicestaskforce.org/home/getfilebytoken/ykjVKfmV5Jf8bL3rBx8BP7

* Persons who have a family history of diabetes, have a history of gestational diabetes or polycystic ovarian syndrome, or are members of certain racial/ethnic groups (that is, African Americans, American Indians or Alaskan Natives, Asian Americans, Hispanics or Latinos, or Native Hawaiians or Pacific Islanders) may be at increased risk for diabetes at a younger age or at a lower body mass index. Clinicians should consider screening earlier in persons with 1 or more of these characteristics.

https://www.uspreventiveservicestaskforce.org/uspstf/document/RecommendationStatementFinal/screening-for-abnormal-blood-glucose-and-type-2-diabetes

Screening Tests

* Glucose abnormalities can be detected by measuring HbA_{1c} or fasting plasma glucose or with an oral glucose tolerance test. Hemoglobin A_{1c} is a measure of long-term blood glucose concentration and is not affected by acute changes in glucose levels due to stress or illness. Because HbA_{1c} measurements do not require fasting, they are more convenient than using a fasting plasma glucose or oral glucose tolerance test. The oral glucose tolerance test is done in the morning in a fasting state; blood glucose concentration is measured 2 hours after ingestion of a 75-g oral glucose load.

* The diagnosis of IFG, IGT, or type 2 diabetes should be confirmed; repeated testing with the same test on a different day is the preferred method of confirmation.

Annals of Internal Medicine CLINICAL GUIDELINE

Screening for Abnormal Blood Glucose and Type 2 Diabetes Mellitus: U.S. Preventive Services Task Force Recommendation Statement

Albert L. Siu, MD, MSPH, on behalf of the U.S. Preventive Services Task Force

Description: Update of the 2008 U.S. Preventive Services Task Force (USPSTF) recommendation on screening for diabetes in asymptomatic adults.

Methods: The USPSTF reviewed the evidence on screening for impaired fasting glucose, impaired glucose tolerance, and type 2 diabetes in asymptomatic, nonpregnant adults who are at average or high risk for diabetes and its complications.

Population: This recommendation applies to adults aged 40 to 70 years seen in primary care settings who do not have symptoms of diabetes and are overweight or obese.

Recommendation: The USPSTF recommends screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese. Clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity. (B recommendation)

Ann Intern Med. 2015;163:861-868. doi:10.7326/M15-2345 **www.annals.org**
For author affiliation, see end of text.
This article was published online first at www.annals.org on 27 October 2015.
* For a list of USPSTF members, see the **Appendix** (available at www.annals.org).

Threshold for Behavioral Interventions

* Many studies assessed intensive behavioral interventions for persons at increased CVD risk, but none report a consistent threshold for intervention among persons with abnormal blood glucose.
* Many studies include persons with multiple risk factors, and CVD risk increases with the number of risk factors and glucose level. Perceived readiness for change and access to appropriate interventions will probably influence treatment recommendations.
* Although direct evidence that preventing a diagnosis of type 2 diabetes results in improved health outcomes is limited, primary prevention that reduces the chances of a diagnosis may reduce the adverse consequences of disease management.
* Because the average reduction in glucose levels resulting from intensive behavioral interventions is modest, persons with higher glucose levels may be more likely to benefit and avoid a diabetes diagnosis than those whose glucose levels are closer to normal.

Type of Intervention

* Behavioral interventions that have an effect on CVD risk and delay or avoid progression of glucose abnormalities to type 2 diabetes combine counseling on a healthful diet and physical activity and are intensive, with multiple contacts over extended periods.
* The evidence is insufficient to conclude that pharmacologic interventions have the same multifactorial benefits (for example, weight loss or reductions in glucose levels, blood pressure, and lipid levels) as behavioral interventions.

Screening Intervals

* Evidence on the optimal rescreening interval for adults with an initial normal glucose test result is limited.
* Cohort and modeling studies suggest that rescreening every 3 years may be a reasonable approach for adults with normal blood glucose levels.

Other Approaches to Prevention

* Because overweight and obesity, physical inactivity, abnormal lipid levels, high blood pressure, and smoking are all modifiable risk factors for cardiovascular events, the USPSTF recommends screening and appropriate interventions for these conditions

* The USPSTF recommends screening for obesity in adults and offering or referring those with a body mass index of 30 kg/m^2 or greater to intensive, multicomponent behavioral interventions.
* Although intensive interventions may not be practical in many primary care settings, patients can be referred from primary care to community-based programs for these interventions.

* The USPSTF recommends offering or referring adults who are overweight (body mass index >25 kg/m^2) and have additional cardiovascular risk factors to intensive behavioral counseling interventions to promote a healthful diet and physical activity for CVD prevention.

* The USPSTF recommends screening for lipid disorders in men aged 35 years or older and women aged 45 years or older who are at increased risk for coronary heart disease.
* The USPSTF also recommends screening for hypertension in adults aged 18 years or older and that clinicians ask all adults about tobacco use and provide tobacco cessation interventions to those who use tobacco products.

Table. Test Values for Normal Glucose Metabolism, IFG or IGT, and Type 2 Diabetes*

Test	Normal	IFG or IGT	Type 2 Diabetes
Hemoglobin A_{1c} level, %	<5.7	5.7–6.4	≥6.5
Fasting plasma glucose level			
mmol/L	<5.6	5.6–6.9	≥7.0
mg/dL		100–125	≥126
OGTT results†			
mmol/L	7.8	7.8–11.0	≥11.1
mg/dL		140–199	≥200

IFG = impaired fasting glucose; IGT = impaired glucose tolerance; OGTT = oral glucose tolerance test.

* From reference[46]. All positive test results should be confirmed with repeated testing.

† After 2 h

Is it the Right Guideline?

* Keep in mind that “one size does not fit all”
* Assess their application to the right person at the right time and in the right way
* Ask
  * What are the guideline recommendations?
  * Are the guideline recommendations valid?
  * How useful are the recommendations?

Is it the Right Guideline?

* A good CPG should specify information such as:
  * Who developed and funded it?
  * Who was on the panel?
  * How the guideline was developed?
  * What dates the literature review covered?
  * Plans for review

Who developed and funded it?

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Das Portal der wissenschaftlichen Medizin

AWMF

Halsschmerzen

S3-Leitlinie

AWMF-Register-Nr. 053-010
DEGAM-Leitlinie Nr. 14

https://www.awmf.org/uploads/tx_szleitlinien/053-010l-S3_Halsschmerzen_2021-01.pdf

Who was on the panel?

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How the guideline was developed?

HALSSCHMERZEN

DEGAM-Leitlinie Nr. 14

Leitlinienreport zur Leitlinie Halsschmerzen (AWMF Register-Nr. 053-010)

(Update 2020 der Ursprungsversion von 2009)

Stand 10 / 2020

Deutsche Gesellschaft für Allgemeinmedizin und Familienmedizin

https://www.degam.de/files/Inhalte/Leitlinien-Inhalte/Dokumente/DEGAM-S3-Leitlinien/053-010_Halsschmerzen/053-010_Halsschmerzen_Leitlinienreport.pdf

What dates the literature review covered?

11 Literatur

1. Faber MS, Heckenbach K, Velasco E, Eckmanns T. Antibiotics for the common cold: expectations of Germany's general population. Eurosurveillance 2010; 15: 19655

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Plans for review

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Implementing CPGs

* Requires multifaceted and sustained interventions
* Practitioners' commitment and organizational leadership are keys
* Use of best practice champions
* EBP mentors
* Guideline implementation must be sustained over time
* Context must be considered

Summary

* Describe types and levels of evidence that support practice guidelines and documents.
* Describe criteria that ensure trustworthiness of published evidence-based guidelines.
* What are the benefits of applying evidence-based guidelines to clinical practice.