Diabetes guidelines

The recommendation from the Canadian Task Force on Preventive Health Care that screening for type 2 diabetes is not recommended, except in very high-risk patient groups, is certainly interesting.[1] The suggestion that the CANRISK type 2 diabetes risk screening model be used prior to screening blood work is also interesting. Four of the 10 questions within this screening questionnaire demand knowledge of blood sugar levels. Understanding how one would operationalize this screening model without having already screened for the presence of elevated blood sugars is difficult.

Furthermore, when population demographics suggest that 50% of Canadians are either overweight or obese, that the vast majority of these people have substantial abdominal adiposity and that less than 5% of this population is physically active, the utility of screening only extremely high-risk populations does not seem to speak very well to the fundamental concept of prevention. If 100% of the population we are screening has the disease we are screening for, how does this constitute prevention?

Also, the document as published contains only very limited conflict of interest or duality of interest statements. The guideline developers have failed to acknowledge the inherent conflict of interest between guideline developers and those who pay for their time to develop guidelines. Is this an oversight?

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Reference

1. Canadian Task Force on Preventive Health Care. Recommendations on screening for type 2 diabetes in adults. *CMAJ* 2012;184:1687-96.

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We reviewed the Canadian Task Force on Preventive Health Care's (CTFPHC) guidelines,[1] in which the authors recommend Canadian adults undergo preliminary screening for type 2 diabetes using a standardized risk calculator, followed by risk stratification to hemoglobin A1C testing. We have several concerns regarding this approach to screening.

Consider that a 20-year-old obese First Nations female who does not consume fruits or vegetables, does not exercise, does not take antihypertensives, has no documented dysglycemia, but has 1 parent with type 2 diabetes would have a cumulative score of 14 using the CTFPHC's recommended risk calculator. A score of 14, as per the guidelines, does not support screening for type 2 diabetes. Our clinical experience in Manitoba and northwestern Ontario has shown us that based on her clinical characteristics, including her ethnicity, this woman is at high risk for developing type 2 diabetes and should be screened.

In Manitoba, the incidence of type 2 diabetes in children under 19 years of age is the highest in Canada,[2,3] surpassing the provincial pediatric incidence of type 1 diabetes.[4] The Canadian Diabetes Association recommends annual screening in children 10 years of age and older who have high-risk characteristics, including Aboriginal heritage.[5] The current screening recommendations have the potential to create confusion among health professionals and to send mixed messages to patients, families and communities. Most important the recommendations could delay diagnosis of type 2 diabetes in high-risk populations. We feel it necessary to challenge the recommendations and to urge the CTFPHC to consider screening protocols more generalizable to the diverse ethnic groups and changing demographics of type 2 diabetes in younger populations in Canada.

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As researchers involved in developing the CANRISK risk scoring questionnaire, we feel compelled to respond to the proposed guidelines.[1] Unlike simple lists of diabetes risk factors, risk scoring questionnaires (i.e., Framingham for cardiovascular disease) can help physicians quantify the patient's personal risk of diabetes based on statistical coefficients derived from scientific cohort studies. An organized triaged approach involving CANRISK for initial risk assessment would likely increase both the efficiency and effectiveness of diabetes screening efforts. The authors do recommend a sensible triaged approach to diabetes screening using risk scoring questionnaires.

However, we disagree that Finland's FINDRISC should be preferred over CANRISK as the risk-scoring tool of choice for Canada. Last year's peer-reviewed validation article[2] showed that CANRISK is significantly more accurate. The ROC analysis found an area under curve for CANRISK of 0.75 compared with 0.66 for FINDRISC — where 0.5 indicates no discrimination, like a random coin toss. This reflects that CANRISK includes certain key variables that were excluded from FINDRISC such as ethnicity, gender and markers of previous gestational diabetes. CANRISK was tailored to address Canada's multi-ethnic population. The Task Force is confusing FINDRISC's broader international usage with validation in the intended screening target groups (e.g., First Nations).