systems, on how the understanding of absolute risk can influence health professionals' decision making, and how interactive computers can assist patients in decision making, treatment preferences, and adherence to treatment schedules.[11 18 19] Developers of computer based clinical decision support systems should remember that as well as technological development, clinical understanding of the recommendations made by such systems is required.

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Contributors: The study was conceived and designed by TF, TP, and DS, with additional design input by AM. The computer based clinical decision support system was written by CM. Pilot work was done by AM, TF, and CM. Practices and patients were recruited by AM and TF. AM trained the health professionals in the use of the computer system and risk charts and collected the data. TP, AM, and TF performed the statistical analyses. AM, TF, and TP drafted the paper with contributions from DS and CM. AM, TF, and TP are the guarantors.

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Risk assessment in primary prevention of coronary heart disease: randomised comparison of three scoring methods

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Editorial by Jackson

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That lipid lowering with statins benefits even those at low risk of coronary heart disease is no longer open to question. The challenge now is for clinicians to strike a balance between what is desirable, affordable, and achievable. As serum total cholesterol concentration alone poorly predicts cardiovascular risk, alternative methods of risk assessment have been proposed. We compared the ability of general practitioners and practice nurses to interpret three of these methods. We chose the revised Sheffield table,[1] the New Zealand guidelines,[2] and the joint British chart[3] because all three included age, sex, smoking and diabetes status, blood pressure, and ratio of total cholesterol to high density lipoprotein cholesterol as part of their risk assessment.

Subjects, methods, and results

All 37 general practices in Dumfries and Galloway, in Scotland, were randomised to receive the three risk scores in different sequences, each with the same set of 12 case histories. A self nominated general practitioner and nurse in each practice were each asked whether coronary risk exceeded 3% per year (Sheffield table), whether it exceeded 30% over 10 years (joint British chart), or whether cardiovascular risk exceeded 20% over five years (New Zealand guidelines) for each case history. These thresholds were chosen to reflect current practice.[4 5] Doctors and nurses also rated each guideline for ease of use and preference, using scales from 1 to 5 (5 = easiest or most preferred).

Accuracy, ease of use, and preference were compared for doctors and nurses separately, first with Freidman's test overall and then with Wilcoxon's signed rank tests on the differences for each subject for pairs of guidelines. P values reported are unadjusted for multiple comparisons, but the results stand after correction with the Bonferroni method.

Two practices did not have a practice nurse. In another practice the same nurse did not score all three guidelines, and so the results were excluded from the analyses of ease of use and preference. In all, 33/37 doctors and 22/35 nurses scored at least 10 of 12 case histories correctly when using the Sheffield table; corresponding numbers for the New Zealand guidelines were 37 and 33 respectively and for the joint British chart 36 and 34 respectively. There were no significant differences between the three scores for doctors, whereas accuracy among nurses was significantly poorer

Comparison of three methods of risk assessment for coronary heart disease among 37 general practitioners and 35* practice nurses. Values in parentheses are approximate 95% confidence intervals

		New Zealand guidelines *v* Sheffield table		Joint British chart *v* Sheffield table		Joint British chart *v* New Zealand guidelines	
Test	**Overall P value**	**Median difference**	**P value**	**Median difference**	**P value**	**Median difference**	**P value**
Doctors:							
Accuracy	0.36	0 (–0.5 to 0.5)	0.48	0 (0 to 0.5)	0.34	0 (0 to 0.5)	1.00
Preference	<0.001	1.5 (1 to 2)	<0.001	1.5 (1 to 2)	<0.001	0 (–0.5 to 0.5)	0.66
Ease of use	<0.001	1.5 (1 to 2)	<0.001	1.5 (0.5 to 2)	<0.001	0 (–0.5 to 0.5)	0.63
Nurses:							
Accuracy	0.002	1 (0.5 to 2)	<0.001	1.5 (0.5 to 2.5)	<0.001	0 (–0.5 to 0.5)	0.73
Preference	<0.001	2.5 (1.5 to 3)	<0.001	2 (1.5 to 2.5)	<0.001	0 (–0.5 to 1)	0.55
Ease of use	<0.001	2 (1 to 2.5)	<0.001	2 (1 to 2.5)	<0.001	0 (–0.5 to 1)	0.65

The overall P value is a Friedman test; the pairwise comparisons are Wilcoxon's signed rank tests on the median differences between matched pairs.
*34 for analyses of preference and ease of use (see text).

($P<0.001$) with the Sheffield table than with each of the other two guidelines (table). Only 6 doctors and 6/34 nurses gave the Sheffield table a high preference rating (4 or 5). More doctors and nurses gave high preference scores for the New Zealand guidelines (26 doctors and 25 nurses) and for the joint British chart (23 and 25) ($P<0.001$ for the Sheffield table compared with each of the other two guidelines for both doctors and nurses). Similar results were found for ease of use (table).

Comment

Of these three risk assessment methods, nurses are more likely to interpret correctly the New Zealand guidelines and joint British chart, and both general practitioners and nurses not only find these two methods easier to use but also prefer them to the Sheffield table.

The main strength of our study was that a named general practitioner and nurse within every practice in Dumfries and Galloway completed a formal assessment of each of the three risk scores. A possible limitation is that the study was confined to a single health board. We have no reason to believe, however, that general practitioners and nurses in Dumfries and Galloway are unrepresentative of their colleagues elsewhere in Scotland and the United Kingdom or that the responses would have been different had we assessed the risk scores during clinical contacts.

We have shown that cardiovascular risk assessment by tables and charts based on the Framingham equation is acceptable to both general practitioners and nurses. The results of our study favour the New Zealand guidelines and the joint British chart, the latter of which may be the more suitable for use in primary care. The continuous scale for systolic pressure facilitates assessment of blood pressure and the risk chart is also available as a computer program.

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How medicine has changed

Mother's milk

I was due to give a talk entitled "Changes in medicine in 43 years of practice" when I attended the funeral of a patient a few weeks before the presentation. She was a sweet old lady of 96 years who had borne 10 children, and the church was filled to capacity—there were three generations of her family present. An elderly clergyman gave one of the eulogies He related how as a young boy in the 1920s and 1930s he had been a next door neighbour of Ma Smith. In those days, he said, "We didn't have cars, or fridges, or telephones, we never went to the doctor—he didn't have antibiotics or any of the other wonderful medications they have now, and we didn't have health insurance. We only saw the doctor for a broken bone or if dying. Doctors in those days prescribed mustard poultices or the like and Mother knew all about those. One day I got a sore eye. Mother said it was 'pink eye' and it needed warm milk applications. Sometimes we did not have the basics, and at the time we had no milk, so she sent me next door to see Ma Smith. I knocked on her door and when she came I told her my problem. She said, "Look up and hold your eye open child." I did so and she took out her breast and gave me a squirt."

Gordon M Black *physician, Pembroke, Bermuda*

Ma Smith's treatment may have been soundly based. Breast milk contains a range of antimicrobial proteins, including immunoglobulins, lysozyme, and lactoferrin. Professor John Davis pointed this out to me 37 years ago, noting that West Indian mothers at Hammersmith Hospital frequently treated neonatal sticky eye with breast milk. Roger Robinson *BMJ*.