Transcript
What is screening
SWYC Training Video

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0:04
So what is a screening questionnaire, and why start with such an obvious question?

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Bear with me a moment and I'll try to make my case.

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Let's begin with a little history.

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1989 and 1990 were watershed years for the science of screening, based on an exhaustive review of the evidence and careful simulation modeling of its implications.

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David Eddy published a series of papers that recommended specific procedures to screen for a range of severe medical conditions, including breast cancer, cervical cancer, colorectal cancer, and osteoporosis.

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What was meant by screening?

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In his book Common Screening Tests, David Eddy defines screening as the application of a test to detect a potential disease or condition in a person who has no known signs or symptoms of that condition at the time the test is done.

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In this sense, screening works a lot like radar.

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Just as radar is designed to detect flying objects like airplanes long before they can be seen or heard, screening is designed to detect a potential disease long before a person has any signs or symptoms.

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But both screening tests and radar sometimes make mistakes.

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Sometimes the plane does not give off a signal, which is an example of a false negative error.

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Other times, radar detects a signal, but it turns out to be something you're not really interested in detecting, like a flock of birds.

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This is an example of a false positive error with a sky full of flying objects.

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The ideal radar will detect all of the planes, but none of the birds.

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To evaluate the accuracy of radar, scientists developed something called signal detection theory.

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Signal detection theory is used to this day not just for radar, but for medical screening tests.

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For example, groups like the United States Preventive Services Task Force rely on signal detection theory when they carefully assess the sensitivity and specificity of a screening test before recommending it.

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But are developmental behavioral screening questionnaires really screeners in this sense?

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Sort of.

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On the one hand, medical professionals certainly send out screening questionnaires to patients in the hope that they will answer the questions and then return them with information about developmental and or behavioral problems that their providers don't yet know about.

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But to answer the questions, the families must be aware of the signs and symptoms, even if they don't recognize them as such.

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In this sense, the information they provide isn't really new, at least not to the patients.

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It may be new to the providers, in which case we have to ask, is the screening really detecting signals, or is it more accurate to say that it is facilitating communication?

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Radar doesn't seem to be the greatest metaphor.

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It's more like a conversation.

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I imagine it something like this.

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You called someone to ask them if they're on a plane.

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Now they don't have the expertise you do, so they ask for help.

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You suggest looking out the window, at which point their child exclaims that they're way up in the air.

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To complete this metaphor, imagine that the professional has to do this again and again with a lot of different people.

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So they start the conversation with a standardized screening questionnaire.

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Now, this example seems a lot more like how medical professional To summarize, there are at least two different ways of thinking about screening.

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1 is like radar, the signal detection way.

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If you buy into this way of thinking, you care a lot about whether or not screening questionnaires are validated, and in particular, whether they accurately detect the problems you're looking to screen for.

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This also has implications for how screeners are used.

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Here's an example.

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In 2006, the American Academy of Pediatrics published guidelines for developmental screening.

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They said that after administering A validated screening tool, clinicians should determine whether the results are positive and, if so, make referrals for appropriate care.

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Now, while the figure you're seeing comes from a 2006 recommendation, this model is still quite common in the field.

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For example, many implementation studies expect all positive screens to result in referrals, and the United States Preventive Services Task Force conceptualizes screening questionnaires much this way.

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In short, this model suggests that decisions about what to do rest entirely on screening results.

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But there's a second way to think about screening screening as an evidence informed conversation starter.

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For example, a newer screening recommendation from the American Academy of Pediatrics published in 2025 stated that screening and surveillance both present an opportunity to initiate conversations with children and families.

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Notably, this way of thinking suggests a much bigger role for the clinician and the family.

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It's not as simple as whether or not the screen is positive.

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It also has implications for what research evidence is useful.

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Evidence based medicine has been defined as the ability to track down, critically appraise, and incorporate emerging research evidence into one's clinical practice.

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In this regard, evidence about about accuracy is certainly important, no doubt about it.

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But so is a range of other research evidence, such as normative data to interpret how extreme or unusual a score is, and data on how individual questions work to help clinicians and families interpret results.

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After all, evidence based medicine isn't just about evidence according to the founders of the field.

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It is also about applying evidence with clinical expertise and it's also about making clinical decisions in light of patients values and preferences.

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These three concepts came to be described as a three legged stool.

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Just as a stool will fall over if anyone leg breaks, clinical decision making will fail if any of these concepts is neglected.

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Thus, evidence based practice is not static, it's a process.

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A process that is not cookbook medicine.

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External clinical evidence can inform, but never replace individual clinical expertise.

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To adapt a famous phrase, cookbook medicine runs the risk of prescribing A foolish consistency that is the hobgoblin of small minds.

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And so in this series of talks, I'll be discussing how to think about screening as a process.

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A process that is but one element in a much larger system of care, and one that requires careful judgement and consideration of both evidence and values.

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I hope that this has been helpful.

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If you have more questions, check out our website, which includes a range of information including a technical manual, scoring instructions, and translations.

7:05
And check back for updates because we hope to add new information in the future.

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Thank you for listening.