

HEAD TO HEAD

Should Google offer an online screening test for depression?

It could raise awareness to improve identification and treatment of depression, says **Ken Duckworth**, but **Simon Gilbody** worries that screening for depression is not recommended because it could cause harm

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Yes— Ken Duckworth

Until recently, patients had to see a doctor to learn their blood pressure and blood sugar levels. Now, measurement tools are readily available at home, and raised public awareness of cardiac risk has contributed to a huge reduction in heart disease.

Contrast this with suicide, which, in America, is increasing in almost all population groups.¹ In the UK, suicide rates among women are the highest in a decade.² While many people know what 120/80 mm Hg means, few know their PHQ-9 (patient health questionnaire 9) score. A common language for measuring depression could advance conversations among the public and with professionals.

PHQ-9 is a test validated for use in primary care to monitor the severity of depression and response to treatment. It is designed for patients to read and answer on their own. The result is a total of scores for each of nine DSM-5 criteria, each rated from 0 to 3 in terms of frequency of occurrence.³ The test is quick to do and used in many clinical settings.

Attitudinal barriers

Nearly a fifth of Americans experience clinical depression at some time.⁴ However, about half of these people do not receive any treatment, and the rest wait an average six to eight years.⁵ A key reason may be that people with mental health conditions perceive that they do not need treatment.⁶ Studies show that they report attitudinal barriers to seeking care much more often than structural or financial barriers.⁶

Google and the US advocacy organisation the National Alliance on Mental Illness (NAMI) want to help by providing a screening test to people in the US who are already seeking information online. A search for “Am I depressed?” (or similar) via mobile phone will offer a link to the PHQ-9 test. Links to materials

from NAMI and telephone helplines will be given with the screening test results for people with higher scores.

Minimal risks

Are screening tests a risky idea? The US Preventive Services Task Force (USPSTF) says not.⁷ It recommends including depression screening in routine clinical care. However, Google offering the PHQ-9 is not meant to replace clinical screening; nor does it constitute a universal screening programme.

Instead, it is intended as widespread education to prompt informed conversations with clinical professionals and to suggest potentially helpful resources. This is balanced against existing potential harms; currently, Googling “depression tests” yields many different surveys, not all of which are clinically validated or beneficial.

Could this lead to overtreatment? It seems unlikely, because the PHQ-9 result alone cannot drive treatment without a professional making a formal diagnosis. PHQ-9 on Google does not recommend treatment. No industry money is involved.

Could this threaten privacy? Confidentiality is an ethical imperative in health awareness programmes. Google will not store or log any responses or results, or link these with individuals’ other data. Google will not tailor advertisements to individual responses.

Could this lead to overwhelmed services? Helping people to access mental health assessment could lead to less harm and lower medical expenses associated with depression. Only time will tell if it adds any cost burden to the healthcare system. Given the immense burden of this condition, this potential outcome could initiate conversations on newer investments in care, such as telemedicine, teletherapy, online cognitive behaviour therapy, and promoting models like collaborative care.

Standard metric

Currently, multiple metrics are used in mental health services to measure clinical status and improvement—when metrics are used at all. We don't have a dozen blood pressure metrics. One of the greatest benefits of increasing awareness may be the potential for the PHQ-9 to become a standard depression metric, reducing the subjective nature of psychiatric care.

If someone calls their doctor to report a PHQ-9 score of 7, or of 17, any professional can triage the person appropriately. They can also formally assess the patient for a mood disorder, a false positive result, or a medical problem presenting with these symptoms.

Increasing the motivated public's understanding of this validated screening tool could help to empower patients. Informed people may have a better chance of getting the help they may need. NAMI and Google remain open to feedback.

No— Simon Gilbody

Writing on Google's blog,⁸ Mary Giliberti, chief executive of NAMI, rehearses a superficially plausible argument that is often made to support population screening. She notes that one in five people experience clinical depression but only half of them actually receive treatment. She hopes "that by making this information available on Google, more people will become aware of depression and seek treatment."

Google generates considerable revenue by selling targeted advertising and makes great use of the data provided by end users. So how should Google's foray into the domain of mental health be viewed?

Dubious case for screening

My first concern is that this is a screening programme, and Google's initiative bypasses the usual checks and balances provided by bodies such as the UK National Screening Committee (and counterparts such as the US Preventive Services Task Force (USPSTF) and the Canadian Task Force on Preventive Health Care). Screening for depression is controversial,⁹ and we should remember Muir Gray's dictum that "All screening programmes do harm; some do good as well."¹⁰ The case for screening for depression falls down on several key criteria.¹¹

False positive rates are high, and people with a positive result may have a range of disorders other than depression (including post-traumatic stress disorder, personality difficulties, and bipolar disorder). Much of the pathology that is picked up is transient psychological distress, which will remit without treatment.

Screening programmes should be implemented only when there are adequate resources in place to meet the demand they generate. Treatment resources for depression are inadequate in most health systems, and it is likely that screening programmes will add to the upward trend in antidepressant prescriptions (which have the greatest year on year increase of any drug class).¹²

Systematic reviews show that screening programmes do not improve depression.⁹ The UK National Screening Committee and Canadian task force do not recommend screening for depression for good reason.^{9 13} The USPSTF recommends screening only "with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up,"¹⁴ which Google will not provide.

Privacy and harm

My second concern is that people will be cautious about any assurance about privacy and misuse of data. Advertisements that appear on computer screens are targeted on the basis of web generated personal data, and data generated by a depression screening programme could be used to market antidepressants. Psychotropics have been heavily marketed in the US using direct-to-consumer advertising.¹⁵ Online questionnaires have been used as marketing tools to encourage people with anxiety disorders to self diagnose and then request branded drugs.¹⁶

Historically, the boundaries between pharmaceutical advertising and patient information are also blurred by the presence of online disease awareness campaigns sponsored by industry. Google offers reassurance in this respect, with links to NAMI. However, Google does not highlight that the PHQ-9 is copyrighted by Pfizer or that NAMI is reported to derive much of its income from the drug industry.¹⁷

Finally, there is risk of harm. Depression should be diagnosed after a clinical assessment (including risk assessment) rather than a single PHQ-9 test. Episodes of transient (and self limiting) psychological distress will be confused with pervasive disorders that warrant treatment. Google emphasises the importance of professional consultation, but recent examples show that disease awareness campaigns (for example, in stroke risk and prostate cancer) and unregulated screening programmes (such as whole body computed tomography and carotid Doppler ultrasonography) present risks of overdiagnosis, supplier induced demand, and inappropriate treatment.¹⁸

Moreover, treatment will inevitably be sought outside of healthcare systems without proper risk assessment or consideration of benefits versus harms. People will be offered non-evidence supported treatments or purchase powerful psychotropic drugs online without professional oversight. Some online treatment programmes for depression are free to use, but they are often not effective in large scale pragmatic trials.¹⁹

Google's initiative has been reported positively and uncritically despite bypassing the usual checks and balances that exist for good reason. It is unlikely that it will improve population health and may in fact do harm.

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