## **MODULE TEXTS**

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*Note*: See the Teacher Version of the module for the list of Module Web Sites and Videos.

By Nikolas Kristof

New York Times, March 19, 2009

- Some of the obituaries these days aren't in the newspapers but are for the newspapers. The Seattle Post-Intelligencer is the latest to pass away, save for a remnant that will exist only in cyberspace, and the public is increasingly seeking its news not from mainstream television networks or ink-on-dead-trees but from grazing online.
- When we go online, each of us is our own editor, our own gatekeeper. We select the kind of news and opinions that we care most about.
- 3 Nicholas Negroponte of M.I.T. has called this emerging news product The Daily Me. And if that's the trend, God save us from ourselves.
- That's because there's pretty good evidence that we generally don't truly want good information—but rather information that confirms our prejudices. We may believe intellectually in the clash of opinions, but in practice we like to embed ourselves in the reassuring womb of an echo chamber.
- 5 One classic study sent mailings to Republicans and Democrats, offering them various kinds of political research, ostensibly from a neutral source. Both groups were most eager to receive intelligent arguments that strongly corroborated their pre-existing views.
- There was also modest interest in receiving manifestly silly arguments for the other party's views (we feel good when we can caricature the other guys as dunces). But there was little interest in encountering solid arguments that might undermine one's own position.
- 7 That general finding has been replicated repeatedly, as the essayist and author Farhad Manjoo noted in his terrific book last year: "True Enough: Learning to Live in a Post-Fact Society."
- 8 Let me get one thing out of the way: I'm sometimes guilty myself of selective truth-seeking on the Web. The blog I turn to for insight into Middle East news is often Professor Juan Cole's, because he's smart, well-informed and sensible—in other words, I often agree with his take. I'm less likely to peruse the blog of Daniel Pipes, another Middle East expert who is smart and well-informed—but who strikes me as less sensible, partly because I often disagree with him.
- The effect of The Daily Me would be to insulate us further in our own hermetically sealed political chambers. One of last year's more fascinating books was Bill Bishop's "The Big Sort: Why the Clustering of Like-Minded America is Tearing Us Apart." He argues that Americans increasingly are segregating themselves into communities, clubs and churches where they are surrounded by people who think the way they do.
- 10 Almost half of Americans now live in counties that vote in landslides either for Democrats or for Republicans, he said. In the 1960s and 1970s, in similarly competitive national elections, only about one-third lived in landslide counties.

- 11 "The nation grows more politically segregated—and the benefit that ought to come with having a variety of opinions is lost to the righteousness that is the special entitlement of homogeneous groups," Mr. Bishop writes.
- 12 One 12-nation study found Americans the least likely to discuss politics with people of different views, and this was particularly true of the well educated. High school dropouts had the most diverse group of discussion-mates, while college graduates managed to shelter themselves from uncomfortable perspectives.
- 13 The result is polarization and intolerance. Cass Sunstein, a Harvard law professor now working for President Obama, has conducted research showing that when liberals or conservatives discuss issues such as affirmative action or climate change with like-minded people, their views quickly become more homogeneous and more extreme than before the discussion. For example, some liberals in one study initially worried that action on climate change might hurt the poor, while some conservatives were sympathetic to affirmative action. But after discussing the issue with likeminded people for only 15 minutes, liberals became more liberal and conservatives more conservative.
- 14 The decline of traditional news media will accelerate the rise of The Daily Me, and we'll be irritated less by what we read and find our wisdom confirmed more often. The danger is that this self-selected "news" acts as a narcotic, lulling us into a self-confident stupor through which we will perceive in blacks and whites a world that typically unfolds in grays.
- 15 So what's the solution? Tax breaks for liberals who watch Bill O'Reilly or conservatives who watch Keith Olbermann? No, until President Obama brings us universal health care, we can't risk the surge in heart attacks.
- 16 So perhaps the only way forward is for each of us to struggle on our own to work out intellectually with sparring partners whose views we deplore. Think of it as a daily mental workout analogous to a trip to the gym; if you don't work up a sweat, it doesn't count.
- 17 Now excuse me while I go and read The Wall Street Journal's editorial page.

## "The Daily Me" Is Neither New nor Bad

By Eduardo Hauser

New Huffington Post, May 2, 2009

- 1 Certain journalists have recently expressed fear of a "new" trend they believe threatens their already struggling institutions—the growing news personalization websites that Nicholas Negroponte of M.I.T. coined "The Daily Me."
- 2 But they shouldn't be scared. The trend isn't bad, and it isn't new. In fact, far from being an enemy to news media, The Daily Me trend stands to help save journalism.
- 3 Critics of the phenomenon believe giving us the power to "become our own editors" will encourage insulation and bias. But we have always been our own editors. Every time we consume media, we make choices, consciously or not. When we skip articles, choose one newspaper over another, switch television channels, or tune in to a radio station we decide what we want to consume. The Internet has simply provided tools to make the selection process broader, easier and better structured.
- 4 If and how you 'personalize' your news experience is simply a question of new methods, not new habits.
- When readers actively select their own topics, as they do on DailyMe.com, for example, they are typically more engaged, not less, than those who rely solely on the editorial choices made for them in traditional outlets.

  Specifically, DailyMe.com users who personalize their news view an average of seven pages per visit, or about double the pages viewed by non-registered users.
- There are other important advantages to the personalization of news consumption. Few would argue, for instance, that it's better for a reader to have superficial knowledge of a broad range of subjects—rather than deep, up-to-date information from various sources on a subject of intense interest. Readers who suffer from diabetes, for example, might rely on a Daily Me site to collect relevant articles from multiple sources in one sitting.
- Of course, the editorial choices of professional news organizations also play a critical role in informing citizens, and a good personalized news site will still direct users to quality reporting from newspapers and other traditional organizations. After all, just because the medium is different doesn't mean we should accept standards below those set by professional journalists. Quality news personalization is not about breadth or depth; it's about both.
- So while it's an unnerving time for newspaper reporters to be sure, and many harbor misguided skepticism about emerging news platforms, the industry should recognize that journalism isn't going anywhere—it's only the devices from which we consume content that are changing. And personalized news sites best serve those new devices by trimming the headline fat down to content manageable on small screens.
- 9 But going a step further, there is a fundamental question to be answered: Are we better off letting others—namely news editors—choose our daily news dose based on the common denominator of the audience? Of course not. Each of us has a

- responsibility to seek out and understand conflicting views. The Daily Me only makes this essential process that much easier.
- 10 Personalizing the news is not only a reality, it is a necessity. The Internet, whether through search engines, news sites, portals or different versions of The Daily Me, will give every journalist the ability to find a true audience, not defined by geographical location, but by shared interests. In short, it's the best way to empower journalists to do what they do best and win far more readers than newsprint can hope to reach.
- 11 If that won't make all of us more informed, what will?
- 12 Hauser, a media entrepreneur and recovering lawyer is the CEO of DailyMe.com, a board member of National Public Radio and a journalism advisor of the Knight Foundation. Before starting DailyMe he spent 7 years at AOL's Latin American division and previously was head of news at the largest television network in Venezuela.

# Kialo Is an Internet Unicorn: The Utopian Fantasy of Rational Debate on the Web

By Kevin Craft

Urban Daddy, November 15, 2017

- 1 It's now received wisdom that social and online media have deteriorated into bottomless pits of vacuity set on diminishing attention spans and I.Q. scores one mind-numbing meme or shamefully slanted editorial at a time. This position is so rampant few people would even bother debating it. Complaining about online media ranks second only to consuming online media as a large subset of Americans hobby of choice. And the vast majority of people who love nothing more than to hate what they simultaneously crave remain convinced that 1) the situation is only getting worse and 2) nothing can be done to remedy it.
- 2 This makes Kialo, a new website whose selfdescribed mission is "empowering reason" and fostering rational discussions minus the "editorial noise" so characteristic of online chatter, interesting and possibly meaningful. It's not every day you stumble across a site that bills itself as the opposite of what the internet is generally considered to be.
- 3 Kialo announced its inception this past August via a commendably modest blog post. In it, the authors insinuate there is a critical mass of people who find the "Internet Shouting Factory" exhausting and crave a place where "critical thinking, thoughtful discussion, and collaborative decision-making" rule the day. Kialo positions itself as a tool capable of going against the proverbial grain and presenting a digital platform where reason-filled discussion trumps inane carping.
- 4 Sounds good, I thought to myself, as I established a free account on the site and took my first steps towards sharpening my rational debate chops.
- Users who enter Kialo will find themselves confronted by a series of opinionated statements, such as "Eating Meat is Wrong" and "The electoral college should be abolished," each of which is accompanied by an image. These are the site's theses or the issues users can debate. Each thesis takes a particular stance on a topic, thus inviting users to respond with claims that support the stance or disagree with it. Any user can propose a

This chunk's purpose is to acknowledge the issues surrounding online information consumption. It establishes the need for a remedy, and introduces Kialo, "a new website whose self-described mission is empowering reason and fostering rational discussion".

The effect this section has on the readers is to focus them on the urgent problem that "social and online media have deteriorated into bottomless pits of vacuity and diminishing attention spans and I.Q. scores". The introduction of Kialo as a potential solution Intrigues the readers and prompts them to continue reading.

Introduces Kialo's claims to be a potential tool "capable of going against the proverbial grain and presenting a digital platform where reason-filled discussion trumps inane carping". The reviewer also acknowledges that Kialo's claims sound promising enough for him to establish a Kialo account in order to tests its claims.

The effect on the readers is a willingness to continue reading to discover whether Kialo is a realistic and effective tool for providing the much needed platform for rational discussion.

This section details the reviewer's method for evaluating Kialo. The purpose is to provide the readers with the objective step by step process of navigating the various features of the website.

The readers understand the various features, and user-friendliness, as well as the process required to enter a discussion.

- discussion topic, but only theses approved by "invited users" make it to prime time. The site says this level of control prevents trolls from sullying the discussion, though when it comes to determining how a person earns the coveted status of "invited user" your guess is as good as mine.
- 6 Click on a thesis or its accompanying image, and you're taken to a page that shows the full thesis and a circular infographic that sort of looks like a less precise version of those seating charts found on StubHub. These infographics are one of Kialo's proprietary design features: dual-colored visual representations of what the site calls the "discussion typology." The green parts represent the claims that support the thesis and the reddish-orange represent those that oppose it.
- It would take someone far better-versed in the intricacies of visual communication to explain how exactly a colored circle with linear stalks radiating from it in all directions is supposed to represent the evolution of a particular discussion. But upon my first foray into the site, I couldn't help but find these infographics somewhat charming and arguably necessary. The risk a site like Kialo runs is presenting users with nothing but text box after text box, which is not exactly a winning aesthetic in what is increasingly an image driven online culture. Those splashes of color, indecipherable as they may be to a lay user like myself, break up the monotony of just reading.
- 8 But I digress—something Kialo is designed to prevent. Once a user has viewed a discussion's full thesis and typology, the user can enter the discussion and see all the pro and con claims others have posted. The site asks that all claims remain concise and restrict themselves to one point, and it enforces these parameters by limiting the character count per claim to 500.
- Upon my first visit to the site, I clicked on the thesis "the electoral college should be abolished" and found my way to the page where I could view all the affirming and refuting claims. I had no idea whether what I was about to read would constitute the reasoned discussions Kialo intends to empower and found myself pleasantly surprised. The bulk of the claims are well-written and express a clear point without tending toward the obnoxious. Users can rate claims based on the impact they have on the

These chunks describes the reviewer's experience entering various discussions. He provides detailed examples along with his evaluation of the website's effectiveness.

His realistic evaluation of his experience as promising encourages the readers to consider the potential in Kialo, while understanding its strengths and limitations.

- parent thesis and respond to claims with comments of their own. The enforced brevity of each claim often leaves a reader wanting more, but that seems to be the point. By ensuring every response is kept to a minimum, the site incentivizes users to banter back and forth with claims and counterclaims, thus propelling the discussion ever forward.
- 10 Since joining Kialo, I've perused discussions about abolishing private education in the United Kingdom, the ongoing controversy over certain NFL players kneeling during the national anthem, and the ethics of eating meat. I've learned a few things—Margaret Thatcher once described referendums as "a device of dictators and demagogues"—and felt provoked to at least consider responding to the various theses and claims I perused. (I imagine Kialo would be of incredible use to high school and college students looking for inspiration or for material they can rephrase or repurpose in term papers and other assignments.)
- 11 In a discussion about whether or not public schools should include philosophy in their curricula, I found myself heartened by the highly rated pro-philosophy claim "It (philosophy) compliments the more careeroriented or objective disciplines by creating more well rounded thinkers," and dumbfounded by the highly rated anti-philosophy claim "The purpose of education is to teach people enough so that they are good employees and obedient citizens. Critical thought is detrimental to both these ends." But this particular discussion thread proves that Kialo has thus far demonstrated itself adept of attracting users from both sides of socio-political spectrum, including those who would happily accept government subsidies to spend time in the New Hampshire woods contemplating life's deeper meanings and those willing to see the fruits of their labor forward corporate growth and governmental flirtations with autocracy.
- 12 I'd be lying if I said that upon reading the aforementioned anti-philosophy claim I wasn't tempted to forgo decorum and post a response arguing the author was a poorly disguised fascist whose espoused idea was antithetical to rational thought and individual freedom. But I demurred. Most people believe rules govern personal behavior, but the truth is individual community's cultural norms play a much more significant role in shaping how people interact with one another. I don't know if Kialo

has moderators on standby, ready to remove personal attacks masquerading as claims. But in all my time on the site I didn't stumble across a single ad hominem style criticism, the kind that so regularly sully Facebook discussions and Twitter feeds. I imagine most users refrain from this sort of behavior simply because they don't see anyone else on the site engaging in it.

- 13 The question facing Kialo is will the site generate enough forward momentum in its first six months to one year of existence to attract a loyal user group. So far, so good—it seems. Kialo has received lots of play on social media, one of the online realms it seeks to be different from, and every single day the site presents fresh new discussion topics just begging to be validated or rebutted. The aforementioned infographics aside, the site does risk coming across as too text heavy; when even traditional media companies are making a conscious effort to "pivot to video" and other more visually dynamic forms of storytelling, it's hard to feel confident about the continued shelf life of digital-based writing (gulp!).
- 14 The internet is arguably one of the ficklest creations of the past 50 years. It's impossible to predict which sites are destined to succeed and which will amount to nothing more than flashes in the pan. And some of the medium's most successful sites (Google, Facebook) are just more sophisticated remixes of less dynamic originals (Lycos, Myspace). Kialo seems to have tapped into a vein few people thought existed: the desire of succinct discussion of prevailing topics of interest, unimpeded by trolls. Whether or not it can capitalize on this discovery over the long run is a question that should probably be debated on Kialo.

This concluding section suggests that the reviewer's positive experience is shared by others as it has "received lots of play on social media" despite the "text heavy" interface. In moving forward with Kialo, he questions whether the site will generate "enough forward momentum in its first six months to one year of existence to attract a loyal user group" but acknowledges that "so far, so good".

The reviewer concludes his evaluation of Kialo by reminding readers of the need – "the desire of succinct conversation of prevailing topics of interest, unimpeded by trolls", but leaves it undecided as to whether or not Kialo can "capitalize [...] over the long run".

The effect of this reserved and cautious conclusion is that the readers understand that while Kialo can effectively provide a platform (and an escape) for reasoned discussion, there are limitations to the "fickle creations" of the internet.

## Mindfulness Apps Aim to Help People Disconnect From Stress

By Allison Aubrey

NPR, Morning Edition, October 16, 2017

- She's not tuning in, she's tuning inward—letting go of stress, or at least trying to, with a mindfulness app on her phone.
- 2 From fires and hurricanes, to confrontational politics—with all that's been going on, it's no wonder the American Psychological Association found an increase in Americans' stress levels over the last year.
- 3 Our constant checking of smartphones—with the bombardment of news and social media—can amp up our anxiety. So, why not use your device to help you disconnect?
- 4 Mindfulness apps, such as Simply Being, are an increasingly popular way to help manage stress. Using this app, you can tap into a soundtrack of soothing sounds to help clear your mind. (Cue babbling brook, singing birds, meditation gongs!)
- 5 The idea behind mindfulness is simple to explain, but hard to execute. The goal is to focus on the present moment, and to let go of regrets of the past or worries about the future. And some researchers say apps can be a useful tool to assist this practice.
- 6 "I think they can be helpful," says Dr. Stuart Eisendrath, a psychiatrist at the University of California, San Francisco who researches Mindfulness-Based Cognitive Therapy.
- "There are a variety of apps out there," Eisendrath says. "Some of them are just simple meditation timers" to help users stay focused for a specific period of time. The UCSF Student Health and Counseling Center lists several of these apps, including Zazen and I-Qi, on its Mindfulness Meditation website.
- 8 Some of the documented benefits of mindfulness meditation, according the UCSF site, can include better management of chronic pain, an increase in self-awareness, improved digestion and higher immune function.

The purpose of paragraphs 1-3 is to introduce the need to cope with today's stress and the idea of using smartphones to help.

This chunk focuses readers on stress as a problem, explains the urgency, and asks readers to consider the use of an app to help address the problem of stress.

These paragraphs define mindfulness, suggest it as a potential solution, and provide sources to support the solution.

This chunk helps the readers understand mindfulness and consider mindfulness apps' potential.

- 9 But here's the rub: There's no evidence that just using a mindfulness app will bring these benefits.
- "Everybody wants a quick fix, they want to know the shortest, fastest root to be mindful," says Steven Hickman, a psychologist and founder of the UC San Diego Center for Mindfulness. He says just using an app for a few minutes, a few times a week is likely not enough.
- 11 "It really does take ongoing practice—just like exercise," Hickman says.
- 12 Therapists say people should be skeptical if they download an app that makes specific health claims, and shouldn't use them as a replacement for therapy.
- 13 "Few of these apps are empirically validated," says Jason Parcover, who directs the counseling center at Loyola University Maryland. And they can't yet be tailored to a user's specific needs.
- 14 A recent perspective piece published in the *British Medical Journal* points to the need for more rigorous review of apps. The authors say people who use apps should know if there's evidence to back up claims made by the app developers. Consumers, they say, need to be taught "to look for signals of quality before downloading."
- 15 The U.K.'s National Health Service is in the process of evaluating apps that might help manage or even improve health. So far, the listed apps include Chill Panda, which gives users simple breathing techniques and light exercises to "take your mind off worries," according to its developers. Another one, Stress & Anxiety Companion, is billed as a way to help people handle stress and anxiety on the go.
- 16 When it comes to building a mindfulness meditation practice, "there's no substitute for a live connection with a teacher—and encouragement from a group or class," Hickman says. But for people who have already taken a class or been introduced to the basics, he says, "apps are a terrific support to the process."
- 17 Parcover agrees that apps can be an effective "nudge"—a reminder to keep it up daily, or a few times a week.

This chunk introduces a crediblysourced counterargument that suggests that using a mindfulness app alone isn't a realistic solution.

This makes the readers pause and think more critically about the limitations in using an app exclusively to solve the problem. This also reminds the readers that "quick fixes" are tempting but unrealistic.

This chunk argues and supports the idea that that people shouldn't exclusively rely on apps' claims of solving health problems. It provides suggestions for moving forward using specific mindfulness apps that might be effective as a partial solution.

The effect is that the readers understand the need to evaluate apps for effectiveness and provides a process for doing so.

This chunk concludes the evaluation, and emphasizes that mindfulness meditation cannot be effectively done exclusively with an app, but that mindfulness apps can effectively support the process.

This final chunk leaves the readers reassured moving forward that stress can be addressed with a combination of a convenient app and personal mindfulness practice.

- 18 "One of the struggles is having the discipline to build meditation into your lifestyle," he says. "I know these apps are popular with students."
- 19 Given the bombardment of the digital world, Parcover says, and all the daily stresses, many students recognize the value of "finding the time to be present in the here and now."

## **App-based Psychological Interventions: Friend or Foe?**

By Simon Leigh and Steve Flatt

Evidence-Based Mental Health, October 12, 2015

#### The need

- In a time of increasing demand for psychological services and continually decreasing resources. unmet need with respect to National Health Service (NHS) mental health services is reaching an unprecedented level.1 While monthly referrals to community mental health teams increased 13% in 2013, and 16% in the case of crisis services, investment in mental health services has fallen in real terms for three successive years,<sup>2</sup> not helped by the government's £22 billion target for efficiency savings. As such, the resulting loss of over 200 fulltime mental health doctors and 3600 nurses<sup>1</sup> has meant that despite a £450 million investment in reducing waiting times<sup>3</sup> and increasing access to psychological therapies (IAPT), 1 in 10 patients experience waiting lists of over a year before receiving any form of treatment, with 1 in 2 waiting over 3 months.4
- One in 6 of those on waiting lists for mental health services are expected to attempt suicide, 4 in 10 are expected to self-harm and two-thirds are likely to see their condition deteriorate before having the opportunity to see a mental health professional.<sup>1,5</sup> As such, approximately 70 million sick days<sup>6</sup> and 170 000 self-harm related accident and emergency attendances<sup>7</sup> can be attributed to underlying mental health issues in the UK every year; with these individuals also exhibiting double the rate of both inpatient and outpatient hospital attendances compared to the UK general population.8 Unfortunately long-term prospects for those with mental health issues are not much better. Those suffering from serious mental illness face twice the risk of diabetes and death from heart disease,9 three times the risk of hypertension and a fourfold increase in all-cause premature mortality when compared with the UK general population; all of which contributing to the £105billion that mental distress costs the English economy each year.<sup>10</sup>

This section introduces the problem of increased demand for psychological services while resources are decreasing. The problem is further defined by the urgency – citing statistics on suicide, self-harm and deteriorating health when mental health issues go unaddressed.

The chunk focuses readers on the specific problem and urgent need for a solution. This makes the readers understand the urgent current and future implications of failing to address these mental health needs.

#### The potential

- 3 Given the documented limited success of IAPT in stemming the rising tide of unmet need within mental health,<sup>4</sup> an alternative approach may be necessary, that can extend care to those with the greatest need, without imposing substantial pressures on already scarce mental healthcare funding. 11 Online and appbased self-delivered treatments for mental health disorders are a novel and increasingly popular method<sup>12-14</sup> of service delivery, and as such, may be the solution the NHS is looking for. To date, a number of mental health apps have demonstrated effect sizes comparable to the conventional standard of care, 13,14 while circumventing financial barriers to treatment including a lack of available trained professionals, waiting lists and the indirect costs of seeking treatment. 13,15,16
- Research has shown that user engagement, rather than the modality of therapy is the key to achieving successful outcomes, 17, 18 and given that just 50% and 13% of patients currently have a choice of when and where they receive therapy, 5 apps may not only be equally effective as some forms of traditional psychotherapy, 19 but also provide a flexible and pragmatic means of increasing patient access, through removing barriers to treatment that do not respond to financial impetus. Such barriers may include a negative perception of psychological treatments, impaired access to health services and personal difficulties such as low mental health literacy<sup>13,15,16</sup> and stigma, commonly observed within the armed forces<sup>20</sup> and adolescents,<sup>2</sup> and all of which impacting the effective reach of the current standard of psychological care.

The purpose of this section is to introduce the potential for an appbased solution. The section makes claims for the effectiveness of mental health apps and provides evidence as support.

This sections' effect on the readers is to help them understand apps as a potential solution; the statistical evidence helps the readers trust the proposed solution.

#### The reality

However, apps are by no means a perfect solution to our nation's mounting mental health requirements, and are characterised by numerous shortfalls. These often stem from the frequent lack of an underlying evidence base, a lack of scientific credibility and subsequent limited clinical effectiveness, but also from issues including an over-reliance on apps, equity in access and increased anxiety resulting from self-diagnosis.<sup>21</sup> In order to become an asset to be included in the mental health practitioners and patient's arsenal, mental health applications must at the very least, be well-informed, scientifically credible, peer-reviewed and evidence-based. The reality section introduces a counterargument for the potential solution that claims that apps lack scientific credibility, and evidential support. It also argues that apps are over-relied on and can be harmful.

This section makes the readers stop and think more critically and realistically about the potential solution, and consider the limitations of an app-based solution. However, these conditions in themselves are not sufficient to ensure quality and equally important is the inclusion of validated performance metrics designed to assess the effectiveness of other NHS accredited activities. Such metrics may include the Generalised Anxiety Disorder 7 (GAD-7), Patient Health Questionnaire-9 (PHQ-9) and Warwick-Edinburgh Mental Well-being Scale, such that the value of such apps as a complementary or standalone treatment, can be determined.

- In 2013, there were only 32 published articles regarding depression apps, compared with a total of 1536 available for download.<sup>22</sup> This finding of a high availability but low evidence base is synonymous with results observed for apps dedicated to the treatment of other psychological disorders, including bipolar disorder,<sup>23</sup> bulimia nervosa<sup>24</sup> and post-traumatic stress disorder (PTSD);<sup>25</sup> bringing into question the scientific credibility, validity and efficacy of the majority of electronic psychological interventions currently available to consumers.
- Unfortunately the situation seems to be much the same with respect to apps accredited by the NHS. Of the 27 mental health apps currently listed in the NHS apps library,<sup>26</sup> 14 are dedicated to the management of depression and anxiety, yet just 4/14 provide any evidence of patient-reported outcomes to substantiate claims of effectiveness, as shown in table 1. While this clear lack of evidence is concerning, equally so is the finding that just 2/14 currently apply validated metrics, including the GAD-7 and PHQ-9, to assess clinical performance. As such, confidence in, and the validity of the claims made by apps that fail to apply such metrics must be considered as low at best, suggesting that the true clinical value of over 85% of NHS accredited mental health apps is at present impossible to determine.

#### Moving forward

8 Fortunately not all apps are created equally, with some demonstrating significant patient benefits. One NHS accredited app boasts recovery rates of 58%, some 14% higher than the 44% average achieved by IAPT over the same period, and 8% higher the NHS national target of 50%,<sup>27</sup> with the average user reporting at least a five-point reduction in PHQ-9 and GAD-7 scores after 3 months. This of course is no new finding, numerous studies have demonstrated significantly improved outcomes for those using

The moving forward section rebuts the counterargument with claims and supporting evidence that some apps are beneficial. The section also provides methods for evaluating apps, and finally suggest that a solution includes a combination of apps and traditional mental health treatments.

- computer-based psychological treatments, with those supported by a practitioner and designed with clinical quality in mind, on average more than twice as effective.<sup>19</sup>
- 9 During a time of unprecedented NHS efficiency savings, this opportunity should be welcomed by NHS commissioners looking to extend the provision of high quality mental health services within existing budgets and without crowding out other services. Not only are high quality apps relatively inexpensive, but unlike alternative NHS activities they are also non-excludable and non-rival in consumption, meaning that the use of an app by one individual does not preclude another from using that same service at the same time, a condition rarely observed with respect to NHS services.
- 10 However, in order to ensure that apps don't do more harm than good, it is important that those presently recommended by the NHS apps library, that either fail to demonstrate evidence underlying the methodological approach taken, or evidence of effectiveness in use, are removed. Reputation and legitimacy of sources are highly correlated with app downloads,<sup>28</sup> and there is a perceived level of quality assurance that comes with accreditation by the NHS. Similar to the shortcomings of information found on the Internet, information provided by apps is of variable quality and given that 3 in 10 individuals with an untreated mental health issue now opt to pay for private treatment on account of limited NHS availability,5 the purchase and use of apps that are vet to demonstrate objective clinical benefit is not only a potential waste of money, but also likely to have a compounding effect on levels of anxiety in those with the greatest need and least access to effective treatment.
- 11 The widespread availability and use of smartphones, and the increasing uptake of tablet devices, suggests that apps clearly do have a place within a changing 21st century NHS. They may act as a bridge between treatment sessions, improve retention and adherence to therapy or simply promote patient autonomy, flexibility and increased accessibility. Given the ever increasing demands and limited supply of NHS mental health services, coupled with barriers to care including a desire for anonymity, indirect financial costs and impaired access to treatment centres, the use of apps not may not only promote health service efficiency, but

The effect of this section on the readers is an understanding of the strengths and limitations of the app-based solution, which increases awareness of how to move forward with caution

- also support the NHS in returning to its seminal promise of equal access for equal need.
- 12 However, if this is to be an effective venture, this space clearly requires more stringent regulation, vetting and quality control. While some have proposed quality assurance checklists<sup>25</sup> or the application of existing NICE systematic review methodology.<sup>24</sup> there exists a growing unmet need for the development of app-specific guidelines and certifications, such that only high quality and clinically-effective apps are offered to patients. With respect to the rest of the world, the Australian government and US Food and Drug Administration (FDA) have demonstrated some success in the regulation and enforcement of app quality and safety standards; despite the lack of clear guidance as to the difference between medical and well-being apps. The FDA now exercise enforcement discretion for any app designed to assist patients with diagnosed psychiatric conditions in maintaining their behavioural coping skills, in addition to those providing motivational guidance to reduce stress and promote a positive outlook. These advances, in addition to educating users to look for signals of quality before downloading, including the presence of industry self-regulating certifications such as the 'Happtique Health App Certification Standard' (HACP),<sup>29</sup> highlight some of the many potential opportunities for improvement in the overall standard of mental health apps. Commitment to the application of such standards should ensure that the apps patients download do not result in more harm than good, that they function as described and offer value and a means of complementing traditional therapy. However, probably most importantly, this should ensure that app-based psychological treatments are required to demonstrate evidence of real world clinical effectiveness prior to receiving a seal of approval from a world leading healthcare system and recommended for purchase by patients in need of high-quality psychological interventions.

Table 1: Details of apps dedicated to depression and anxiety within the NHS health apps library

App name	Focus	Specific patient benefits reported?	Evidence to substantiate claims?	Use of NHS accredited performance metrics?
Hands up therapy	Dealing with emotions	<ul><li>Feeling more relaxed/at peace.</li><li>Achieve a successful 'present moment'</li></ul>	No	No
Ginsberg	Improving emotional well-being	<ul> <li>Improve health and well-being.</li> <li>Identify triggers for stress, poor sleep and anxiety</li> </ul>	No	No
Mindfulness	Relieving stress via meditation	Reduce stress and increase well-being	No	No
Black rainbow	Relieving depression via relaxation, meditation, poems and recordings	Beat depression	No	No
Workguru	Reducing work-related stress via CBT, mindfulness, job coaching and positive psychology	<ul><li>Building resilience and managing stress</li><li>Achieving a happier working life</li></ul>	Yes	No
Mindlogr	Self-reflection to improve well-being	Learn, grow and create more meaning in your life	No	No
Five ways to well-being	Self-reflection to improve well-being	Improve well-being	No	No
SAM: self-help for anxiety management	Self-help, self-reflection exercises to manage anxiety	Understand and manage anxiety	No	No
Happy healthy	Self-reflection, mindfullness and activity logging	Increased mental well-being	Yes	No
Moodkit-Mood improvement tools	СВТ	<ul><li>Manage stress, depression, anxiety.</li><li>Improve mood and optimism</li></ul>	No	No
Buddyapp	Digital support tool adjunct to therapy to reinforce positive behaviours	Support therapy services by reinforcing positive behaviours	No	No
Big white wall	Online community guided by medical health professionals to improve mental health	<ul><li>Improve well-being</li><li>Manage psychological issues</li><li>Reduction in depressive symptoms</li></ul>	Yes	Yes
Moodscope	Mood-tracking system	Stabilise and improve mood	Yes	Yes

CBT, cognitive-behavioural therapy; NHS, National Health Service.

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