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Figure 1: A Review of the "Instagram for Doctors"

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What is Figure 1?

Users of Instagram will recognize why so many news articles about this app use the comparison from this article’s title (1). Figure 1 is an iPhone and Android OS platform for sharing and discussing medical cases, where users can scroll through thousands of images uploaded by physicians, nurses, EMTs, and medical students, comment and respond to questions, “follow” particular cases and users, upvote or downvote comments, and view and discuss unique, real-world representations of disease, trauma, and treatment in any imaginable discipline of health and medicine.

Since it was launched in May 2013 it has become one most widely-used healthcare apps in the world. According to the company, over 70% of North American medical student use the app, part of a user community of more than 1 million healthcare professionals sharing cases that have been viewed almost 2 billion times (2). As of the date of writing, there is no advertising or obviously commercial content posted on the app or delivered to users.

Features of Figure 1

The Toronto-based company founded by a Richard Penner, a mobile app developer, Gregory Levey, and Joshua Landy, a critical care physician, and is backed by venture capital investment.(3) Figure 1 primarily promotes itself as a “network for social learning” (4) between experts and students, and posts are typically presented in a pedagogical manner (5), presenting the image with a brief medical history and an invitation for learners to suggest a diagnosis or
course of treatment. At some point during the discussion, the original poster will often mark a
comment as a confirmed diagnosis and provide further context for the case.

When cases are uploaded to the app, they are subject to a number of processes designed to
protect privacy and consent. Figure 1 photographs can be taken entirely within the app, which
means they aren’t stored on the user’s device, after which simple tools are provided to provide a
consent release, and to obscure potentially identifying features in the image such as facial
features, but also tattoos and information on documents such as EKGs and X-rays. (5) Once
submitted, cases are reviewed by Figure 1 staff for compliance and may be subject to
automated facial feature blocking by image-processing software before being posted to the site.
If there are questions about patient privacy, the user is notified and given an opportunity to
make corrections or further edits before re-submitting the image. (6) In a recent update, a
text-only posting feature was introduced, broadening the scope of cases that can be uploaded
beyond those that have a visual component- for instance, brief admission or medical history
summaries posing a diagnostic or treatment question. These cases allow more sophisticated
clinical questions to be asked, addresses an emerging problem of the app being seen as a
sensationalistic platform for shocking and gory images (of which, *caveat emptor*, there are still a
considerable amount, and many of which can be extraordinarily shocking) and sidestep the
concerns about privacy and consent that may cause clinicians to be cautious about adopting
this app in their professional or teaching capacity.

Setting up a new account on Figure 1 is a straightforward and familiar process. By downloading
the app or going to the Figure 1.com website, new users can quickly create an account by
providing their email address and some information about their field of practice- Figure 1 now
provides Medical Librarian as an option along with physician, nurse, EMT and a number of other healthcare roles. Once the user has verified their email, they have full access to all of the cases and features of the app.

Figure 1 also functions as a medium for practitioners to solicit expert advice and input from specialists outside of their local networks- posters can select a paging option that pushes their posting to active users who have had licensing confirmed by Figure 1. For these specialist or urgent consultations, users can select secure, HIPAA-compliant private messaging feature to communicate directly and securely about the case in question. The platform has also been used to poll users on topics of professional and public health interest such as gun violence (7).

**How Health Professionals Use Figure 1**

Figure 1 has captured the attention of numerous educators and organizations as a tool that can support innovations in medical education and professional development. In the Philadelphia area, physicians at Jefferson University’s medical college use the app in rotations and internships such as emergency medicine and in paramedical education programs (8). During rotations, the app is used as a forum to share cases of interest both for immediate discussion and assistance, and for grand rounds-style presentations. In both formal and informal applications, apps for social learning have the benefit of exposing medical students to at least some degree to a greater variety and diversity of cases than what might come through the door. As founder Joshua Landy pointed out in an interview “Growing your skill set… is directly related to the number of cases you see.” (9) The app also hosts frequent virtual presentations and grand rounds where specialists present cases on the app and guide a discussion in the
comments section and on Twitter. Topics have included pediatric radiology (10) and the live presentation of a kidney transplant (11).

Medical professionals have used digital tools to share cases for educational and consultative purposes every since their arrival. The expanded privacy protections and enhanced regulatory compliance of Figure 1 combined with its potential to enhance interprofessional collaboration, teaching, and discussion make it very appealing to innovators in medical education. (12)

As a tool with global presence and an active and invested network of participants, Figure 1 can potentially connect the developing world with resource-rich organizations and providers elsewhere. The World Federation of Pediatric Imaging, for instance, specifically identified the app as a tool to advance their goal of addressing “the challenges in global pediatric imaging training and delivery of services” in a recent progress report (13), and it is easy to see Figure 1 fulfilling a valuable role in disaster care, services to refugees and displaced persons, and humanitarian efforts in the same way that traditional insecure text-messaging and the secure messaging service WhatsApp has achieved in Syria and other war-torn areas (14) (15).

Unsurprisingly, humanitarian relief organizations such as Doctors Without Borders participate actively on Figure 1 both as a development tool and as a method of raising awareness of emergent situations.

How Patients see iPhones.

While there’s a strong case for the teaching and learning role of apps like Figure 1, cultural barriers and issues of etiquette need to be accommodated in clinician’s use of phones during obviously intimate and stressful interactions with patients and their families. Traditional professional virtues- either cultural or established in codes of conduct- enter into conflict with the social media-age emphasis on visual documentation and sharing. Obvious HIPAA offences
aside, there are still acceptable standards of conduct and respect that can be violated short of an actionable deliberate or accidental violation of privacy. Britain’s General Medical Council suggests that while apps and social media do have gray areas, any work-related image or social media posting should require any patient subject full consent, and that practitioners should pay close attention to the privacy settings of the platform they are using (16).

A 2015 survey of outpatients at the University of Chicago Medical Center’s dermatology clinic found that while there was broad agreement with physicians taking photographs for diagnostic, treatment, and educational purposes, only about one quarter of patients considered it appropriate for the physicians to use their personal smartphone to do so. (17) Patients’ most significant concerns were regarding privacy and security of the images, but in a separate study in Great Britain, a narrow majority of patients, regardless of age, in trauma and orthopedic units were more likely to think negatively about a physician as a professional if they saw them using a mobile phone during their treatment encounter, even with the assumption that their mobile use was for professional purposes (18).

Conclusion

Figure 1 is for this moment the dominant social media platform in medicine, with widespread recognition and uptake among medical and health sciences students and early-career professionals. Commercial- and ad-free, it provides clinical information and exposure to a tremendous breadth of cases and conditions, including many rare diseases, advanced clinical presentations, and patients from geographically-diverse locations within the context of their local medical service environment.
As other reviewers have pointed out, one significant drawback of Figure 1 is the relative absence of peer-reviewed or authoritative information. (12) Discussion threads rarely appear to provide links out to evidence-based resources—so in an ironic sense, Figure 1 is a reactionary response to the tyranny of evidence, as it privileges individual expert voices and experiences. This is mitigated to an extent by the multitude of participants and the relative difficulty in imposing a hierarchy (although selected power users in the community do have a more highly weighted upvote and downvote power) but it would still be valuable for a service with such great reach and utility to provide an easier way to connect or incorporate evidence with its discussions, rather than depending almost exclusively on authority, experience, and anecdote.

Like many currently free, venture-backed technology projects, potential users should proceed with some caution and an eye to the potential future—while there is no apparent commercial content delivered to users this may become necessary in the future. In addition, users are providing a wealth of professional expertise to the enterprise, and may or may not be aware that they are agreeing to license that expertise to Figure 1 in perpetuity to use and extract commercial value from as it finds the means to (19). And of course, users are providing extremely granular contact information that may have significant commercial value to third parties.
References

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