How AI will impact care delivery in 2020

What’s new: Sixty faculty members from Partners HealthCare — the Boston-based system that has been at the forefront of exploring artificial intelligence — recently identified 12 emerging AI technologies with the greatest potential to impact health care as soon as next year.

The team identified its “Disruptive Dozen” AI technologies at the World Medical Innovation Forum. Speakers focused on how AI will impact diagnosis and treatment over the coming year, citing such areas as AI’s potential to identify individuals at risk of domestic violence, to predict suicide risk and to narrow the gaps in behavioral health care.

Applying AI in behavioral health care: David Ahern, PhD, a clinical psychologist at Brigham & Women’s Hospital, told Health IT Analytics that AI’s potential for addressing gaps in behavioral health care, in particular, are “enormous.” And while providers and patients need to be wary of commercial applications that haven’t been rigorously validated and tested, the report notes that researchers increasingly are developing AI-based tools with the backing of randomized trials and are showing good results.

Promising innovation is occurring in the integration of rigorously validated
behavioral health methods into smartphone apps. One such AI app under development is targeted for patients with opioid, alcohol and other forms of substance use with co-occurring mental illness. The app provides patients with a virtual form of integrated group therapy, a highly effective treatment that teaches behaviors and skills to manage, recover and prevent relapse.

AI also is proving powerful in identifying patients at risk of suicide based on electronic health records data and examining social media content with the goal of detecting early warning signs of suicide — the 10th leading cause of death in the U.S. and the second leading cause of death among young people. While these technologies are under development and not cleared for clinical use, the Partners team says these efforts toward an early warning system could alert physicians, behavioral health professionals and family members when a loved one in their care needs help.

**Spotting hidden signs of partner violence**: Using data-driven tools, researchers are developing AI-enabled tools that can alert clinicians if a patient’s injuries likely stem from intimate partner violence (IPV). While screening for IPV can help detect and prevent future violence, less than 30 percent of IPV cases seen in the emergency department are appropriately flagged as abuse-related. The Partners team believes AI tools will further complement the provider’s role as a trusted source for divulging abuse.

Whether large numbers of hospitals and health systems will be ready in the near future to evaluate and deploy AI in these or other types of clinical or business situations remains to be seen. Many remain skeptical. They question whether AI will have real application in monitoring patients for serious health conditions. More than half the health IT professionals responding to a recent survey conducted by the venture capital firm Venrock said they are still waiting to adopt AI.

**TELEHEALTH AT THE CENTER OF NEW HUMANA PRIMARY CARE PLAN**

Virtual care continues to expand as patients, providers and payers look for innovative ways to reduce costs and increase access. And now, San Francisco-based telemedicine provider Doctor on Demand has partnered with Humana on a new primary care health plan called On Hand to offer comprehensive care remotely for sharply lower premiums than those of traditional plans.

While many health plans offer virtual care services, these services typically have suffered from low utilization. By making virtual care the centerpiece of this plan design, Humana hopes to drive up usage while driving down costs.
The plan, available to Humana members in June, will give patients access to a dedicated primary care physician as well as access to preventive, urgent and behavioral health care through video visits. The plan reportedly will be priced between $150 and $200 per month with no co-pays for any video visits through Doctor on Demand.

Plan members will have a $5 co-pay for common lab services and prescriptions and will receive a medical device kit with a digital blood pressure cuff, thermometer and log. Members also will have access to their digital health records and more control over how they are shared. If needed, members will receive doctor or specialist referrals for in-person visits that stay within the Humana network.

The virtual primary care health plan will be the first to use Doctor on Demand’s updated Synapse platform. That platform enables Doctor on Demand’s payer and employer customers to more easily link their provider networks with the telehealth company’s personal medical group, which has expanded to include nurse practitioners, pharmacists, dietitians and care coordinators.

The timing of this move could also prove beneficial, with physicians increasingly participating in telehealth. A recent survey by American Well found that one in five physicians now offering virtual care visits and 61 percent of physicians who don’t offer virtual visits are either very likely or likely to offer telehealth services by 2022.

**MAYO CLINIC, ASU TAP SIX STARTUPS FOR INAUGURAL ACCELERATOR CLASS**

Hoping to give a boost to startups with innovative medical technologies that show promise for improving patient care, Mayo Clinic and Arizona State University have selected six firms for their inaugural MedTech Accelerator program.

The companies, including makers of wearables, apps and monitoring devices, each paid $50,000 to join the accelerator at Mayo Clinic’s Arizona campus. In return, they receive training and guidance on optimizing new products and services, licensing intellectual property and sponsoring research and clinical trials. They also leave the program with personalized business plans to collaborate with Mayo Clinic and ASU, as well as accelerated go-to-market investment opportunities.

The inaugural class of startups includes:

- **BioInteractive Technologies**, which produces a wearable device and protocols for hand and wrist therapy for sports medicine rehabilitation.

- **GYANT**, which combines messaging, artificial intelligence and medical experts to radically improve the diagnosis and treatment of nonurgent conditions.

- **Hexoskin**, which produces a wearable shirt for in-home rehabilitation that contains embedded sensors connected to a remote patient-monitoring platform. The technology behind the shirt uses AI and analytics from collected biometric data.
• Life365, a remote patient-monitoring company that is working to evaluate patient adherence to care plans in post-acute settings.

• Safe, a sexual health application that provides low-cost testing, information sharing and relevant wellness education.

• Securisyn, which makes a medical device to provide airway stability for ventilated patients to prevent unplanned extubations.

We want to hear from you! Please send your feedback to Bob Kehoe at rkehoe@aha.org.