

EHR trends at e-Health: Cyber-security, AI, interoperability and more

A quick look through the 170+ presentations scheduled for e-Health 2024 (May 26-28) reveals a wealth of new ideas and insights on how we can continue to improve healthcare delivery for Canadians using technology and data. Provincial electronic health records (EHR) support and enable many of the innovations on the schedule at e-Health 2024. A workable EHR is at the root of connected care and telemonitoring; enables patient engagement and empowerment; and contributes to progress in health data management and security.

Data security and privacy is one of the hot-button issues on the e-Health 2024 schedule, with presentations offering tips for cybersecurity resilience to healthcare delivery organizations working to safeguard data in an era of unprecedented public data breaches. Two presentations offer guidance on safeguarding patient care/healthcare: Building Cyber Resilience in Healthcare, and A Prescription for Cybersecurity Resilience. This presentation will share details of a cybersecurity and privacy web-based self-learning program designed by physicians, nurses, and security experts to support clinicians and their staff to better grasp the Canadian healthcare cybersecurity and privacy landscape and to empower informed decision-making while working with information systems.

In addition, Ariane Siegel, OntarioMD, general counsel and chief privacy officer, will speak to how primary and community care physicians can respond to cybersecurity threats and protect their data – and their practices. This presentation will pro-



vide an overview of the emerging trends in cybersecurity that can disrupt primary care and community care physician practices and result in adverse events for patients.

Patient engagement and empowerment in relation to an individual's own health information is another innovation trend on the agenda at e-Health 2024. Cultivating Patient Empowerment: Evaluating and Enhancing a Province-Wide Personal Health Records Application will show how designing and implementing province-wide personal health record (PHR) applications can help more patients manage their own health and be engaged in shared decision making.

"I Consent" – The Patient Perspective on Consent and Digital Health Tools explores health data management and tech-

nology's role in patient care highlighting service design research to understand public views on data management and consent.

Working toward interoperability is at the core of many health data stewards' efforts. Representatives from Canada Health In-fo-way will be at e-Health 2024 with an update on their Pan-Canadian efforts to improve interoperability and the goal of bringing Canadians a digitally enabled health system where they can have access to their own electronic health information, and where health data can be safely shared to support patient care, research and innovation.

Exploring primary care integration in a health information system: An innovative approach will share insights and best practices on innovative primary care engagement approaches for spread and scale pur-

poses in other jurisdictions. And, while interoperability has now been made a reality between Ontario hospitals and long-term care (LTC) homes, much work remains to achieve true interoperability. A Provincial Interoperability Journey to Streamline Resident Transitions between Hospital & Long-Term Care will look at the provincial data integration project that enabled the bidirectional exchange of patient information between health information systems.

The Opening Keynote presentation on May 27, presented by CMA president Dr. Kathleen Ross, will focus on Healthcare Human Resources: What Physicians, Nurses, and Healthcare Providers Need to Make Their Jobs Easier and Manage Burnout, Technology, the Administrative Burden of Health, and the Impact on Human Resources.

The opening Plenary Session on Tuesday, May 28 will feature a panel of experts discussing Artificial Intelligence in Health and Public Health Data: Balancing Possibilities and Accountabilities in a Secure Environment. Key points the panel will discuss include showcasing the transformative potential of Artificial Intelligence in healthcare, exploring the ethical and regulatory accountabilities in leveraging Artificial Intelligence for public health data, and emphasizing the critical importance of security measures in safeguarding health-related information. e-Health 2024 Emcee Avis Favaro – Canada's leading health journalist – will introduce both sessions.

e-Health 2024 takes place in Vancouver from May 26-28. Visit e-healthconference.com for more information about sessions and speakers.

OntarioMD's strategic approach to combat physician burnout

DR. ABBAS ZAVAR AND SIMON LING

OntarioMD, a subsidiary of the Ontario Medical Association and funded by Ontario Health, focuses on helping doctors use technology to ease their administrative burden and enhance patient care. Artificial intelligence or augmented intelligence (AI) has emerged as a promising technology that can potentially improve and transform the collection of health information by physicians during patient visits.

OntarioMD is actively exploring the AI market, evaluating AI solutions for family doctors to determine how best to integrate them with doctors' workflows to mitigate burnout. Our work provides an initial assessment of AI's role to support charting and improve the doctor and patient experience during visits.

OntarioMD's multifaceted AI strategy is about:

- Partnership: We collaborate with clinicians, industry, research entities and governments to create an innovative ecosystem. An AI community of practice and an innovation lab serve as a knowledge exchange platform for testing and refining AI solutions. The creation of

a common set of training data and AI models will reduce barriers to innovation.

- Implementation: Support for physicians in realizing the full potential of AI solutions is important. OntarioMD conducts evaluation projects, such as our recent AI Scribe Pilot Study, to understand the practical, legal and privacy implications of AI integration. We are developing AI implementation toolkits covering requirements, change management, and project plans. OntarioMD provides input on health system guidelines to promote the responsible use of AI, and strategies for spreading and scaling AI solutions, including validating or certifying these technologies.

- Education: To help doctors understand AI solutions, OntarioMD offers comprehensive education in various formats. We offer environmental scans, market research, webinars, white papers, articles, and presentations. Sign up for our Digital Health eTips newsletter to learn more.

AI solutions environmental scan: OntarioMD produced its Environmental Scan in early 2023 to explore AI-powered solutions for primary care. The scan examined the current AI technology landscape, evaluating functionality, ben-

efits, and roles within healthcare operations. The scan reviewed diverse sources to categorize AI tools based on their impact on primary care, particularly regarding workflow efficiency, decision support, automation, and physician workload reduction.

Over 137 solutions were examined



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and grouped into three categories based on primary care workflows:

- Patient Engagement: Tools for appointment scheduling, reminders, and virtual health assistance, with an emphasis on personalized education and remote health monitoring, to enhance patient access and engagement and facilitate ongoing patient care and management.

- Clinical Improvement AI scribes for

clinical documentation, diagnostic and treatment support tools, and predictive analytics for risk assessment: These solutions aim to improve the quality of in-person visits, support clinical decisions, and to prepare healthcare providers for patient visits, leading to enhanced patient outcomes.

- Administrative Efficiency: EMR inbox management, medical coding, and billing optimization tools to streamline post-visit processes and reduce the administrative burden on health-care professionals, allowing them to dedicate more time to patient care.

Our Environmental Scan acts as a catalyst for the seamless integration of AI into primary care, offering crucial insights derived from market analysis; this underscores its importance in enhancing patient and provider experiences and aligning with health-care needs for optimal delivery.

Piloting the AI scribe - A step towards understanding its impact: In late 2023, OntarioMD, in collaboration with the Ontario Medical Association and WELL Health, conducted a preliminary study to measure the effectiveness of AI scribe in mitigating physician burnout through the automation of clinical doc-

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With technology, patient engagement can bridge gaps in primary care

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those with chronic illnesses, and reduce oversight”, confirms Professor Gaboury.

Is technology the end-all and be-all of patient engagement? In the final report of the largest pan-Canadian conversation about the future of primary care, produced by the MAP Centre for Urban Health Solutions earlier this year, the input of nearly 10,000 patients is clear: patient engagement is key to evaluate the adequacy of primary care.

It also emphasizes that primary care teams should be connected with community and social services, working together to support individuals’ physical, mental, and social well-being.

A sentiment echoed by Professor Breton: “The system needs to be better connected with patients, especially vulnerable ones. They require more than just medications and dietary recommendations. Community resources are essential. The integration of social prescribing into EMRs is the direction we are heading towards.”

The diverse array of resources necessary

for efficiently managing patient care underscores the importance of integrating technology as an enabler. Connecting all stakeholders is crucial to grant them access

Primary care teams should be connected with community and social services, working together to support patients.

to pertinent information with the right guidance, resources and tools for supporting patients.

Hence, technology enables clinics to easily monitor and support outliers as well, from super users to disengaged patients, covering the entire spectrum of engagement.

Charting the future of primary care technology: The advanced access model aims to enhance the efficiency and accessibility of our primary care. It relies on patient engagement to optimize healthcare utilization.

AI powers full-body MRI efficiency

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acquisition of comprehensive single-body MRI scans. This includes obtaining a similar number of images in various sequences and planes but with improved acquisition time and augmented image quality, often improving upon the standard procedure for routine MRI scans ordered by physicians. This is the key differentiator which makes our scan accurate and minimizes callbacks, further work-ups, and incidental findings.

A continuous challenge for reading MRI images is the noise caused by operator performance, equipment and the environment, which can lead to inaccuracies. AI algorithms can be used to detect and remove noise in the images produced by the scan, as well as to reconstruct images so important details are not lost.

At Whole Body MRI, we invested in SIEMENS Healthineers’ Deep Resolve Pro Package, which combines their three applications: Deep Resolve Gain, Deep Resolve Sharp and Deep Resolve Boost. Deep Resolve Gain is a great example of applying AI to improve image quality, using a targeted algorithm to detect and remove noise in the image. Noise detection and removal are performed optimized for the individual scan in order to address spatially varying noise of the specific acquisition. This method enables the enhancement of the signal-to-noise ratio, which can be leveraged to improve resolution or increase productivity.

Using intelligent reconstruction algorithms and deep learning networks, AI can also reconstruct accelerated images with a higher signal-to-noise ratio and produce better image sharpness.

AI-powered image reconstruction technology can also deeply improve the efficiency of MRI scans without sacrificing diagnostic accuracy. Faster image acquisition leads to improved patient comfort, workflow efficiency, and energy efficiency. As a result, radiologists can better read the images produced by the scan

and accurately identify any concerns.

While AI can go a long way in improving image quality, it is important to note that it will not compensate for a bad image acquisition chain. To deliver on the promise of full-body MRI scans to accurately detect early-stage cancers and diseases, providers need to invest first in quality hardware. AI then plays an important role in enhancing the process by improving the efficiency of the scan and the quality of the images it produces.

Dr. Nirav Patel and Dr. Keyur Shah, are co-founders and co-Chiefs of Radiology at Whole Body MRI.

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umentation of patient encounters for physician review.

Based on the input of 30 physicians using the WELL AI Voice solution, the pilot revealed the potential for the AI application to reduce cognitive burdens and time spent on administrative documentation, saving an average of 3.4 minutes per patient encounter.

This time savings could be reallocated from administrative tasks to patient interactions. Pilot results indicated improved workflow efficiency and reduced administrative burden.

Doctors reported enhanced patient interactions due to less time spent on documentation and more time connecting with patients. Although these results are promising, the pilot’s small sample size might not fully represent all doctors’ perspectives and may contain biases. We need more extensive studies to validate the findings and identify and address risks before widespread AI scribe adoption.

The AI Scribe pilot identified legal and privacy considerations that need clarification with respect to accountability for

Technology plays a crucial role in facilitating this empowerment, connecting all the stakeholders and offering tools to address challenges at both ends of the spectrum.

On the one hand, it enables clinics to track patients who might otherwise be lost to follow-up and, on the other hand, it provides guidance and education to those who heavily utilize healthcare services.

Forward-thinking EMR provider MEDFAR Clinical Solutions has taken heed. Building on years of innovation grounded in a clear vision, MEDFAR designed a distinctive solution with a unique confluence of patient-centric functionalities. The upcoming MYLE Health mobile application

will represent another significant advancement, empowering patients by placing control in their hands and streamlining processes for healthcare professionals.

This offers a promising solution to the challenges of Canadian healthcare delivery, with patient engagement serving as a key component.

This article was supplied by MEDFAR Clinical Solutions, of Montreal. The company, with customers in Quebec and British Columbia, provides an advanced EMR that offers electronic tools enabling patients to co-manage their health alongside their healthcare professionals. www.medfarsolutions.com

BioAro welcomes Chief Healthspan Officer

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cutting-edge platform enables comprehensive analysis of diverse ‘omic’ data types, including genomics, transcriptomics, proteomics, and metabolomics, all within a single, seamless interface, empowering people to be the CEO of their own health.

Currently, BioAro offers precision health clinics in Canada where they offer precision cardiology, precision nutrition, and precision skin along with a unique precision-based, multi-disciplinary, integrated approach to gut health.

This 12-week journey helps individuals understand the role lifestyle along with the role their gut microbiome plays in IBS, diabetes, and obesity. This innovative approach combines the expertise of registered dietitians, clinical psychologists, kinesiologists, and precision medicine using a comparative analysis of gut microbiome, and an interactive virtual education platform.

Over the next few years, precision medicine is expected to have a larger presence

in Canada. More specifically, they’ll be working in real-time, bringing virtual longevity worldwide and demonstrating access to people’s own health. People can live healthier, for longer by learning more about their DNA secrets, using tools such as whole genome sequencing, microbiome testing, telomere testing, DNA methylation as well as other testing strategies. This will

People can live healthier, for longer, by learning more about their DNA secrets with tools such as genome sequencing.

allow individuals to make the right decisions about their own health.

“It’s not merely a fleeting trend; rather, it symbolizes a significant shift towards prioritizing longevity and optimizing healthspan through precision and personalization. Our mission is substantial – to empower individuals to achieve enduring vitality and well-being,” she said.

personal and health information to comply with privacy laws such as PHIPA.

Key concerns included requirements regarding data retention, subcontractor responsibilities, and safeguarding (including encryption, and guardrails on secondary data use).

The pilot highlighted the need for clear roles and responsibilities for doctors, vendors, and AI developers, emphasizing the

Using an AI scribe solution, doctors reported enhanced interactions and less time spent on documentation.

importance of transparent agreements and consent processes. Streamlining these processes and enhancing patient consent procedures were important insights for efficiency and regulatory compliance in future implementations.

Looking forward: OntarioMD plays a leadership role in AI in primary care with our groundbreaking work to date. The Environmental Scan, along with the AI scribe pilot insights, lay a solid foundation for future AI initiatives.

As OntarioMD continues to innovate

and collaborate with partners to decrease doctors’ administrative load, we will continue to assess AI’s efficiency and ease of use for doctors. We are on the path to a better work-life balance for doctors. To get to the balance doctors require, it is important to thoroughly evaluate and continuously improve AI tools. AI can have the potential to enhance patient care and support the interaction between doctors and patients.

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