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**Christine Chapman,
Vice President,
TrakCare**

We kick off 2019 with a new look for OnTrak, the newsletter for the global InterSystems TrakCare® community. We hope that the new format makes it easier to find and digest information.

In this issue, we share news from our customers around the world and celebrate their successes. We look at the future of Artificial Intelligence and the important role that capturing quality data in your EMR will play. Our Data Protection Officer offers advice on sound data privacy practices, and one of our Physician Executives from the UK shares his four rules for better patient engagement.

If you have ideas for future content, we'd love to [hear](#) from you.



Privacy and security – Protecting your data

Ken Mortensen, Chief Data Protection Officer, InterSystems

If we had to list the big issues in our world, right now, “privacy” would surely be one of them. Trust is fundamental to the success of any organization.

And there are a growing number of legal and regulatory requirements to guide privacy policy and action. The EU, for example, has recently implemented GDPR, which addresses patient consent aspects of data collection, use, and disclosure. It empowers patients to:

STRONG DATA PRIVACY POLICIES ARE IMPORTANT. BUT YOU MUST ALSO REVIEW YOUR TRAKCARE MAINTENANCE AND USAGE POLICIES REGULARLY AND ENSURE THAT ADEQUATE TRAINING IS IN PLACE.

CAN YOU ANSWER THESE QUESTIONS:

- 1. ARE YOUR SECURITY GROUPS UP TO DATE?**
- 2. WHEN WERE THEY LAST UPDATED?**
- 3. WHO HAS ACCESS TO WHAT DATA?**
- 4. DO YOU HAVE LAWFUL PROCESSES?**

- 1. Be informed about who holds their personal data, why and what they do with it**
- 2. Assess what each organisation holds about them and how it is processed**
- 3. Have inaccurate or incomplete records rectified**
- 4. Have their personal data erased from an organisation’s records**
- 5. Restrict processing of their personal data**
- 6. Retain and reuse their personal data for their own use**

TrakCare certainly provides capabilities for you to exercise sound data privacy practices, which we encourage all customers to use. For example, consent in TrakCare can be done at the episode level and consent questionnaires enable complex consent management. TrakCare provides auditing and logging capabilities for all data access. We offer role-based data access, encryption, and controls for certain workflows.

While robust processes are necessary, they must also make sense for the patient experience. I’ve seen some clumsy processes in my time that create undue burden on patients.

InterSystems software handles some of the most sensitive data there is, and we take privacy and security very seriously. Trust is at the core of our business philosophy, and we share your commitment to balancing the use and accessibility of patient information with the highest degree of security.

Please visit our [Global Trust](#) site to learn more about our policies or to start a conversation.

Bumrungrad International Hospital: At the forefront of innovation

Bumrungrad International Hospital, Bangkok, is recognized as one of the world's best. It is also one of the most digitally advanced. In 2002, Bumrungrad became the first hospital in Asia to be accredited by Joint Commission International (JCI), a US accreditation organisation regarded as setting the gold standard in international health care.

With 30 specialty centres, 580 beds and 1300 physicians, Bumrungrad treats 1.1 million patients from 190 countries – it is a leader in medical tourism. Bumrungrad is at the forefront of digital transformation and innovation throughout its operations. Improving the patient experience is a constant pursuit.

In just 18 months, Bumrungrad implemented TrakCare with a “big bang” go-live throughout the hospital, except for Oncology, which will go live this year. They also deployed HealthShare for interoperability beyond the EMR.

Early benefits

Kenny Lim, Bumrungrad's Chief Information Technology Officer, reports that the hospital achieved record high patient satisfaction ratings of over 95 percent across several departments in just a few months after go-live. He adds that “paper usage across the entire hospital has fallen dramatically with TrakCare's deployment, and the increased use of electronic communications has helped reduce journey times for patients.”

Automated reporting has allowed patient turnover to increase. Simple consultations such as health screening and checkups take less time than before, increasing Bumrungrad's capacity.

One of the big innovations at Bumrungrad was being an early adopter of [TrakCare Lab Enterprise](#) to manage the clinical laboratory. Lab Enterprise enables Bumrungrad to make laboratory results available in the patient's EMR as soon as they are ready, speeding up the patient journey and reducing administrative burden.

TrakCare now provides the foundation for Bumrungrad's digital journey. According to Mr. Lim, “Over the next few years, hospitals will see almost all medical tools become digital. The challenge will be to get them all integrated with the EMR and managed in a single holistic solution.”



**KENNY LIM, BUMRUNGRAD'S
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Lessons Learned

We interviewed executives at Bumrungrad a couple of months after the go live, and they offered these pieces of advice:

- It will always feel too early to go-live. Go live and then optimize afterwards.
- Don't underestimate the change management challenges of implementing an EMR. Ongoing communication is critical!
- Make training compulsory for all users.



Four rules to better patient engagement

Yossi Cohen, Physician Executive, InterSystems

Harnessing the power of the patient – one of the least utilized resources in healthcare – can significantly improve outcomes and reduce care costs. And patient portals are important technology when engaging patients effectively. Our patient portal solution, Personal Community, helps you educate, empower and engage patients and their families in the care process. However, it is important that you consider these four rules of engagement as you build your plans.

1. Expect a strong undercurrent of clinicians' objections

Patient engagement entails fundamental cultural change in the patient-doctor relationship. Such a change is not always easy for those involved.

Specifically, clinicians will need to adjust and realign themselves with this emerging reality. There is considerable evidence from around the globe that it is not straightforward.

For example, research for the Sowerby e-Health forum showed that general practitioners (GPs) in the UK are reluctant to share health data with patients. Only one in four GPs thought that the benefits to patients of accessing their own electronic health record outweighed the risks. Data from SERMO, a network for doctors mainly in the United States, has shown that two-thirds of doctors are reluctant to share data with patients.

2. Patients are not easily impressed

Granting patients access to their own care records does not necessarily result in meaningful engagement. Patient access to care records is only a prerequisite for engagement. Patients must be able to identify benefits for themselves beyond accessing their own information in order to engage.

One potential pitfall is to view patient engagement projects through the care provider's "business case" or "care improvement" prisms, because patients look at it through the "what's in it for me" prism. These projects, first and foremost, need to keep patients satisfied.

“OUR PATIENT PORTAL SOLUTION, PERSONAL COMMUNITY, HELPS YOU EDUCATE, EMPOWER AND ENGAGE PATIENTS AND THEIR FAMILIES IN THE CARE PROCESS.”



3. Choose your targets carefully

One size certainly does not fit all.

Patient engagement projects are often the last step of implementing electronic patient records or creating a regional health exchange. All patients receive access to the newly created care records as a means of engagement. The user experience is the same for all the patients.

However, different patients with different needs require different engagement functionality. A pregnant woman may appreciate using an engagement portal to contact her obstetrician about her concerns, read information related to her pregnancy, subscribe to antenatal classes in her area and be informed of the vaccination schedule after the baby's arrival. An elderly diabetic patient may prefer to use an engagement portal to see recent blood results, send latest blood glucose readings to their doctor, and read guidance on how to manage their diabetes while fasting for Ramadan.

Start by identifying patient cohorts and building different engagement campaigns for them. Aim for the functionality sweet spot for each cohort – one that is rich enough to gain traction with patients, but practical to implement.

4. Adopt a cautious view of benefits

Not all engagement methodologies have proven as beneficial as originally anticipated, and often evidence is mixed or contradictory.

When deciding how to engage with a particular cohort of patients, first understand what you want to achieve, then take a cautious view of the benefits. Mitigate the risk of unproven benefits by offering a range of services with varying degrees of confidence in the perceived benefit. These can be convenience services, such as subscribing to classes online, or clinical services such as setting urgent care preferences. Once your engagement campaign is live, monitor and adjust the mix based on what works best.

To be successful, patient engagement projects require careful planning and execution, underpinned by good understanding of the different patient cohorts and their unique requirements.

Interested in learning more about TrakCare Personal Community and the role it can play in engaging and empowering your patients? Talk with your local InterSystems team to access the Fact Sheet.



AI and the importance of good data

Joan Ostergaard, Product Manager

The Artificial Intelligence revolution is not far away. We are already seeing success in the realm of medical imaging, for example, where AI is aiding in diagnosing cancer with high accuracy rates.

Right now, we are the data generation – recording, encoding, aggregating, and analysing information to identify appropriate care interventions and improvements. This information will be used by future AI systems; we are laying the foundation for the future with every bit of data we capture. Data is the currency of the 21st century, and there is so much value you can derive from the data you already have in TrakCare. In short, the AI Generation is coming, and we must prepare now for it.

Data is the foundation that AI is built on

Because today's data is the foundation for tomorrow's AI, how we capture, curate, and allow data to be shared can be as important as what we record.

For example, TrakCare provides a look-up to already coded allergies so that clinicians can easily and accurately document any that apply to a patient. When a patient is allergic to penicillin, for example, the clinician can select it and add its attributes (severity, reaction etc) from the list. That information is then identified correctly in the system so that future care providers know where to find the information, and TrakCare can automatically raise the necessary alerts if the patient is ever prescribed penicillin.

Imagine a clinician is in the habit of inputting this information in a free-form field rather than selecting it from the look-up. The alerts won't happen. Future analysis of penicillin allergies or drug interactions won't include that patient's data. While the possibility of combining technologies like natural language processing (NLP) with rules-based decision support engines could allow clinicians to document more freely, telling clinical stories using narrative when required, this type of technology was not designed to replace structured data entry. It is complementary to it and although maturing rapidly it still adds complexity, additional investment and possible uncertainty about whether decision support and business intelligence has been able to identify key data hidden in free text notes. In other words, good, clean, structured data now means better insights tomorrow.

A problem of scale

We now collect so much data that humans do not have the cognitive ability to analyse it all. We can interrogate data to answer specific questions – to test a theory – but using the data to find new theories is where AI will help enormously. Having data that is coded for semantic understanding, logically organised, and easily accessible will go a long way towards enabling AI engines to deliver new and trustworthy insights. AI won't replace the human decision-making process; it will support it. AI can sift data day and night. It's good at identifying patterns, developing theories, and improving its performance by testing itself.



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TrakCare is designed to collect clean data

We design our systems to reduce, and where possible eliminate, error. That can be as simple as populating the EMR directly from the data collection point, such as a medical device, or laboratory test result. We use medical vocabularies, standard data sets, standardised configurations, workflows, and NLP, and we have interoperability tools like InterSystems HealthShare to normalise and improve information exchange between systems. This all supports the efficient collection and collation of information that is ready for AI.

Human and digital systems need to support each other

We like to encourage correct user behaviour – like the selectable lists for allergies. But this needs to be supported by adequate training and support. Why did a doctor choose to enter the penicillin allergy in the free-form field instead of selecting it from the allergies? Perhaps because she didn’t understand the consequences of doing so. Training could have prevented that.

But maybe she was rushed and stressed and went for what felt like the most expedient option. The clinician needs support – in this case, time – to record the data properly, recognising that the organisation will benefit in the long run.

InterSystems provides dashboards so you can see how TrakCare is being used. This visibility can help drive more valuable end user practices.

Organisations can optimise business and clinical processes to support better data entry that will in turn make the data collected more accessible and usable for a broad range of AI use cases. A baseline of essential data for every patient – a minimum data level - that can be relied upon is important. Other data in patient records must be structured or coded accurately wherever possible. Every bit of data, stored correctly, adds value.

We are laying the groundwork for the future

Overall, AI can improve the efficiency of our health system. The work we do now to ensure that we collect, store and use high quality data will lay the foundation for those improvements.

Watch Dimitri Fane’s interview with HIMSS TV [here](#).



Welcome to new customers

Welcome to the following customers who joined the TrakCare global community 2018:

Qassim University Hospital in Saudi Arabia is one of the most renowned hospitals in the country. This 750 bed hospital is fully equipped with technologically advanced state-of-the-art equipment & infrastructure offering patients cutting-edge diagnostic and surgical solutions.

MercyAscot in New Zealand has grown from a small hospital run by the Sisters of Mercy to the largest private surgical hospital in the country. Facilities include intensive care, high dependency, and coronary care units. Among other innovations, MercyAscot was the first hospital in New Zealand to introduce Dual Integrated Digital Operating Theatres.

Suzhou Suha Hospital in China is a prestigious international medical centre that promotes Sino-American cooperation in medical science. A centre for medical training and clinical excellence, SUHA's international medical team is known for its work in sports medicine, autism, reproductive medicine, plastic surgery, and telemedicine.

American Hospital of Paris is a private non-profit hospital with 187 beds covering every major medical and surgical specialty. It is the only civilian hospital in France accredited by The Joint Commission International (JCI).

The Cancer University Institute of Toulouse in France provides cancer care across three institutes in a public/private alliance.

Gemelli University Hospital in Italy is the second largest hospital in the country and one of the largest in Europe, with 1558 beds. The teaching hospital hosts one of the largest and newest hybrid operating theatres in Europe, a highly specialised Oncological Radiotherapy Centre (Gemelli ART), unique in Italy, and the NEMO (NEuroMuscular Omnicentre) Clinical Centre, a 1,200 sqm centre dedicated to medical, surgical and diagnostic simulation.

We also welcome existing customers who are extending TrakCare to new facilities:

- TrakCare is already implemented across most of the NHS Scotland. Forth Valley, with 6 hospitals, is the latest health board to select TrakCare.
- SinoUnited in China is a rapidly growing network of private clinics that is extending TrakCare to two new clinics opening in Shanghai.
- Longtime customer United Family Healthcare, a pioneer in private healthcare in China, is rolling out TrakCare to new facilities in Guangzhou, Shanghai, and Hangzhou.

The power behind what matters.

