*The mainstay of patient identification*

# Go biometric or risk a botch up

**Today, most healthcare systems rely on text-based matching: A patient's identity (ID) card or driver's license is considered sufficient proof of identity. However, this 'identification system' puts patients at risk of death, improper treatment, insurance abuse and lawsuits the provider and hospital cannot defend. Informatics expert Dr Raymond D Aller, a renowned authority on the use of information technology (IT) to enhance and ensure patient safety and operational efficiency, urges healthcare providers: 'Move toward biometrics as the mainstay for patient identification!'**

**Interview: Sascha Keutel**

**Questioned about** the risk of current identification systems for hospitals and insurance cover, informatics expert Dr Raymond D Aller explained, 'If patient "A" comes to our hospital and we mistakenly identify him as patient "B", we risk treating him for diseases he may not have, giving him medications to which he is allergic and could have a serious or fatal reaction and we might fail to give him vital medication or treatment because we do not realise the conditions he does have.

'In that scenario, the misidentified patient might sue the hospital. It's very difficult for a hospital to convince a jury that it was excusable to treat the wrong patient. Typically, such cases are settled out of court.

'If patient "F" lacks medical insurance, but his brother "G" has good coverage, our present practices make it possible for patient "F" to give the hospital a driver's licence borrowed from "G". "F" then receives treatment, let's say knee replacement, and the bill is sent to "G's" insurance company – which constitutes insurance abuse. Furthermore, the hospital may not recognise critical conditions in "F" such as a pre-existing atypical blood bank antibody and give a blood transfusion that could be harmful or fatal.'


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***Shortcomings in text-based patient identification and matching***

'Text-based patient identification has several critical shortcomings. Firstly, there's a high possibility that more than one person in the population served has the same name, sometimes even the same date of birth. Secondly, clerks tend to treat close text matches as exact. Third, different ethnic groups handle names differently, Hispanic women, for example, have two surnames one of which might change when they get married, or some Hindus of southern India who consider it heretic practice to provide the family name.

Moreover, as the number of patients in the database is expanding, the likelihood of matching non-corresponding people increases.

'Even the US Joint Commission on the Accreditation of Healthcare Organisation (JCAHO), and others, promulgate the fallacy that matching two text identifiers is somehow "positive" identification. 'Unfortunately, a driver's licence is not much better than other forms of text. Humans are not very good at unique matching of a picture on a driver's license. Interestingly, biometric face recognition algorithms do a much better job. Last but not least, don't forget that if a patient is admitted comatose, or confused, obtaining text information may be difficult.'

***Biometric identifiers used in healthcare***

'Biometric identifiers are used to identify and authenticate patients. Biometric identifiers currently used in healthcare include iris pattern, palm vein pattern, face recognition and fingerprint. Others show promise, such as handwriting tempo and cardiac rhythm, and further experience will show their roles.'

***Are biometric identifiers superior to other identification methods?***

'I've listed some shortcomings of text-based patient identification and matching and the difficulties encountered when asking patients to identify themselves, based on what they know or what they have, such as an ID card. Biometric identifiers on the other hand have a precise relation to who the patient IS – biologically. With a precision often reaching one in several hundred thousand! I urge those responsible to move toward biometrics as their mainstay for patient identification!'

**Raymond D Aller MD** is Director of Informatics at the University of Southern California Laboratories and Pathology. A Harvard Medical School graduate, for his medical thesis he designed the first online surgical pathology information system in the USA. This became the prototype of the anatomic pathology automation tools now used in most hospitals there. He was elected Fellow of HIMSS, Fellow of the American College of Medical Informatics and awarded the Lifetime Achievement Award/Honorary Fellow of the Association of Pathology Informatics. Aller is currently focusing on a major unsolved problem in healthcare: the definitive identification of the patient and the need to move from text matching to biometric identifiers.

*A futuristic communication strategy cuts nurse ward walks by 2 km daily*

# Humber River Hospital is oh so smart

**'Humber River Hospital, Toronto, Canada, could come straight out of a science fiction series that provides Star Trek-like healthcare services with hall-cruising robots delivering food, medications and supplies to staff, electrochromic windows, video conference capabilities at patients' bedsides and real-time location systems, to name but a few futuristic features. Yet, this is now and for real!' Cornelia Wels-Maug reports**

## Workflow automation at the centre:

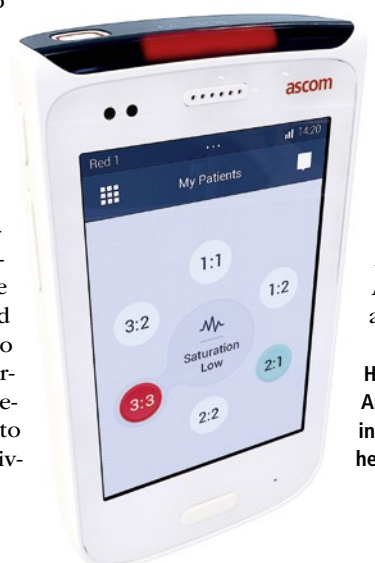
Opened in October 2015, the new Humber River Hospital in Toronto is a 656-bed acute care facility aims to offer a new level of staff and patient experience with everything involved being 'lean, green and digital'. The hospital's underlying mantra is workflow automation to maximise efficiency and patient outcome. More than three-quarters of its supply chain are automated. Physicians order tests, deliver samples and receive results completely electronically.

Given its high level of computerisation to support the day-to-day care delivery, this could well be called a 'smart' hospital. To achieve that, a high degree of integration efforts had to be mustered to connect the various pieces of technology into a coherently working system. 'We are using technology to advance high quality, safe and efficient patient-centred care,' says Kevin Fernandes, CTO for Humber River Hospital. When it comes to communication, he makes it clear: 'Our technology strategy includes equipping our care team with some of the latest communication tools at the point of care (POC).'

To this effect, the hospital chose to work with Ascom Wireless Solutions, which provides wireless on-site communication system and has built up an international presence in hospitals, senior care and independent living. The hospital installed this vendor's nurse call system, Myco, and its Unite software platform, both designed to improve quality and efficiency of care. 'Myco's seamless integration with other hospital systems enables us to deliver everything from time-sensitive, bedside nurse calls and notifications to real-time electrocardiograms and waveforms directly to the mobile caregiver device,' Fernandes adds. 'Ascom Myco increases the time our staff and physicians have to meaningfully interact with patients at the bedside.'

## Communication experience

Why did Humber Hospital choose Ascom? Claes Ödman, General Manager of Wireless Solutions at Ascom, explains: 'The Myco is already used by other technically advanced institutions, such as the Cancer Centre in Melbourne, Australia. In particular, we have a strong presence in North America, due to Ascom purchasing GE's nurse call system back in 2011.'




**Humber River Hospital, billed as the first fully digital hospital in North America, selected customised communication solutions from Ascom including more than 600 Ascom Myco smartphones, purpose-built for healthcare, combined with the Ascom Unite software platform.**

His colleague, Fritz Mumentahler, CEO of Ascom Switzerland, adds to this: 'We have an extensive mobile portfolio. What sets us apart is that we bring mobile devices, middleware, connectivity and infrastructure together. When it comes to the execution we also have a strong local deployment operation and local technical presence.'

## Myco and middleware optimise workflow

The Ascom Myco is a purpose-built smartphone geared for deployment in hospitals. 'It's a workflow optimising tool,' Tim Whelehan, President & CEO of Ascom North America, points out about the product's core feature. Combined with the vendor's middleware 'Unite', it supports access to information from medical equipment and clinical systems – e.g. patient monitoring devices and patient health records – when on the move. Thus patient-related information is available whenever needed to take decisions at the POC, extending the solution's capabilities well beyond those of a pure nurse call system. 'Using the Myco helped one of our clients to bring down the time spend running around the wards from 11.5 km per day to 9.5 km just by optimising the workflow', Whelehan points out.

The phone is based on Android open-source OS and supports the integration of existing hospital apps. 'We chose an Android platform to make it open for developers. Currently, there are about 80 apps working on the platform,' Whelehan explains. 'The system can support up to 250 different workflow systems on the Unite platform.'

Furthermore, by filtering alerts so that nurses are only notified of alarms triggered by their assigned patients, or those devices that monitor their patients, the solution significantly contributes to reducing alarm fatigue. Nurses can use the phone functions to either call the patient or forward or escalate the alarm.

The top display allows reading notifications at a glance, which adds to ease of use. Although the solution can host a range of healthcare applications, mission-critical alerts are prioritised.

The built-in barcode scanner is