

MedChart electronic medication management

Reducing medication errors, improving patient outcomes

Medication errors — a global problem

In the United States, medication errors cost more than US\$3 billion in additional medical expenses.¹

Research conducted on 1,328 patients in 113 intensive care units across 27 countries in one 24-hour period found that 861 medicine errors occurred, affecting 441 patients. Seven patients experienced permanent harm as a result, whilst five died.²

Medication errors are the most common cause of unintended harm to patients, and they can occur at any point in the medications management process — procuring, prescribing, dispensing or administering.³ Prescribing and administration inaccuracies cause more than 75 percent of all medication mistakes.⁴

Preventable medication errors have a hefty price tag: Adverse drug events (ADEs) lead to prolonged hospital stays, resulting in additional bed day costs. Frequent and often serious, many of these errors are avoidable.

THE ANSWER: ELECTRONIC MEDICATION MANAGEMENT

Improved patient outcomes and the significant reduction of ADEs are possible with electronic medication management (eMM).

eMM systems reduce clinical risk and improve medication safety, resulting in significant reductions in medication errors and ADEs. In addition, they eliminate inefficiencies for greater cost savings.

DXC Technology's MedChart provides hospitals, clinics and aged-care facilities with an end-to-end eMM solution. It transforms medication management from a complex, time consuming manual and paper-based process, into an automated system that streamlines prescribing, clinical pharmacy review and administration processes, resulting

in reduced risk, decreased errors, increased efficiency and improved coordination between clinical teams.

MEDCHART: SUPPORTING CLINICAL WORKFLOWS FOR SAFER CARE

Designed by clinicians, MedChart adoption by staff is strong with users quickly realizing the benefits such as reduced task complexity and legibility of all prescriptions. MedChart is tried, tested and proven to reduce medication management errors and inefficiencies, leading to fewer ADEs and better, safer patient care.

Used by leading hospitals in Australia, New Zealand and the UK, MedChart is fully web-based and user friendly. Not surprisingly, it is extremely popular with staff, simplifying otherwise complex, time consuming tasks, allowing them to focus on patient care.

1 Preventing Medication Errors; Institute of Medicine; July 2006.

2 Errors in administration of parenteral drugs in intensive care units: multinational prospective study; *bmj.com*; March 2009.

3 Preventing Medication Errors: Committee on Identifying and Preventing Medication Errors; Aspden, Wolcott, Bootman, Cronenwett; 2007.

4 Relationship between medication errors and adverse drug events; Bates, Boyle, Vander Vliet, Schneider, Leape; 1995.

eMM significantly reduces clinical risk and harm

One of the earliest adopters of electronic medication management, St. Vincent's Hospital in Sydney, Australia, implemented DXC's MedChart solution in 2005. Today, the system is used across all wards and has significantly reduced clinical risk and harm, with prescribing errors down 57.5 percent in wards and serious medication errors cut by 44 percent.⁵

Prescribing errors were reduced by >50% whilst incomplete and unclear orders were eliminated by using DXC's MedChart.⁶

⁵ Westbrook JI, Reckmann M, Li L, Runciman WB, Burke R, et al. 2012. Effects of Two Commercial Electronic Prescribing Systems on Prescribing Error Rates in Hospital In-Patients: A Before and After Study. *PLoS Med* 9(1): e1001164. doi:10.1371/journal.pmed.1001164.

⁶ Westbrook J, Lo C, Reckmann M, Runciman WB, Braithwaite J, Day R. The Effectiveness of an Electronic Medication Management System to Reduce Prescribing Errors in Hospital. 18th Annual Health Informatics Conference. August 2010. <http://search.informit.com.au/>

MedChart includes a range of separate workflows for optimum medication management:

- Electronic prescribing
- Medication reconciliation
- Clinical pharmacy review
- Drug administration
- Clinical decision support

FEATURES

Electronic medication chart

The MedChart electronic medication chart is based on familiar and commonly used paper charts, easing the transition from paper to digital. Chart transcription errors are dramatically reduced, with clinical staff able to view and update a patient's chart from any terminal.

Electronic prescribing

Medications can be prescribed via quicklists and protocols using pre-built orders based on best practice, or represcribed from previous orders for the same patient. Protocols provide quick access to instructions, specific medication usage rules and safety information. The drug selection list can be configured for selection of national or hospital formulary preferred medications. To improve dose calculations and patient safety, prescribers are prompted to enter current height and weight for all calculating medication orders.

Pharmacy review

Pharmacists have an essential role to play in improving medication safety in hospitals and in aged care. MedChart facilitates their involvement by providing remote chart access to review orders, add instructions for dispensing and administration, or block unsafe orders.

Decision support

Configurable clinical decision support assists the entire care team in providing best practice care, according to hospital defined protocols and business objectives. Decision support is implemented through a hospital's clinical business rules, and is an integral step in the medication management process.

Ward overview

The ward overview provides an at-a-glance overview of medication-related tasks, such as due or overdue medications. MedChart also allows nursing staff to work as a team to efficiently share the workload.

Medication administration

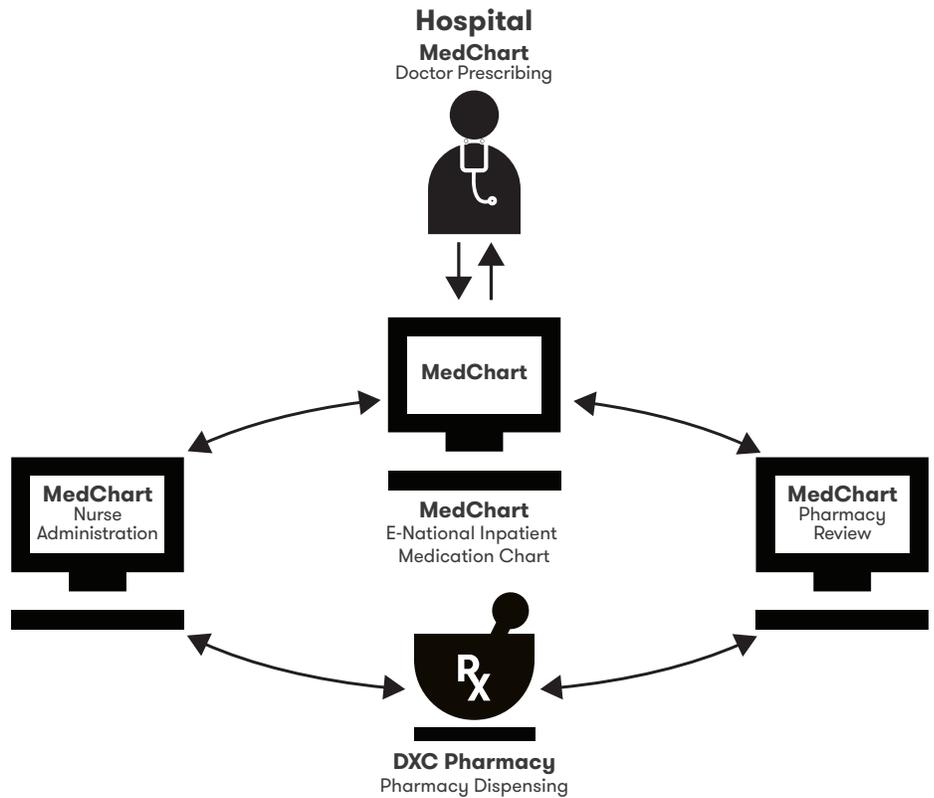
MedChart enables medication administrations to be scheduled and recorded electronically, to help ensure this is done correctly, safely and on time. The administration function for infusions allows each event (start, stop, rate changes, etc.) to be recorded individually, resulting in a complete record. The administration workflow is designed to support the Five Rights of medication administration:

- The right patient
- The right drug
- The right dose
- The right route
- The right time

Reference viewer

The built-in reference viewer can be configured to present blended reference data from multiple local, regional, national or even international sources for quick reference during prescribing.

Figure 1. Medicines reconciliation — from community to hospital and back to community



MedChart — a global solution

- MedChart is the only electronic medication management solution in Australia to have been implemented across all inpatient wards within a hospital.
- MedChart is the nationally mandated ePrescribing and Administration solution for all New Zealand public hospitals.
- MedChart has been successfully implemented in NHS trusts across the UK.

Offline chart backup facility

Offline charts, or printable medication charts, ensure patient care is not compromised in the event of a power cut or technical infrastructure failure. Real-time duplication of the most recent medication chart is maintained on a designated computer in the system. These can be printed and medications managed manually until system access is restored.

COMMITTED TO INNOVATION, INDUSTRY BEST PRACTICES

DXC has a long-standing commitment to innovation in the healthcare sector and continuously incorporates evolving work practices, regulations and technology advancements such as mobile access to software.

As part of DXC’s commitment to innovation and quality, MedChart undergoes rigorous internal testing through the Global Clinical Safety Team, an experienced group of practitioners, including doctors, nurses, healthcare scientists and software safety specialists. The team ensures DXC solutions and services are clinically effective and safe, from design through deployment and service support.

As a solution across functions and departments, MedChart optimises the medication management process.

CONTACT US TO LEARN MORE

Go to dxc.technology/contact_us and select the “Client, Current or Prospective” link.

**Learn more about
MedChart at
[www.dxc.technology/
medchart](http://www.dxc.technology/medchart).**

BENEFITS

In addition to robust clinical capabilities, MedChart delivers significant return on investment through cost savings and improved efficiencies, and helps ensure clinical safety through:

- Accurate, efficient and timely medications administration
- A clear picture of each patient's medication record, accessible at any time
- Reduction in manual, paper chart based inaccuracies and medication errors
- Decision support configurable to support the various needs of the care team — promoting best practice whilst preserving clinical freedom
- Greater pharmacist/pharmacy involvement in clinical care
- Ability for nurses to co-ordinate care and share responsibilities
- Improved communication between nursing, medical and pharmacy staff
- Configurable protocols to support quality-based, complex prescribing
- Security and traceability throughout the medication process

About DXC Technology

DXC Technology (DXC: NYSE) is the world's leading independent, end-to-end IT services company, helping clients harness the power of innovation to thrive on change. Created by the merger of CSC and the Enterprise Services business of Hewlett Packard Enterprise, DXC Technology serves nearly 6,000 private and public sector clients across 70 countries. The company's technology independence, global talent and extensive partner network combine to deliver powerful next-generation IT services and solutions. DXC Technology is recognized among the best corporate citizens globally. For more information, visit www.dxc.technology.