

Ascom clinical decision support system

It's all about better outcomes





Early interventions rely on clinical data from multiple sources - this is where the Ascom Clinical Decision Support System (CDSS) can assist. Fully customisable, the Ascom CDSS is a rules-based engine, which features predictive analytics that enable early warning alerts of possible patient deterioration.

It continuously receives data in near real time from medical devices, monitoring equipment and other clinical systems such as radiology and lab reporting. The solution detects when pre-defined criteria are met and transmits alert notifications, together with clinical data, to clinicians' smart devices and/or dashboards.

Key benefits

The proactive, evidence-based interventions made possible by the Ascom CDSS can:

- Help improve response times to critical patient events and can help optimise care team effectiveness³
- Gives an early warning, complete with clinical context, of time-sensitive conditions such as sepsis, pulseless electrical activity (PEA) and in-hospital cardiac arrest⁴

A clinical decision support system (CDSS) is intended to improve healthcare delivery by enhancing medical decisions with targeted clinical knowledge, patient information, and other health information.¹

Proactive interventions can contribute to better outcomes.²

- Integrates with hospital EPRs and other systems to reduce information silos
- Supports the calculation of scoring systems (NEWS2, Aldrete, VIP etc.)
- Helps reduce overall and ICU length of stay⁵
- Contributes to lower mortality rates and readmissions⁶
- Provides a supportive, simple user interface (UI) for clinicians dealing with complex clinical data⁷

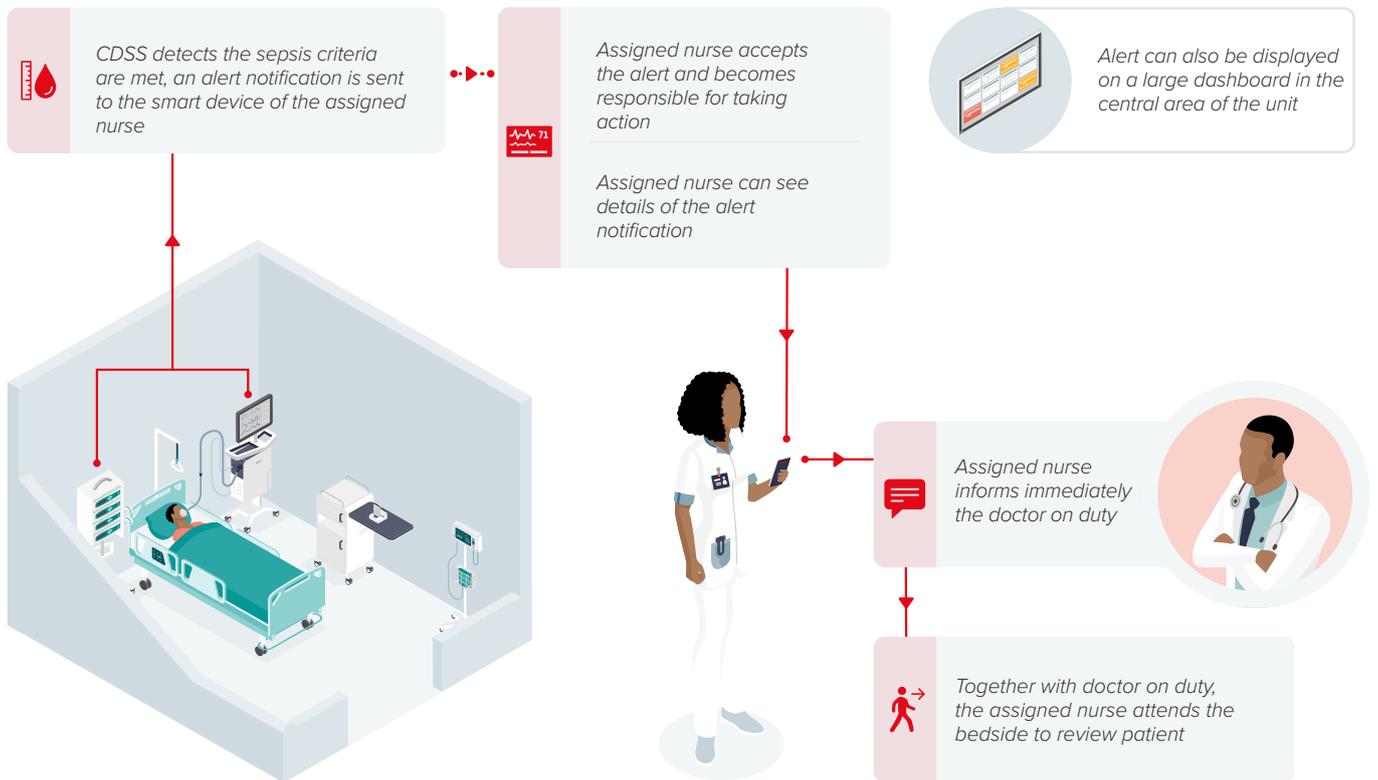
Always on your terms

The Ascom CDSS is configurable to a specific clinical areas. Like all Ascom solutions, it is open and vendor-neutral, making it interoperable with your existing hospital systems.

Solution components

An Ascom CDSS typically includes modules from our software suite, as well as enterprise-grade handsets that include everything from the Android Enterprise Recommended[®] Myco smartphone to a wide range of DECT and VoWiFi phones and pagers.

Workflow example - Detection of patient deterioration (sepsis) in an Emergency Department





Your challenges

- Conditions such as sepsis can be difficult to detect. Delayed diagnosis can lead to patient deterioration, creating complex and potentially substantial hospital stays
- Staffing and budget pressures can make it difficult to adequately monitor all patients. Even when monitoring is possible, it can often lack the insight needed to spot potentially dangerous trends
- Interruptions, time pressures and heavy workloads can negatively impact on clinicians' care decisions⁸
- Many devices and monitoring systems operate in silos, with each element designed to operate independently. This fragmented approach makes it difficult to get a near-real-time overview of a patient's condition⁹

Features and benefits

- The Ascom CDSS is a rules-based machine that can be customised to specific individuals and/or groups of patients
- Can collect data from medical devices, monitoring equipment, and other hospital clinical systems (labs, radiology etc.)
- Fully open and vendor-neutral, making it interoperable with most medical devices and healthcare communication systems on the market
- A complete end-to-end solution, which includes everything from initial assessment with Ascom Clinical Consultants to customised Solution Lifecycle Plans (SLP) and training
- Easily scalable, from specialist clinics to multi-site hospitals

^{*}Android is a registered trademark of Google PLC. Microsoft Windows® is a registered trademark of Microsoft Corporation.

¹ Osheroff, J. et al. Improving Outcomes with Clinical Decision Support: An Implementer's Guide. (HIMSS Publishing, 2012)

² Cardoso LT, Grion CM, Matsuo T, et al. Impact of delayed admission to intensive care units on mortality of critically ill patients: a cohort study. Crit Care 2011; 15:R28

³ Spångfors M, Molt M, Samuelson K. In-hospital cardiac arrest and preceding National Early Warning Score (NEWS): A retrospective case-control study. Clin Med (Lond). 2020;20(1):55-60. doi:10.7861/clinmed.2019-0137

⁴ Mumaw, Randall J; Roth, Emilie M; Patterson, Emily S. Lessons from the Glass Cockpit: Innovation in Alarm Systems to Support Cognitive Work. Biomedical instrumentation & technology, 2021-01-01, Vol.55 (1), p.29-40

⁵ Horton DJ, Graves KK, Kukhareva PV, et al. Modified early warning score-based clinical decision support: cost impact and clinical outcomes in sepsis. JAMIA Open. 2020;3(2):261-268. Published 2020 Apr 21. doi:10.1093/jamiaopen/ooaa014

⁶ McCoy A, Das R. Reducing patient mortality, length of stay and readmissions through machine learning-based sepsis prediction in the emergency department, intensive care unit and hospital floor units. BMJ Open Qual. 2017;6(2):e000158. Published 2017 Oct 25. doi:10.1136/bmjopen-2017-000158

⁷ Lin YL, Guerguerian AM, Tomasi J, Laussen P, Trbovich P. "Usability of data integration and visualization software for multidisciplinary pediatric intensive care: a human factors approach to assessing technology". BMC Medical Information Decision Maker. 2017;17(1):122. Published 2017 Aug 14. doi:10.1186/s12911-017-0520-7

⁸ Spångfors M, Molt M, Samuelson K. In-hospital cardiac arrest and preceding National Early Warning Score (NEWS): A retrospective case-control study. Clin Med (Lond). 2020;20(1):55-60. doi:10.7861/clinmed.2019-0137

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About Ascom

Ascom is a global solutions provider focused on healthcare ICT and mobile workflow solutions. The vision of Ascom is to close digital information gaps allowing for the best possible decisions – anytime and anywhere. Ascom's mission is to provide mission-critical, near-real-time solutions for highly mobile, ad hoc, and time-sensitive environments. Ascom uses its unique product and solutions portfolio and software architecture capabilities to devise integration and mobilisation solutions that provide truly smooth, complete, and efficient workflows for healthcare as well as for industry and retail sectors.

Ascom is headquartered in Baar (Switzerland), has operating businesses in 18 countries and employs around 1,300 people worldwide. Ascom registered shares (ASCN) are listed on the SIX Swiss Exchange in Zurich.