

# Ascom clinical decision support system

It's all about better outcomes





*Early interventions rely on clinical data from multiple sources—which is where the Ascom Clinical Decision Support System (CDSS) comes in. Fully customizable, the Ascom CDSS is a rules-based engine. It continuously receives data in near-real time from devices (including wearables), monitoring equipment, and other departments such as radiology, labs, etc. The Ascom CDSS detects when pre-defined criteria are met (Systemic Inflammatory Response Syndrome (SIRS) criteria for sepsis, for example), and transmits alarm notifications—together with clinical data—to clinicians’ handsets and/or dashboards.*

#### **Key benefits**

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

- Help reduce overall and ICU length-of-stay<sup>3</sup>
- Contribute to lower mortality rates and readmissions<sup>4</sup>
- Provide a supportive, less cognitively demanding UI for caregivers dealing with complex clinical data<sup>5</sup>

**The use of CDSS in diabetic patients has a positive effect on physician performance in a variety of outcomes such as adjusting the form of insulin and improving the quality of decision-making about statin prescription.<sup>1</sup>**

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**Proactive interventions can contribute to better outcomes.<sup>2</sup>**

- Help improve response times to critical patient events, and can help optimize care team effectiveness<sup>6</sup>
- Give an early warning, complete with clinical context, of time-sensitive conditions such as sepsis, pulseless electrical activity (PEA) and in-hospital cardiac arrest<sup>7</sup>



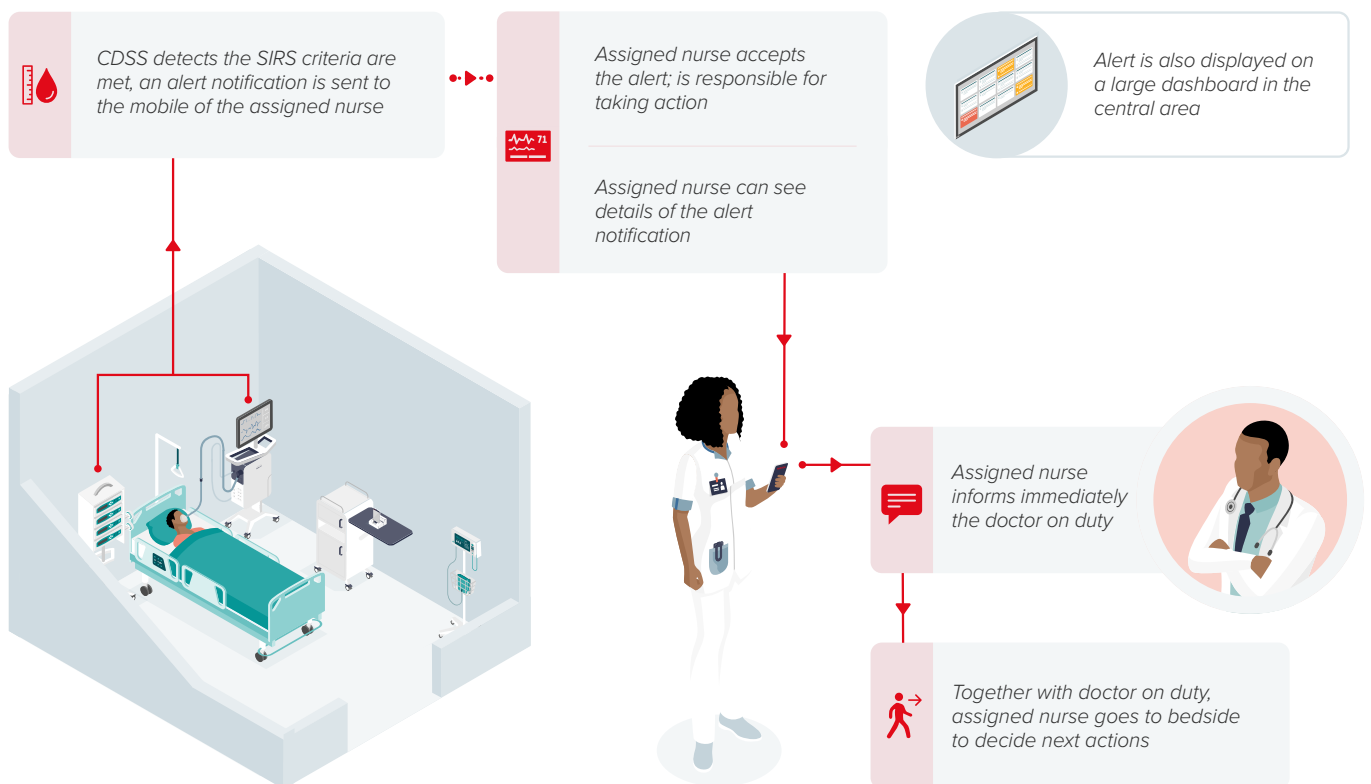
## Always on your terms

The Ascom CDSS is configurable to a specific site and its needs. And like all Ascom solutions, it is open and vendor-neutral, making it interoperable with your existing and/or planned communication systems and infrastructure.

## 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<sup>®</sup> Myco smartphone to a wide range of DECT and VoWiFi phones and pagers.

## Workflow example





## Your challenges

- Conditions such as sepsis can be especially difficult to detect. Often, by the time a diagnosis can be made, a patient's condition has already deteriorated to the point where costly, complex and lengthy treatment is required
- Staffing and budget pressures can make it difficult to adequately monitor all patients. Even when monitoring is possible, it can often lack the rigor needed to spot potentially dangerous trends
- Interruptions, time pressures and heavy workloads can lead to caregivers making sub-optimal care decisions<sup>6</sup>
- Many devices and monitoring and alarm systems operate in isolation, with each element designed to operate independently. This fragmentation makes it difficult to get a near-real time 'helicopter view' of patients' conditions<sup>7</sup>
- Ageing populations are likely to result in more instances of PEA, itself a major contributor to in-hospital cardiac arrests<sup>2</sup>

## Features and benefits

- The Ascom CDSS is a rules-based machine that can be customized to specific individuals and/or groups of patients
- Can collect data from medical devices, monitoring equipment, off-ward locations (labs, radiology, etc.)
- Fully open and interoperable with virtually every medical device and healthcare communication systems on the market
- A uniquely end-to-end solution. Includes everything from initial assessment with Ascom Clinical Consultants to customized Solution Lifecycle Plans and worldwide training
- Ascom clinical communication solutions are trusted and used by thousands of facilities around the world
- Easily scalable, the solution is equally at home in small specialist clinics or in multi-site healthcare systems

<sup>7</sup>Android is a registered trademark of Google PLC. Microsoft Windows® is a registered trademark of Microsoft Corporation.

<sup>1</sup>The effects of clinical decision support system for prescribing medication on patient outcomes and physician practice performance: a systematic review and meta-analysis. <https://bmcmedinformdecismak.biomedcentral.com/articles/10.1186/s12911-020-01376-8>

<sup>2</sup>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

<sup>3</sup>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

<sup>4</sup>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

<sup>5</sup>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

<sup>6</sup>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

<sup>7</sup>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

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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 mobilization 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.