Clinical decision support (CDS) for computerized physician order entry (CPOE) is an online system that helps health professionals to prescribe medicines in the right amount at the right times for the right patient. Medicines can have damaging effects if they are administered wrongly. For this reason, systems can issue 'alerts' to health professionals who are prescribing for patients. Prescribing is often complex. Therefore a CDS systems might issue many alerts, which can distract the prescriber and can lead to 'alert fatigue' where they the alerts start to be ignored.

Some CDS systems might also issue too few alerts, which could result in a doctor or pharmacist making a prescribing error and causing an ‘adverse drug event’ (ADE).

Today, there is no agreement or standard for the alerts in CDS systems. The purpose of this study is to explore how CDS alerts should look. The study authors wanted to understand what experts thought about the alerts in CDS and, further, wanted to come to some agreement on the gaps in current CDS capabilities. European experts in CDS and CPOE were invited to participate in the study, and their contributions were vital to the study’s findings.

The authors list what they believe to be the most important knowledge gaps in CDS alerts. A perfect system would be “100 % sensitive and 100% specific”. Current systems can be very sensitive, but they are often lacking in specificity. To correct this, CDS systems need to be made more sensitive and more specific than they are today. The authors also found that allowing prescribers to personalise the screens on their CDS systems, as a person would personalise their smart phone, could be a good improvement. They thought that if doctors and pharmacists could customise their alert systems, they would be more likely to pay attention to them. The authors said that there were differences of opinion on the best timing and frequency of prescribing alerts. The authors, in conjunction with the experts, suggested that an alert should be displayed as early as possible in the prescription process and, ideally, the alert should only be shown once.

While the authors identified a number of problems with current CDS, they agreed that much more research is needed to better understand the best ways to set up CDS alerts.

They conclude that the use of CDS systems within CPOE is increasing, especially in the United States, and therefore this study is an important reminder to medical professionals in the UK and Europe of the need to assess prescribing alerts within CPOE systems.