



Usability Evaluation Of Computerized Provider Order Entry (CPOE) In Healthcare Delivery Systems In Bengaluru

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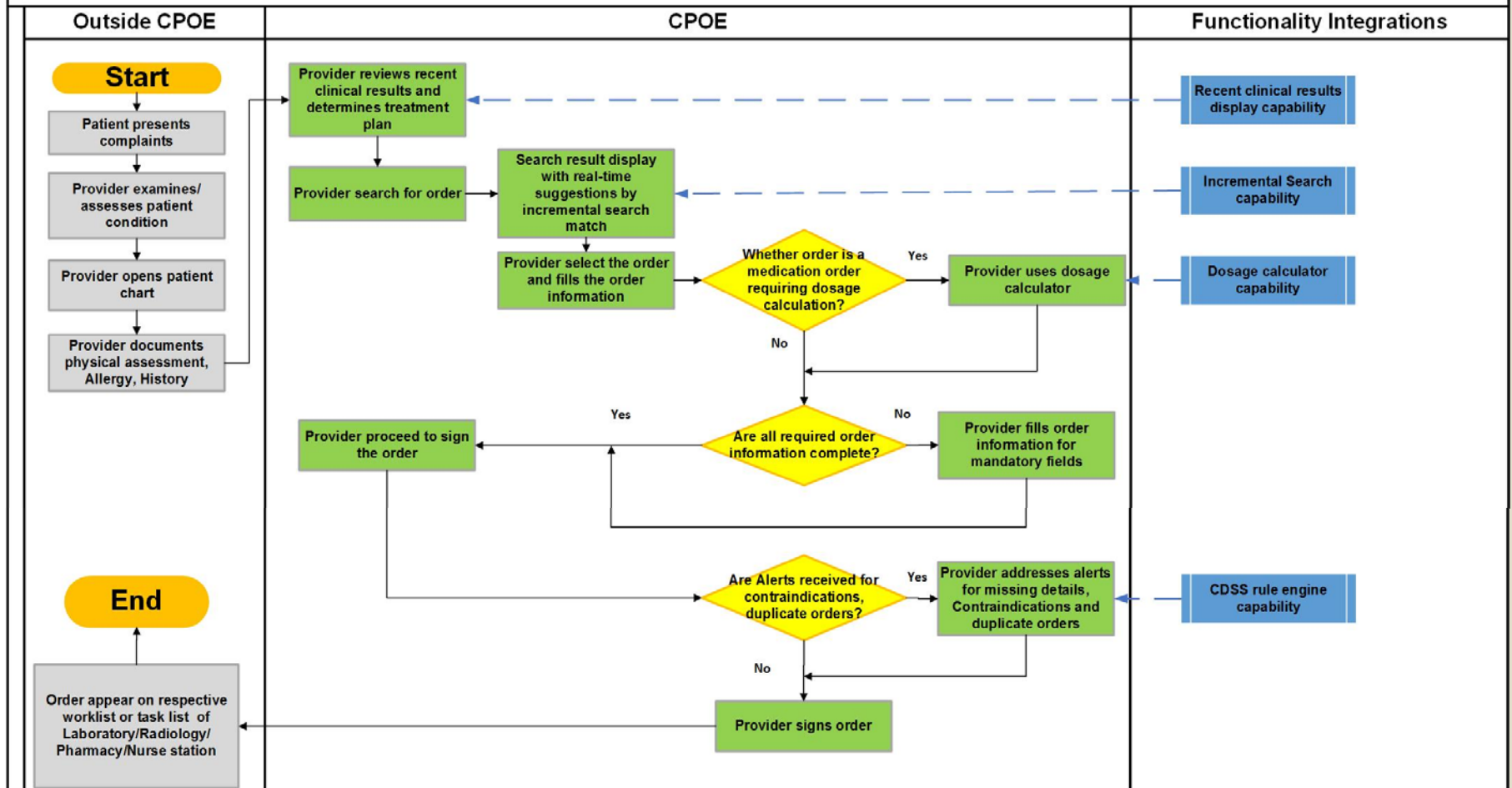
- CPOE Described
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CPOE

- Computerized Provider Order Entry (CPOE) is an application or a software tool which allows a physician to order a medication, laboratory test or a radiology test by directly entering it into a computer or any other electronic device such as mobile phone, tablet or Personal Digital Assistant (PDA).
- CPOE also provides for drug-drug interaction check, dosage calculator, drug allergy check, duplicate order check kind of features amongst others.
- The system transmits the order to the respective departments and the reports are sent back via the clinical database.

What Is CPOE?

Workflow Diagram: Computerized Provider Order Entry (CPOE)



Objectives

- To assess the status of Computerized Provider Order Entry in healthcare delivery system.
- To assess the usability of Computerized Provider Order Entry (CPOE) from provider perspective.
- To analyze Knowledge, Attitude and Practice (KAP) of End users on CPOE.

Methodology

- Study Design: Descriptive cross-sectional
- Study Area: Various healthcare delivery setups in Bengaluru.
- Study Duration: Three months
- Study Population: IT Department personal, end users of CPOE (Physicians, nurses)
- Sample Size: Six healthcare delivery setups covered
- 100 respondents surveyed to assess the usability of CPOE from provider's perspective and analyze Knowledge, Attitude and Practice (KAP)
- Sampling Method: Convenience sampling
- Data Collection Technique: Checklist for IT department and close ended questionnaire for end users of CPOE.
- Data Analysis and Presentation: Data analysis done using Microsoft Excel and presented in Microsoft PowerPoint.

Healthcare Delivery Setup Profile

Hospital type

 1	Daycare center	1
 1	Single specialty	1
 1	Super specialty	1
 3	Multi-specialty	3

Years hospital in operation

 1	< 2 years	1
 2	3 Years - 6 Years	2
 3	> 7 Years	3

Bed Strength

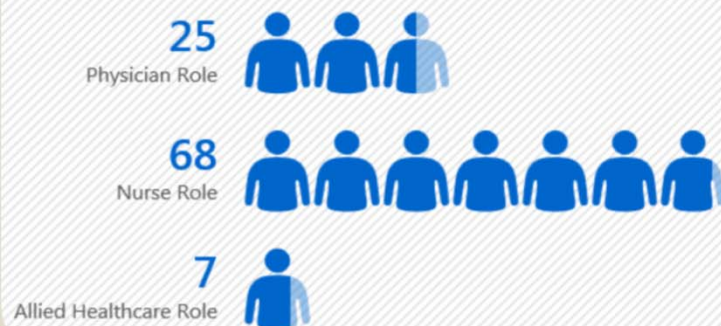
 1	< 20 beds	1
 3	21 beds - 100 beds	3
 2	101 beds - 300 beds	2

Accreditations status

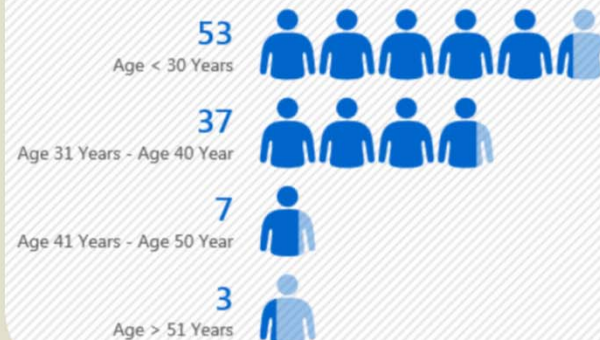
 2	Accredited	2
 4	Not Accredited	4

Respondents Profile

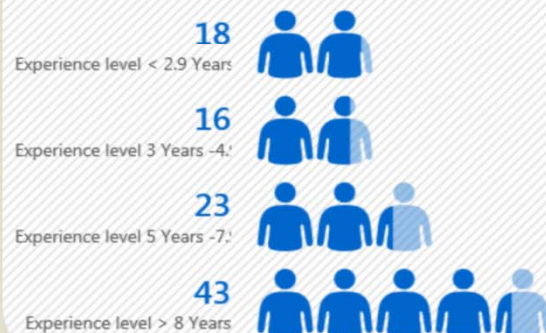
Respondent Profile



Respondent Age Range



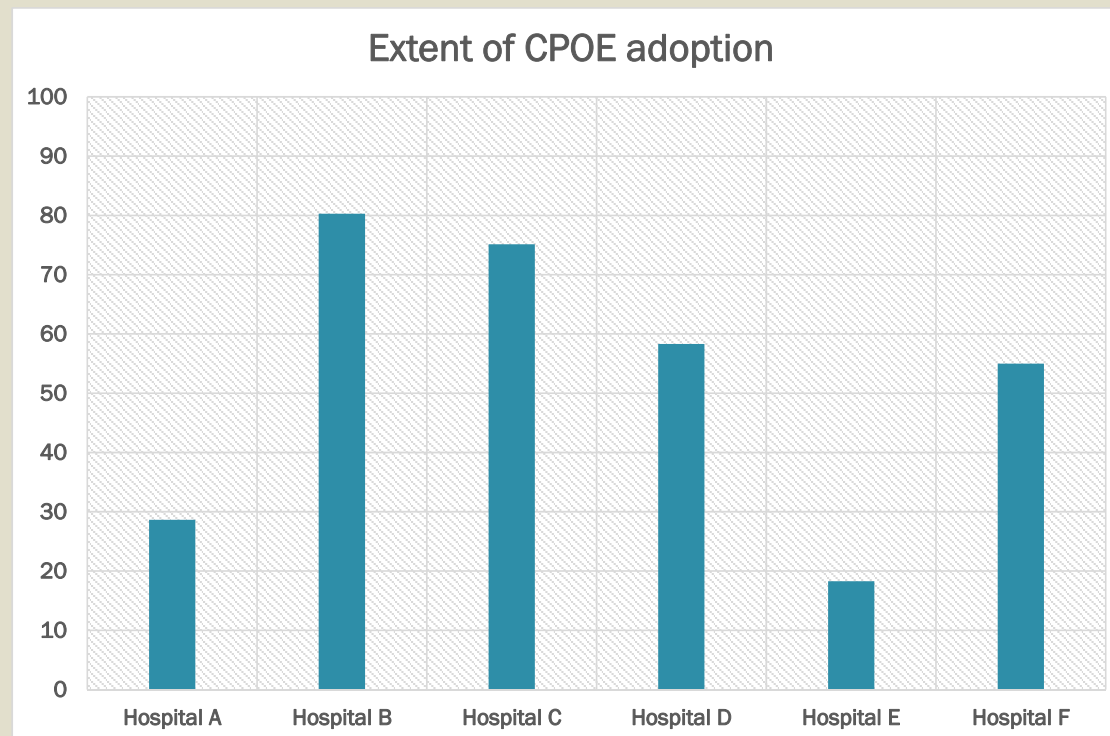
Respondent Experience Range



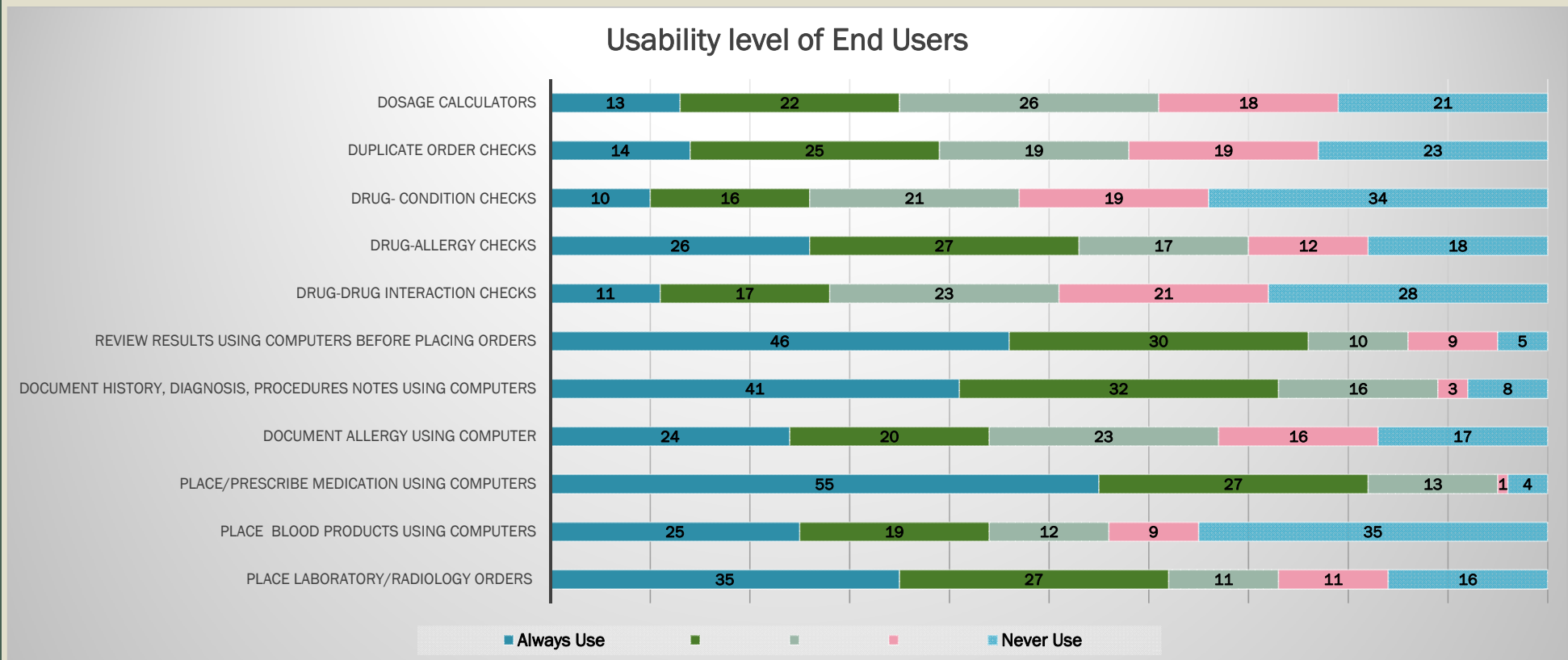
Total respondents=
100

Findings & Analysis: Extent of CPOE Adoption

- The adoption level was found to be highest in Hospital B as 80.29% and lowest in Hospital E as 18.27%.

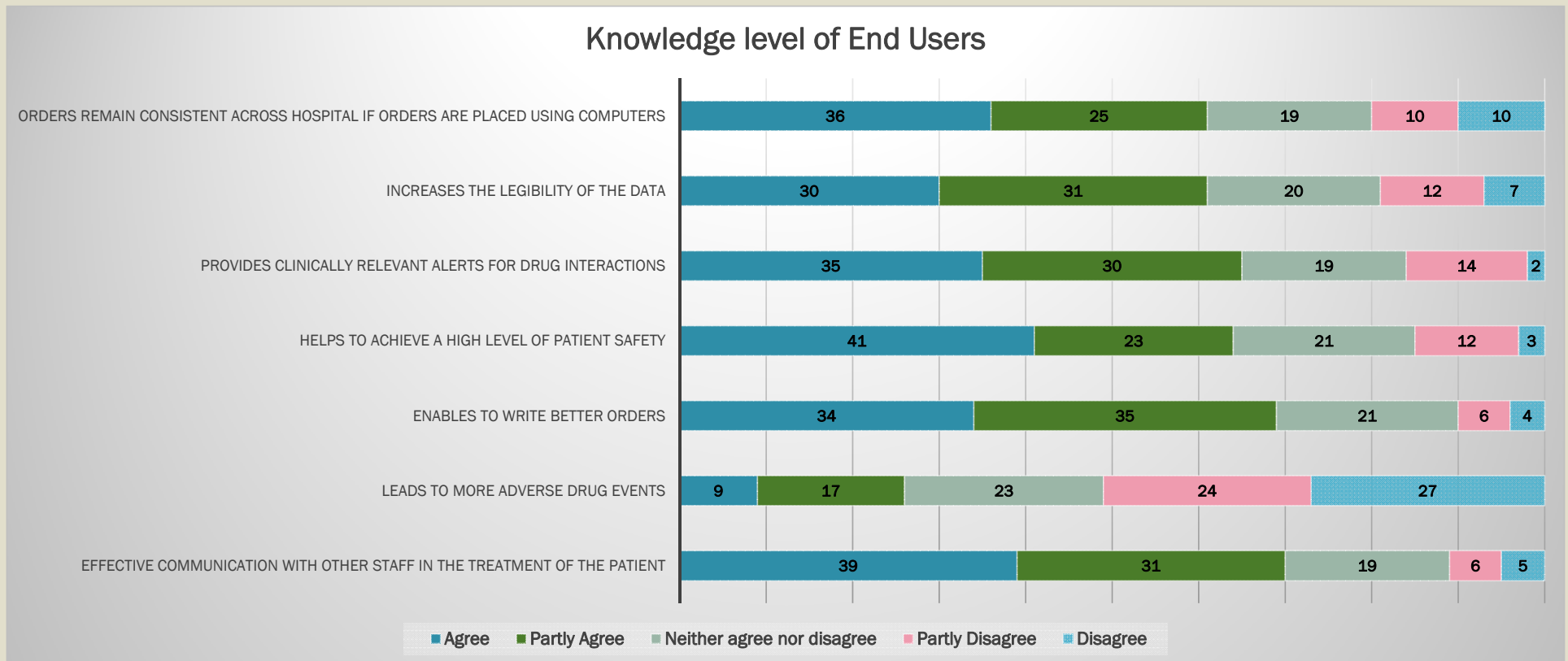


Findings & Analysis: Usability Level Of End Users



- Observation: Prescribing medications using computer is the most used feature.
- Observation: Drug condition check is the least used feature.

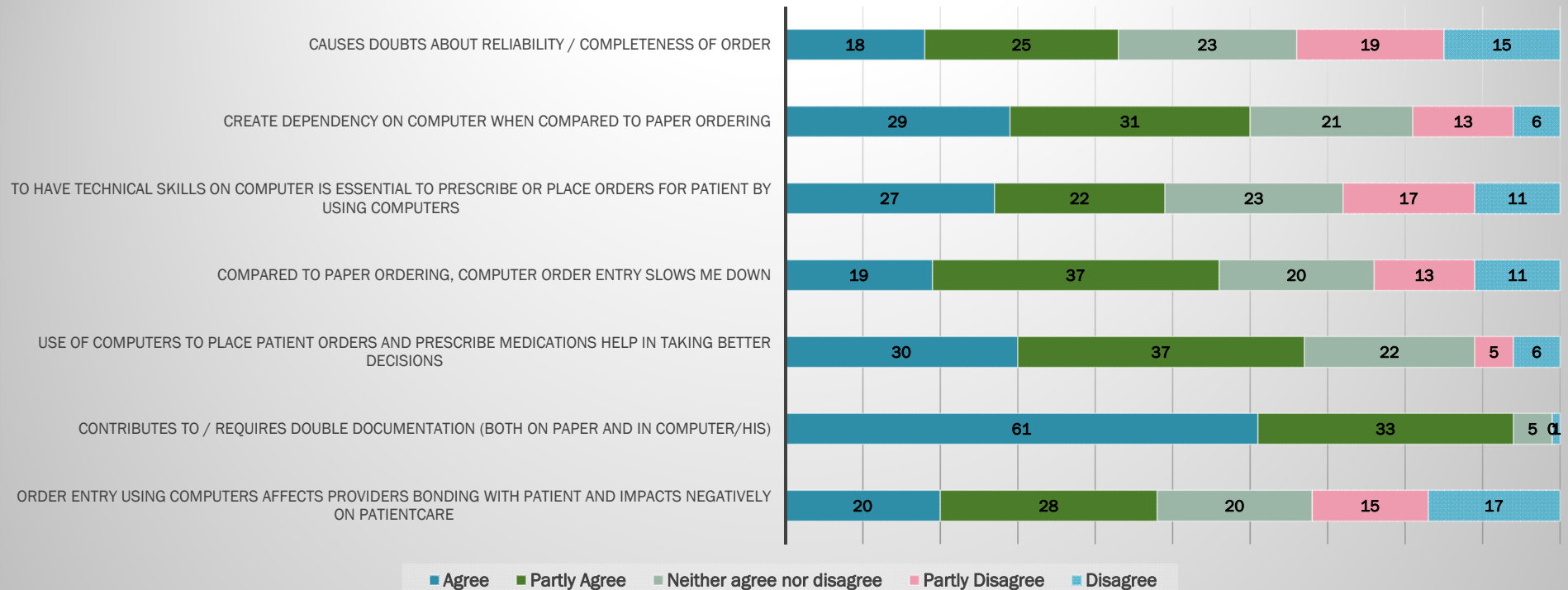
Findings & Analysis: Knowledge Level Of End Users



- Observation: Maximum for CPOE helps to achieve high level of patient safety.
- Observation: Minimum for usage of CPOE leads to more adverse drug effects.

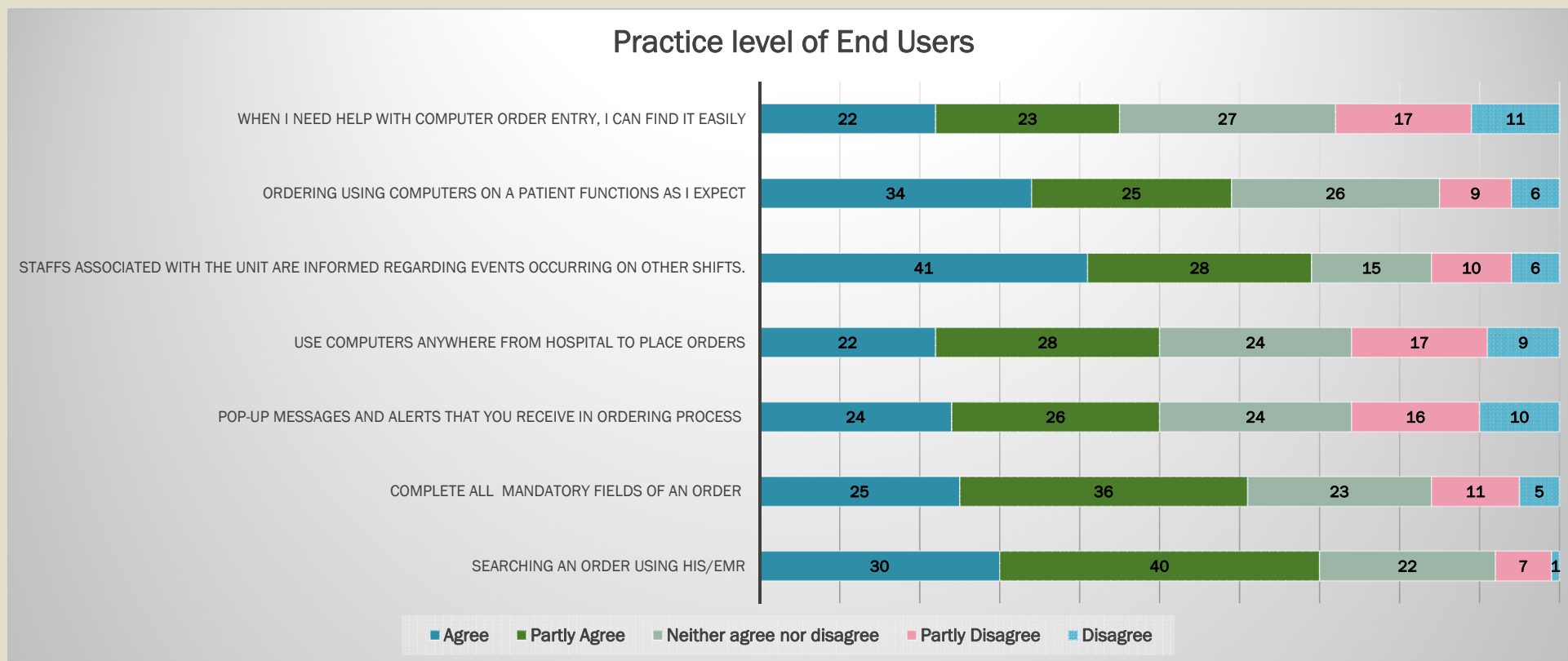
Findings & Analysis: Attitude Level Of End Users

Attitude level of End Users



- Observation: CPOE system requires double documentation was the most agreed factor.
- Observation: It causes doubts about reliability of data was the least agreed factor.

Findings & Analysis: Practice Level Of End Users



- Observation: Staff are informed regarding events occurring in other shifts was agreed upon by maximum users.
- Observation: It is often difficult to find help regarding CPOE and use computers anywhere from hospital to place orders was agreed upon by minimum users.

Conclusion

- CPOE supports in order management, reducing prescription error, reducing the blocks in workflow of the patient care by streamlining the process.
- CPOE will not only improve the efficiency but also the effectiveness of the quality patient care given.
- Vendors need to take into consideration a holistic view of healthcare delivery while designing the product in order to bridge the large gap between the providers and beneficiary.
- The gap can be reduced by educating the providers and creating awareness amongst the people regarding the tangible advantages of the system.

THANK YOU