Informatics and Quality Improvement

Clinical Decision Support Tools

Clinical decision support (CDS) encompasses a variety of technological tools that directly support clinical decisions across settings. Which of the following are an examples of CDS? Select all that apply.

Real-time monitors and dashboards

Automatic order implementation

Event-driven alerts and reminders

Condition-specific guidelines, order sets, care plans, and protocols

Smart documentation forms and templates

CDS encompasses a variety of technological tools that directly support clinical decisions across settings including:

Immediate warning alerts for clients and providers

Event-driven alerts and reminders

Parameter guidance for providers

Real-time monitors and dashboards

Condition-specific guidelines, order sets, care plans, and protocols

Smart documentation forms and templates

CDS architectures that influence design, implementation, and adoption

It provides order implementation support for a provider but not the automatic initiation of orders.

Automated Medication Dispensing System

The nurse retrieves medication through an automated medication dispensing system. How does an automated medication dispensing system increase the quality of care?

Eliminates client misidentification

Reduces intravenous (IV) pump programming

errors Eliminates adverse drug reactions

Decreases medication errors

The use of an automated medication dispensing system decreases medication errors. It does not eliminate adverse drug reactions or identification errors, since providers still need to go through the medication administration checks at the bedside. It also does not reduce IV pump programming errors. This alert would be part of a smart pump.

Culture of Safety

How does technology promote a culture of safety?

Electronic incident reports improve reporting rates

Clinical decision support systems determine

consequences Video surveillance catches perpetrators

Databases track who has been involved in unsafe acts

A culture of safety is where all employees are committed to being safe, whether or not someone is watching. It is not about punishing unsafe acts or catching perpetrators. Technology can be used to improve reporting rates of incidents, allowing organizations to identify issues and respond with solutions to improve quality and safety.

Types of Clinical Decision Support

The nurse scans bar codes of the client's wristband and the medication. An alert comes up on the computer of a potential drug-allergy interaction. This is an example of which type of clinical decision support?

Expert Systems

Point-of-Care

Workflow Support

Order Implementation

Point-of-Care alerts include drug-condition interaction reminders , drug-drug interaction , drug-allergy interactions , plan-of-care alerts , and high-risk state monitoring .

Order implementation assists providers with order sets and protocols. Expert systems offer support for labs, equipment, and tools. Workflow support provides templates and documentation support.

Smart Pumps

The nurse is using a smart pump in the emergency room. How does a smart pump increase the quality of care?

Decreases adverse drug reactions

Eliminates client misidentification

Reduces programming errors

Eliminates medication errors

The use of smart pumps reduces programming errors. It does not eliminate medication or identification errors, since providers still need to go through the medication administration checks. It also does not decrease adverse drug reactions. This alert would be part of medication administration.

Alert Fatigue