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O QUE REALMENTE FUNCIONA EM SEGURANÇA DE MEDICAMENTOS… ISSO DEPENDE DO SEU PONTO DE VISTA!

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Hypothesis

The effectiveness of a medication safety system is judged differently by different persons.

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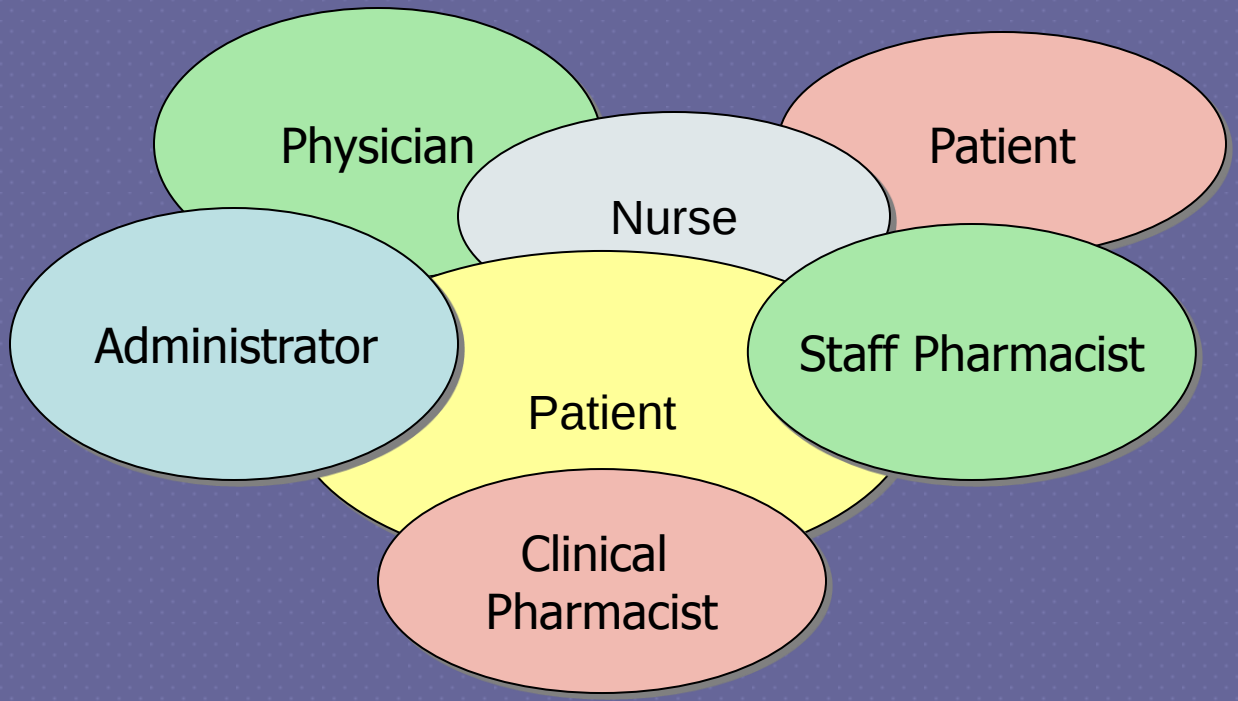
What "works" in medication safety is probably based on your role.



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Your personal opinions
about the effectiveness of safety strategies
are probably not based on strong scientific evidence.

Normally, people use subjective factors that are a combination of experience, beliefs, the culture in which we work, and our awareness of the science of safety.

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Evidence-based solutions to safety problems….

- Scientific level of evidence is limited compared to evidence about clinical care
- Systems-based solutions are difficult to measure
  - Low frequency events
  - Statistical power to detect efficacy requires a huge sample size
  - N=200,000 needed to test efficacy of a “leading zero”

Leape, Berwick, Bates JAMA July 24/31 2002

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Evidence-based solutions to safety problems….

- Human factors principles
- Inferences from analysis of the process
- Accepted practices in other industries
- Common sense - reasonable judgments
- When available - controlled trials

- There will never be enough evidence…

Leape, Berwick, Bates JAMA July 24/31 2002

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O QUE REALMENTE FUNCIONA EM SEGURANÇA DE MEDICAMENTOS… ISSO DEPENDE DO SEU PONTO DE VISTA!

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A Review of 3 Safety Solutions

that are believed to “work”

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Computer systems for prescribing

Rationale

- Quality of Care
  - clinical decision support software assures evidence-based prescribing decisions
- Safety of Care
  - decrease the risk of harm from prescribing errors

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Example #1

Computer systems should automatically alert physicians to drug-drug interactions.

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Computer systems should automatically alert physicians to drug-drug interactions.

Rationale

- Avoid reliance on human memory
- Avoid reliance on individual knowledge
- Reduce the potential for patient harm
- Minimize re-work by pharmacy and nursing
- Reduce waste and the cost of care

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Computer systems should automatically alert physicians to drug-drug interactions.

Is this an effective safety system?

- Nurse – Effective
- Patient – Effective
- Administrator – It depends !
- Pharmacist – It depends !
- Physician – It depends !

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Computer systems should automatically alert physicians to drug-drug interactions.

The physician might consider this an ineffective safety system if alerts:

- interrupt busy workflow for non-significant events
- are delayed and fail to trigger in “real time”
- fail to provide clinical alternatives
- fail to describe the clinical significance

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Computer systems should automatically alert physicians to drug-drug interactions.

- Physician – Needs to know the clinical relevancy for THIS patient

AND

- Physician – Needs to easily document the rationale to inform others.

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Computer systems should automatically alert physicians to drug-drug interactions.

The administrator might consider this an ineffective safety system if alerts:

- increase physician complaints
- cause disputes between physician – pharmacist
- increase costs, relative to other safety programs

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Computer systems should automatically alert physicians to drug-drug interactions.

The pharmacist might consider this an ineffective safety system if:

- rationale is not communicated to the pharmacy
- disagreement over clinical significance
- extra time needed to confirm use and safety
- pharmacist is criticized for calling the physician
- alert is different in the pharmacy computer system

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Computer systems should automatically alert physicians to drug-drug interactions.

- Pharmacist – Needs to know the interaction was recognized by the physician

AND

- Pharmacist – Needs to know the physician's rationale for continuing to prescribe.

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Example #2

Infusion control devices should alert nurses to rates that are set too high or low.

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Infusion control devices should alert nurses to rates that are too high or too low

Rationale

- Identify calculation errors
- Identify programming errors
- Prevent harms from high alert drugs
- Minimize error in high-risk patients
- Assure correct use of complex technology

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Infusion control devices should alert nurses to rates that are set too high or too low.

Is this an effective safety system?

Nurse –Patient–Administrator–Pharmacist-Physician

It depends !

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Infusion control devices should alert nurses to rates that are set too high or too low.

Nursing

Might consider this an ineffective safety system if:

- infusion ranges are not aligned with practice
- infusion ranges are not aligned with type of care
- infusion ranges are “too narrow”
- alerts are annoying or non-specific
- alerts do not enable loading doses
- over-use of “hard stops” vs. “soft-stops”

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Infusion control devices should alert nurses to rates that are set too high or too low.

Nurse – Needs to know the infusion alert system:

- is consistent with good nursing practice and policy
- is “clinically significant”
- protects patients
- protects the nurse
- is tamper-proof
- prevents free-flow events

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Infusion control devices should alert nurses to rates that are set too high or too low.

Pharmacists

Might consider this an ineffective safety system if:

- ranges are not evidence-based
- non-productive phone calls increase
- difficult to update and maintain
- failure to control changes

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Infusion control devices should alert nurses to rates that are set too high or too low.

Physicians

Might consider this an ineffective safety system if:

- infusion ranges are not aligned with practice
- infusion policies are not aligned with evidence
- non-productive phone calls increase

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Infusion control devices should alert nurses to rates that are set too high or too low.

Patients

Might consider this an ineffective safety system if:

- shift focus from patient needs to the technology
- interrupt sleep
- are not silenced quickly
- are not explained to them

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Infusion control devices should alert nurses to rates that are set too high or too low.

Administrators

Might consider this an ineffective safety system if:

- costs increase relative to other safety technology
- poor training impedes implementation and use
- limited support and poor vendor relationship
- staff frustrations increase
- analytic capabilities under-utilized
- patient satisfaction decreases

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Infusion control devices should alert nurses to rates that are set too high or too low.

The key factors to effective use include:

- Optimal vendor selection and support plans
  - technology, training, updates, future growth, simplicity
- Implementation and integration planning
  - user testing, pilot implementation, quality control
- Careful patient-centered needs assessment
  - pediatrics, adults, critical care, surgical care, ambulatory

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Infusion control devices should alert nurses to rates that are set too high or too low.

The key factors to effective use include:

- Team-based decisions on software and policies
  - customized drug libraries for different patient care areas,
  - standardized concentrations, dosing units, and dosing limits
- Competency-based training for all users
  - expert sessions, skills labs, hands-on exposure, and computer-based training modules

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Infusion control devices should alert nurses to rates that are set too high or too low.

The key factors to effective use include:

- Quality assurance plans
  - “real time” analysis of alerts and over-rides
  - “real time” analysis of problems (user and device)
- Software updates and device maintenance plans
  - ALL devices use most current software
  - new drug updates
  - devices inspected

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Infusion control devices should alert nurses to rates that are set too high or too low.

The key factors to effective use include:

- Adjusting and adapting….
  - IV labels (to meet device programming needs)
  - Discard old dosing charts and calculation tables
  - Changing non-evidence based prescribing patterns

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What really works in medication safety depends on:

Leadership – Culture – Resources

Planning

Goals

Values

Integration

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What really works in medication safety depends on:

Leadership – Culture – Resources

Planning	Teamwork
Goals	Learning
Values	Quality
Integration	

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What really works in medication safety depends on:

Leadership – Culture – Resources

Planning	Teamwork	People
Goals	Learning	Knowledge
Values	Quality	Equipment
Integration		

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If you've waited until now to prevent harm from reaching the patient….it may be too late!

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The first SECRET
of making safety systems work is that……

all the parts must work together

to provide LAYERS of defense against preventable harm.

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The second SECRET
of making safety systems work is that……

you need many different tools to get the job done!

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Many of safety tools you already know and will hear about at this conference will be less than effective in preventing harm….

without the proper support and integration

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Example #3

Patient Centered Practice Model

“A rose by any other name is still a rose”

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Medication Safety Programs

Designed to prevent 2 types of events

- adverse events due to pharmacology
- adverse events due to error

Preventing ERROR is a secondary goal

Preventing HARM is the primary goal

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But Remember…….

Medication safety is more than adverse events and errors…..it involves the larger topic of

medication-related problems.

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Medication-related Problems

- No rationale indication
- Untreated condition
- Inappropriate prescription - dose, form, schedule, route
- Therapeutic duplication
- Allergy and Intolerance
- Actual and potential adverse events and interactions,
- Failure to achieve optimal results and failure to monitor
- Problems arising from the financial impact of medication costs
- Failure to understand the medication plan
- Failure to adhere to the medication plan

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The most comprehensive

MEDICATION SAFETY PROGRAMS

focus on

MEDICATION-RELATED PROBLEMS

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Patient Centered Care Programs

are the “delivery systems” for achieving

Patient Safety Goals

An Evidence-Based Approach!

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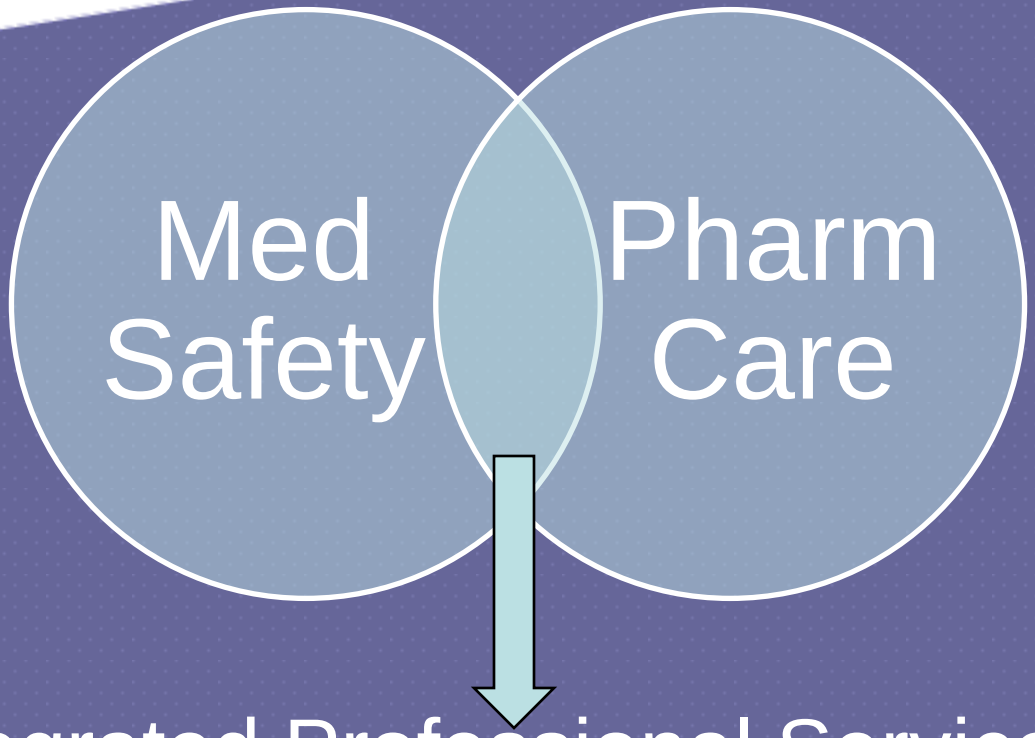

Integrated Professional Services
Assure the “best” Outcomes

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Assuring Safe Prescribing - Dosing

Selecting the Initial Dose

Adjusting Doses

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Improve initial dosing

- ✓ Assure easy access to accurate prescribing information
- ✓ Provide easy access to consultation with clinical pharmacist
- ✓ Automate dose range checking
- ✓ Schedule drug update talks within physician conferences
- ✓ Mandatory certification program for physicians
- ✓ Restricted prescriber programs

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Continuously adjust dosing

Recognize that even the most evidence-based initial doses will not be optimal.

Monitoring plans prevent harm.

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Detect harm at the earliest time

- ✓ Assure the patient has a monitoring plan
  - ✓ Critical labs
  - ✓ Signs and symptoms
  - ✓ Follow-up interval
  - ✓ Monitor for desired outcome
  - ✓ Monitor for unexpected reactions

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SUMMARY

- The effectiveness of a medication safety system is judged differently by different persons.
- Many excellent safety systems (tools) are available
- Effectiveness depends on use and integration
- Layers of defense are needed to prevent harm
- Comprehensive safety programs include preventing medication-related problems – not just errors.

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Obrigado a todos pela atenção e estou pronto para

perguntas e debates