

How to Improve the Relationship With Patients and Health Professionals Through the Use of ICT?

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e+salud
3er CONGRESO COLOMBIANO
1er CONGRESO LATINOAMERICANO



Organizan:

VIRREY SOLIS
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ROZO
ASOCIADOS

Aliado estratégico:

América
economía
Medio Group

MM LIFE

“Passion provides purpose, but data drives decisions.”

Andy Dunn – American Businessman

“An ounce of prevention is worth a pound of cure.”

Benjamin Franklin-US inventor and Statesman

How can healthcare as a business be profitable?

Invest in:

Data

Human Capital



Clinicians are your most important asset

Yet, they are under extremely stressful demands of the job and those demands are burning them out.

Quality
Reporting

Care
Protocols

Family
Request

False
Alarms

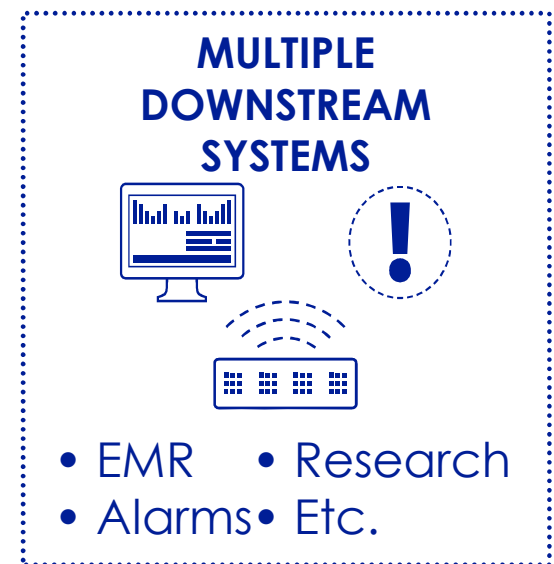
TRYING TO CONNECT TO THE PATIENT

Data overload is real

- Alarm fatigue is real = increased noise
- More alarms = increased distractions
- Alarm avoidance impacts patient safety

- Alarm management systems help prioritize important information
- However, now there is still alarm fatigue
- Not all alarms have the key context to help with decisions

Not all of the desired data elements are being sent to the desired systems, at the desired time intervals



Did you know

655TB

The amount of data the
average hospital
generates a year

Workflows are cumbersome and often manual

- Up to 35% of nursing time on documentation
- 19% transcription error rate from paper to electronic record

Poor communication and medical errors cause deaths

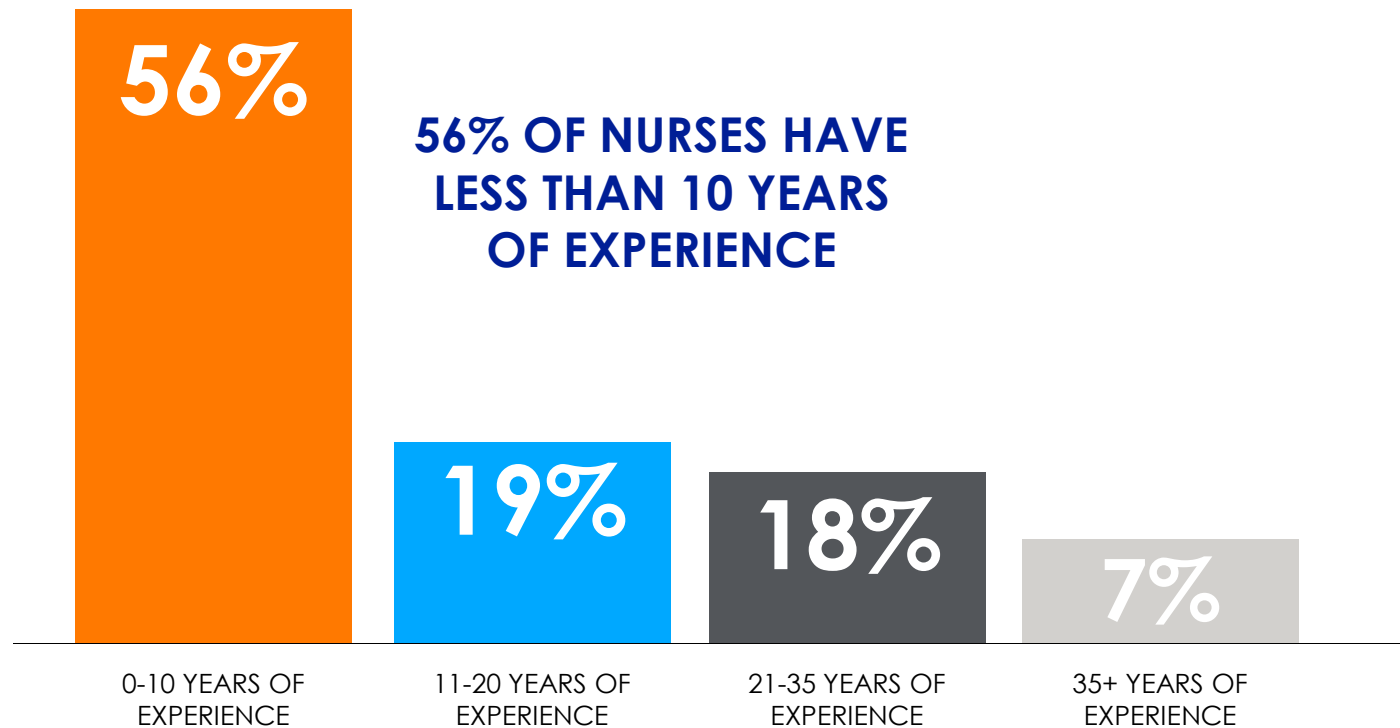
- Communication is the leading cause of medical errors
- Medical errors are the 3rd leading cause of death
- 251,454 deaths a medical error/ 9.5% of all deaths each year in the US

Population is getting sicker and older

- One in four adults have two or more chronic conditions (US and EU)

Rural and underserved populations continue to stress healthcare resources

Nursing 'Experience Gap'

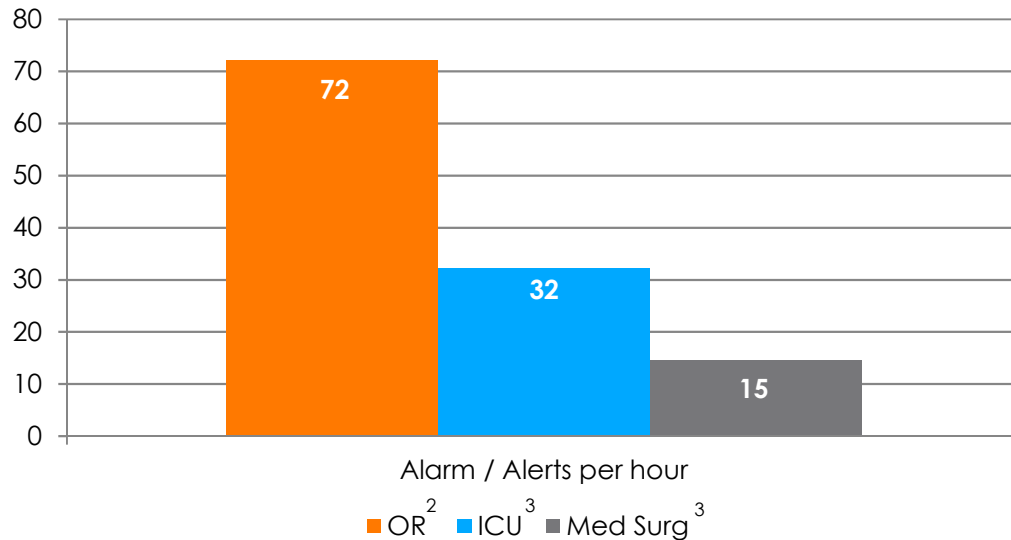


n=18,381
2017 Salary Survey. Allnurses.com
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Alarms help identify a worsening patient; however

72% of alarms result in no action being taken¹



Of all alarms in critical care are false positives⁹⁹

1. Chambrin MC, Ravaux P, Calvelo-Aros D. Multicentric study of monitoring alarms in the adult intensive care unit (ICU): a descriptive analysis. *Intensive Care Med* 1999;25(12):1360-6.
2. Schmid F, Goepfert M, Kuhn D, Eichhorn V, Diedrichs S, Reichenspurner H, Goetz AE, Reuter DA. The wolf is crying in the operating room: patient monitor and anesthesia workstation alarming patterns during cardiac surgery. *Anesthesia and Analgesia*. 2011. 112(1): 78 - 83.
3. Jones K. Alarm fatigue a top patient safety hazard. *CMAJ: Canadian Medical Association Journal*. 2014;186(3):178. doi:10.1503/cmaj.109-4696.

Financials are at risk



In summary, patient care is suffering



**DATA
OVERLOAD**

**POOR
COMMUNICATION**

**Wrong
information**

**Clinical
Variability**

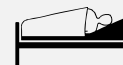


**ALARMS
WITHOUT
CONTEXT**

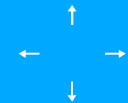


**MEDICAL
ERRORS**

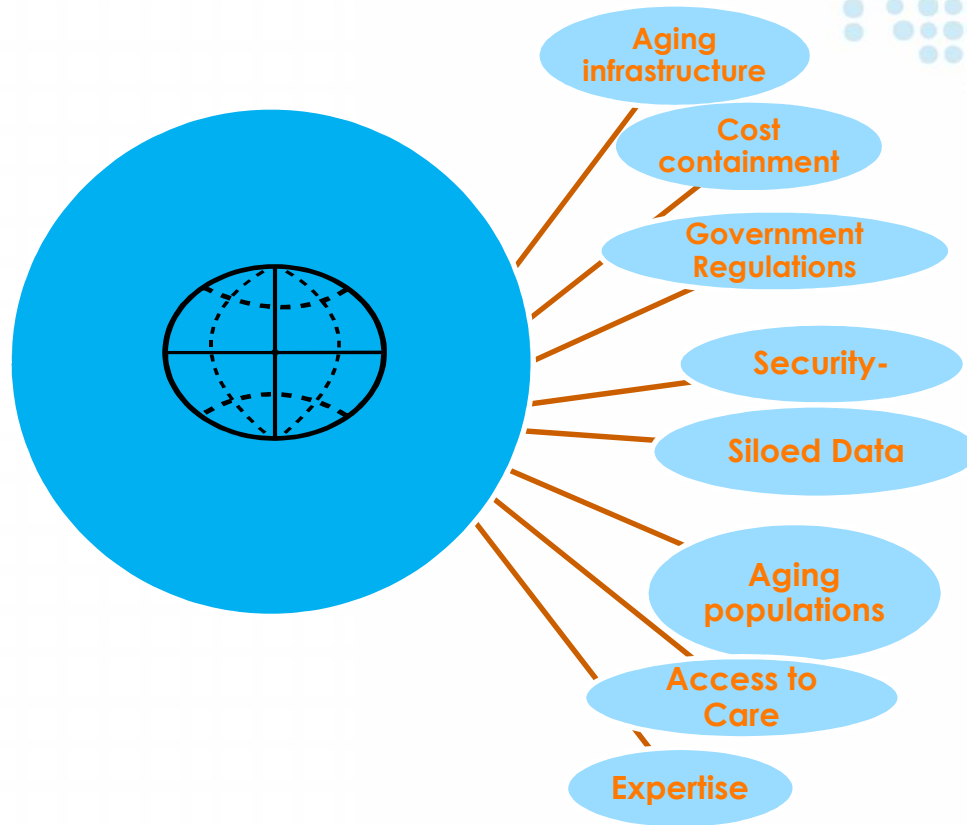
**SICKER
PATIENTS**



**INEFFICIENT
WORKFLOWS**



World Wide Health Care Issues



How can ICT Help?



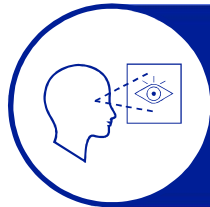
Intelligent Workflows Starts with Automating Documentation

- **Challenge 1:** Charting data in the EMR is complicated and takes focus away from patient
- **Challenge 2:** Clinicians chart more than just vital signs during rounds



SIMPLIFY Clinical Workflow

POWER Data-Driven Insights



Simplify Evidence Based Interventions

- Automate clinical protocols supporting**
- High Frequency data
 - Point of Care Delivery

Conduct research & deliver advanced patient care



Simplify Surveillance

- Reduce Alarm Fatigue**
- Analyze Alarm Limits
 - Send Contextual Alarms
 - Waveforms with rich history

Focus attention on escalated patients



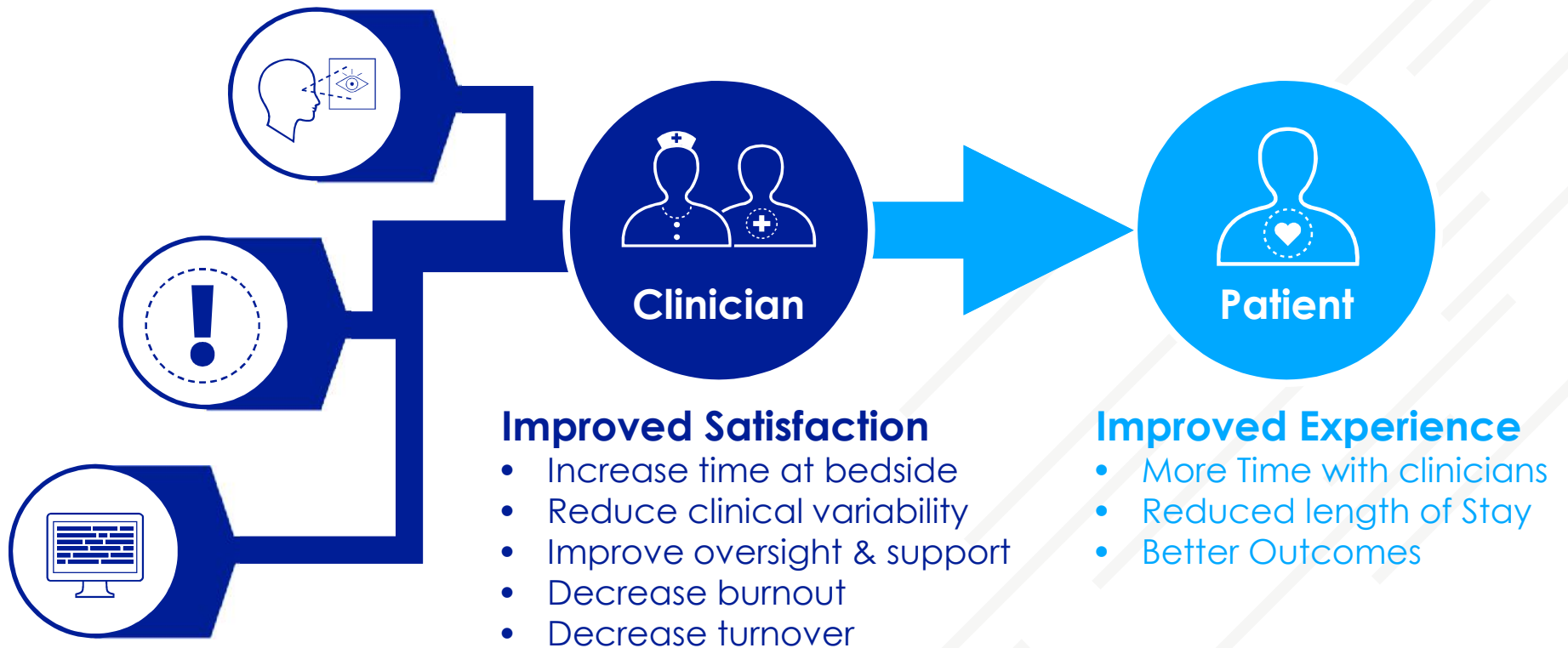
Simplify Documentation

- Reduce**
- Charting Time (all devices)
 - Data Gaps & Lags
 - Transcription Errors
 - Patient data mismatch

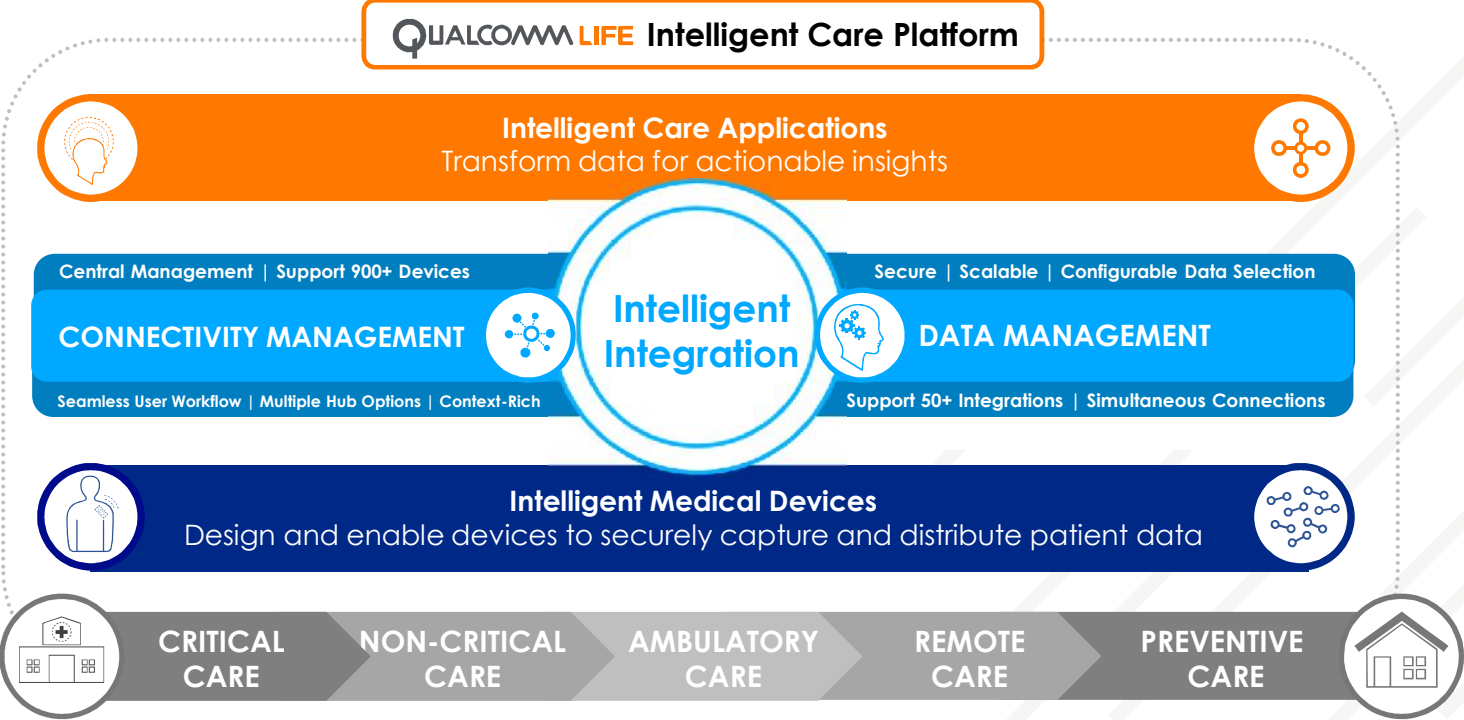
Review accurate, timely & comprehensive patient vitals history

Support Better Collaboration & Communication

Improve Patient Safety, Satisfaction & Overall Experience



QualcommLife's vision of ICT Bringing Healthcare Providers and Patients together for Better Outcomes



ICT Can Contextualize Data

Adding More flexibility to connect each device and system

Context

Patient ID

User ID

Device ID

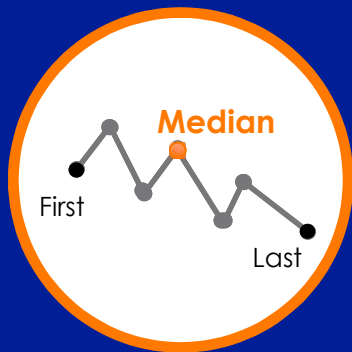
Location

Time

Observations

ICT can Simplify

Simplify the process of configuring data management rules



Data Sampling

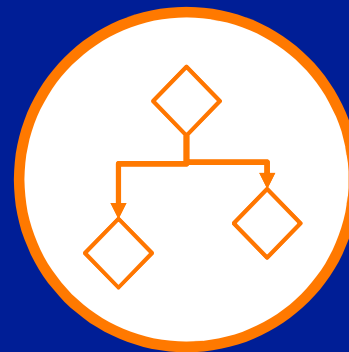
New 'Median Value' enables user to lower errant data points getting into patient record



Multi-Set Extraction Attribute Extraction

Allows user to extract certain data points to standalone variables

Useful for alarm Limits

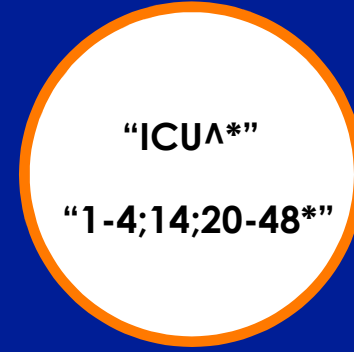


Conditional Selection

+ New operators: \leq and \geq .

2nd condition added:
Possibility to select value within range

Possibility to define a « time to live » for the application of the rule

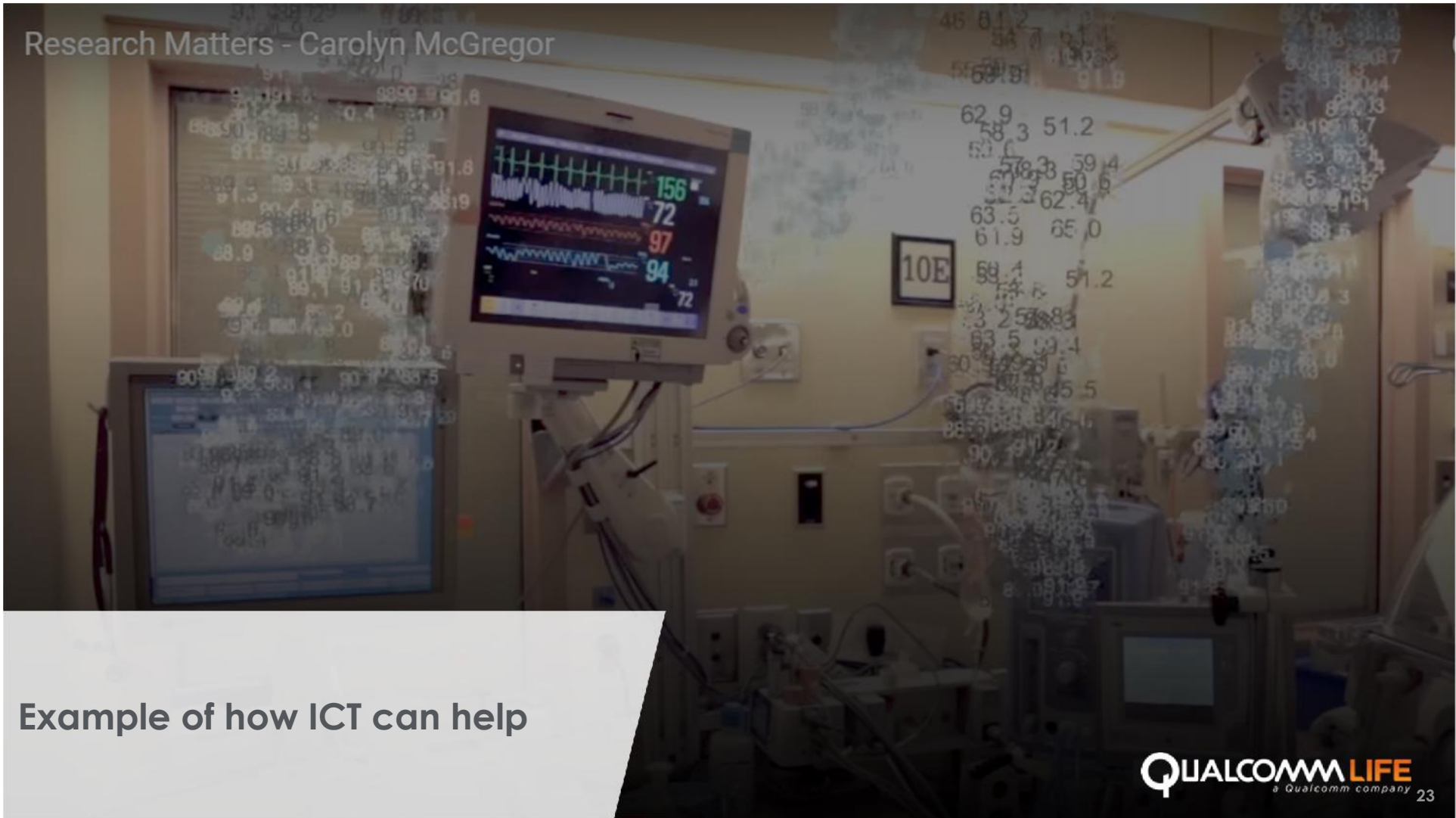


Wild Cards & Ranges

Goal: Reduce # of rules

Can define multiple values in one constraint

Research Matters - Carolyn McGregor



Example of how ICT can help

Role of Technology in Healthcare Provider and Patient Interaction

Internet

Education using recording technology

Education driven to Point of Care

Early Warning Actionable Insights

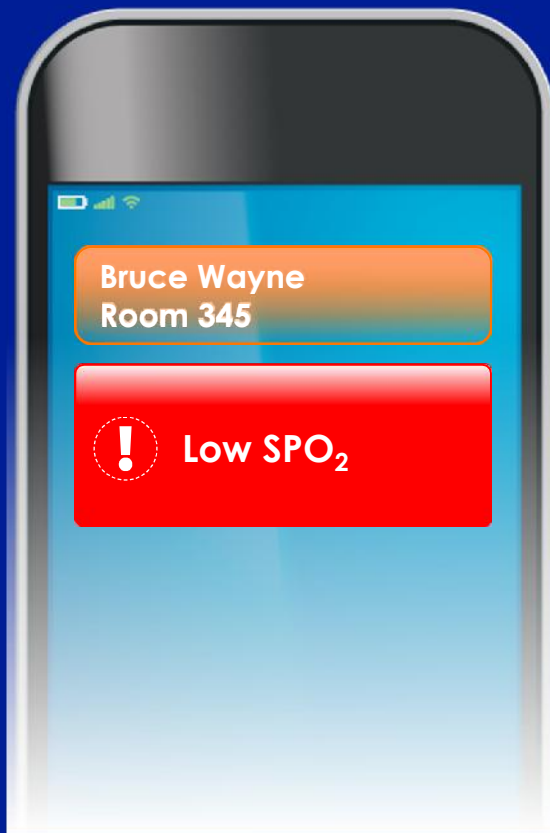
Improve clinical efficiency

Improved Situational Awareness

Before Data Aggregation



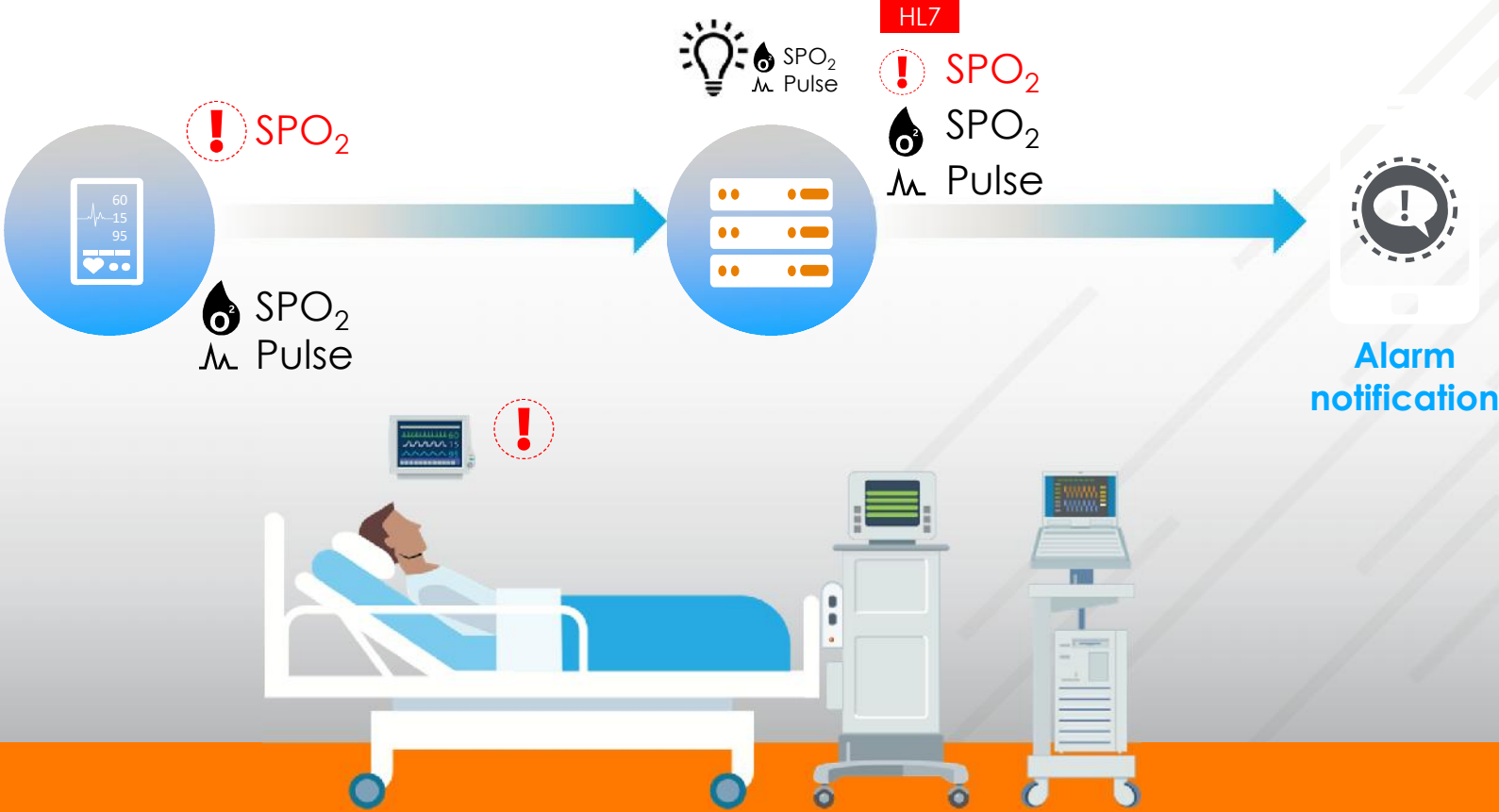
Before Data Aggregation DMM



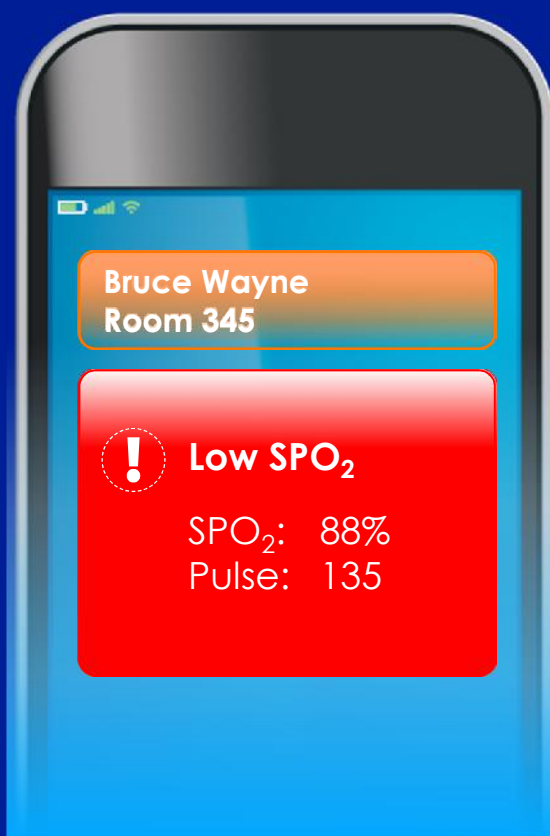
*Image of 3rd party Alarm Management System
(not a Qualcomm Product)*

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With Data Aggregation DMM



With Data Aggregation DMM



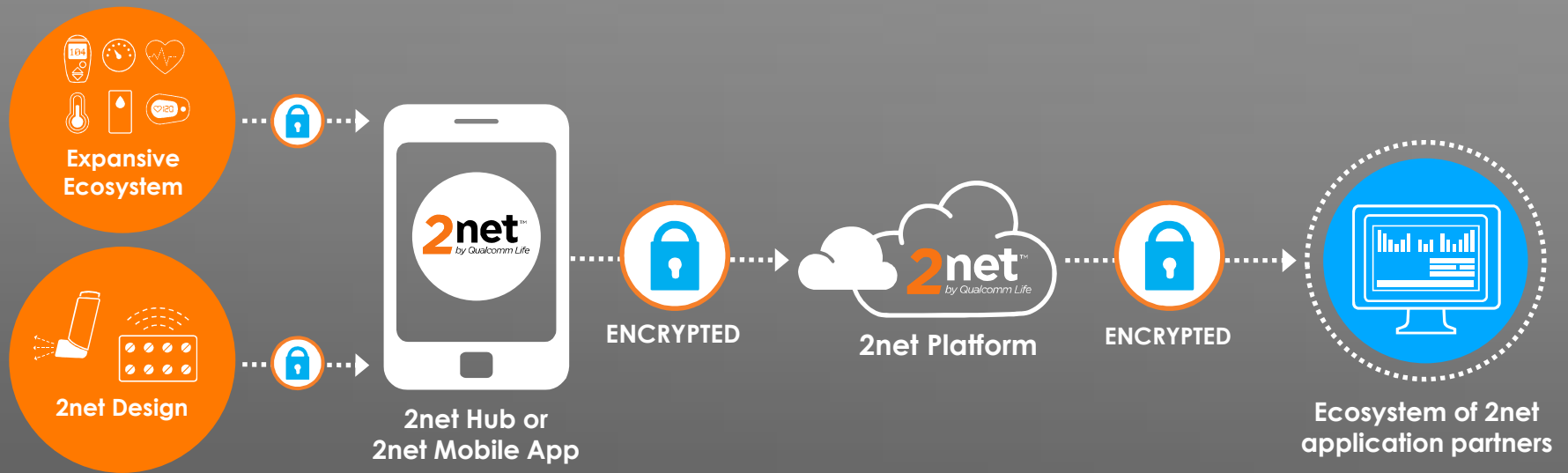
*Image of 3rd party Alarm Management System
(not a Qualcomm Product)*



Care Outside the Institution

Remote monitoring/Virtual Care

2net Platform



2net Hub Gen 2

Increased bandwidth
and continuity
with LTE Support

Medical-grade
M2M connectivity

Advanced Encryption
Standard AES-256

Qualcomm
Snapdragon silicon



Over-the-air upgrades

- Application layer
- OS
- Security updates
- Patches

Expanded memory

- 2GB for medical data

Effortless user experience

- Audible feedback
- Intuitive light sequence

2net Mobile

Medical-grade gateway

Designed to HIPAA privacy and security standards

Dynamic provisioning
Effortless multi-sensor setup



Embedded software module for OEM applications

Open architecture connecting to expansive ecosystem

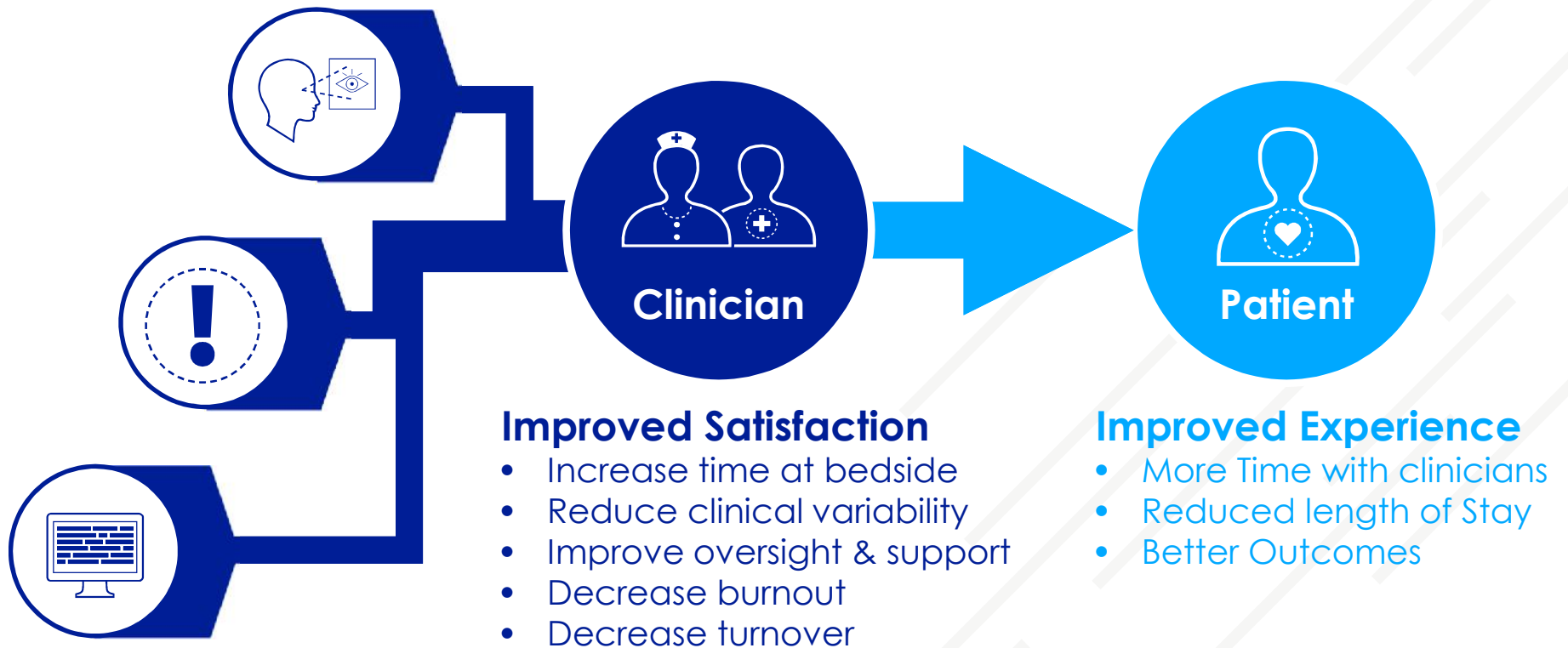
Bring your own device (BYOD) flexibility

In Summary



Support Better Collaboration & Communication

Improve Patient Safety, Satisfaction & Overall Experience



Mobile and Telehealth Technology

Mobile Sensors/ Smart phones

- Telehealth for patients in rural areas
- Remote patient monitoring
- Virtual Care
- Virtual Reality



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