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Patients on non-ICU floors accessibility to complex monitoring devices compared to standard monitors on the ability to provide critical monitoring when necessary

Ashton Seifert

Background

Cardiac arrest that occurs in hospitals carries a mortality rate of 80%, even though there are numerous advances in health care (Yousaf et al., 2018). Typically, these life-threatening cardiac arrests can be preceded by changes in the client status, specifically in the vital signs (Yousaf et al., 2018). While in the ICU mortality rates are increased and all patients are monitored on a monitor that can read Arterial line pressures, continuous pulses, and monitoring of oxygen saturation. Patients on the non-ICU floor receive monitoring using standard devices. These devices only monitor vital signs periodically and do not provide continuous monitoring of the patient.

Identifying the Problem

During a recent experience on an internship, the lack of complex monitoring devices on non-ICU floors was identified as a problem in the hospital. During The shift, a Code Blue was called to the Labor and Delivery floor. While the normal response team is an ICU nurse, the hospitalist, and tech from the ED to respond. During the code, a central line, and an arterial line was placed in the patient. Due to the lack of monitoring equipment in the Labor and Delivery room, there was no way to determine blood pressure, pulse, or oxygen saturation on the client. The ICU had to be called to bring a monitor, delaying the care that the patient needed to receive. After this situation, it was determined that all the other hospital floors lacked the complex monitors needed during these life-threatening situations

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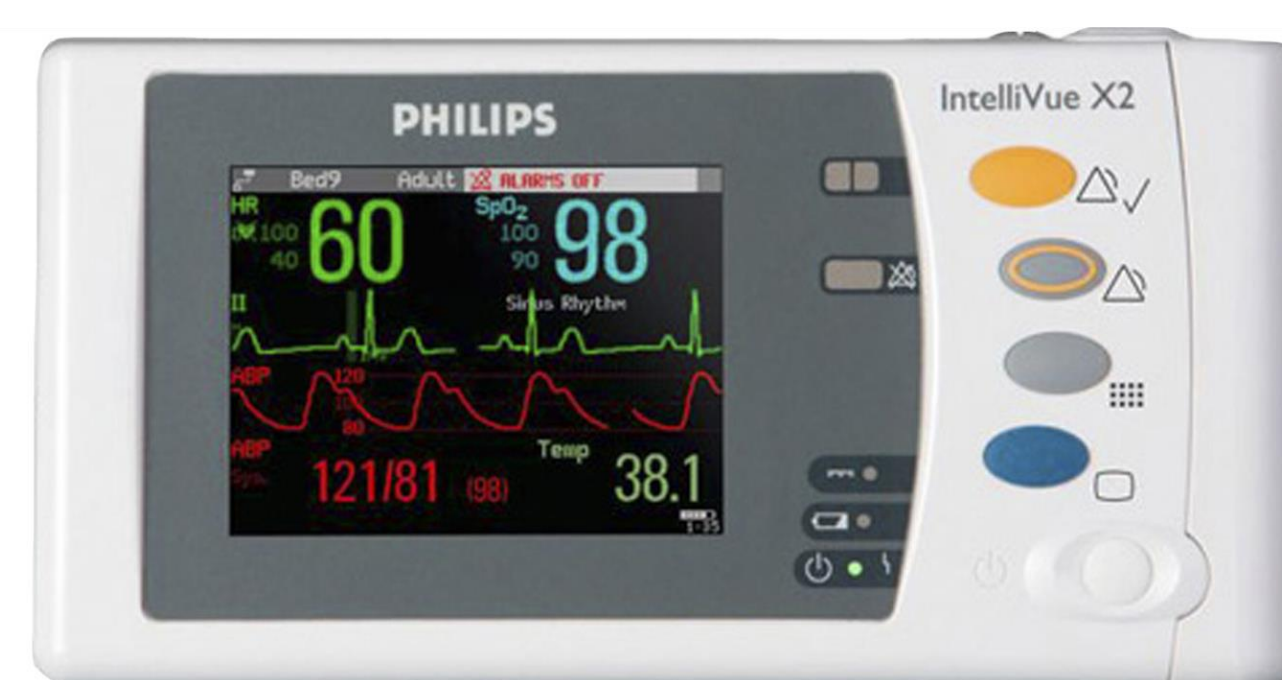
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Different Monitoring Devices:

IntelliVue X2 monitors:

- Use for patient transport
- Dynamic wave area adjust in size
- Extra battery pack with 6 hours of hospital transport time
- CO2 measurement with additional invasive blood pressure and temp management
- 12 lead EKG, multi-lead arrhythmia and ST-segment analysis, CO2 mainstream or temperature, choice of pulse oximetry, and oxygen pleth waves
- Transmit data wirelessly
- Continuous monitoring



Connex Spot Monitor:

- Quick blood pressure, spot-check temperatures, sports check pulse oximetry, spot check respirations
- Connect to the EMR
- Can detect signs of patient deterioration



Spadley's Change theory

1. Recognize the need for change
2. Diagnosis of the problem
3. Analysis of alternative solutions
4. Selection of change to be implemented
5. Implement the change
6. Plan the change
7. Evaluate the change
8. Stabilize the change

Solutions

- Installing 3-5 IntelliVue X2 monitors, depending on the size of the floor, on every floor of the hospital. Including at least 1 monitor in each of the diagnostic centers.
- Installing 1 monitor on each of the Code carts

Barriers of implementation

- Cost
- Education
- Device faults (false alarms)
- Lack of employee trust

How to disseminate the changes

- Implement huddle education on every unit
- Send out emails regarding training process
- Provide in-person as well as online training
- Provide hands-on training opportunities
- Provide hand out of instruction as well as what the monitors can be used for
- Get client surveys to determine

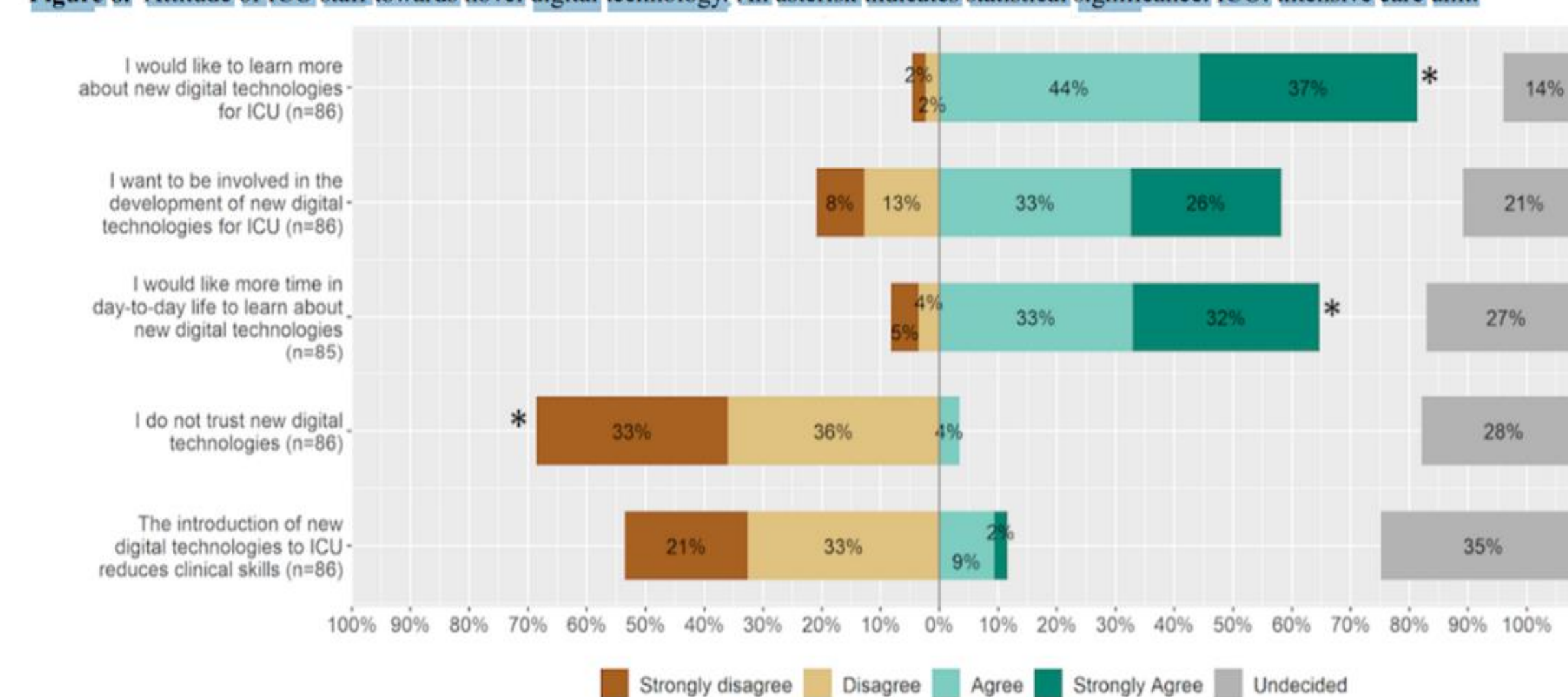
Conclusion

Continuous vital sign monitoring outside of the ICU setting can benefit the patient and improve patient outcomes. It is cost effective and can provide positive outcomes during rapid response situations (Downey et al., 2018).

Improvements in patient monitoring

In a recent study looked at the satisfaction of ICU employees regarding monitoring devices

Figure 8: Attitude of ICU staff towards novel digital technology. An asterisk indicates statistical significance; ICU: intensive care unit.



- Patient monitoring systems in the ICU significantly impact the nurse's clinical decision making (Poncette et al., 2020).
- Using these patient monitoring devices is also received well by the nursing staff and they wish to include more education and have a trust for the increased technological monitoring devices (Poncette et al., 2020)

Usage of devices to help make clinical decisions

