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Donna Lee Armaignac

*Baptist Health South Florida*, [donnaar@baptisthealth.net](mailto:donnaar@baptisthealth.net)

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# Telemedicine is Medicine, Tele-ICU is ICU, and Tele-Healthcare is Healthcare

Donna Lee Armaignac<sup>1</sup>, Heather Meissen<sup>2</sup>, Craig Lilly<sup>3</sup>, Timothy G. Buchman<sup>4</sup>, Jeremy Kahn<sup>5</sup>, Michael Reis<sup>6</sup>

<sup>1</sup>Baptist Health South Florida, <sup>2</sup>Emory University Hospital, <sup>3</sup>University of Massachusetts Memorial Medical Center, <sup>4</sup>Emory University, <sup>5</sup>University of Pittsburgh, <sup>6</sup>Advocate Health Care

## Background

- Connected health technologies make healthcare more effective and efficient by electronically connecting clinicians and patients and providing clinical-support to clinicians
- Tele-healthcare:
  - affords advanced physiologic monitoring
  - strengthens integration of clinical services
  - increases access to care
  - decreases patient mortality, complications, readmissions, and length of stay (LOS)
- Objectives:
  - Outline persistent and emerging healthcare challenges
  - Provide examples of BHSF's tele-solutions to aforementioned challenges

## Tele-Solutions

- Example solution to ED surge, patient experience and ICU patients in the ED:
  - Tele-Triage to provide real time solution for unexpected surges in the department and improve 'door-to-doc' time and 'door-to-dispo-decision'
  - Compared tele-triage group and regular triage group for door-to-doc:

Cases vs. Control	Tele-triage significantly reduced time by:
Overall	25 min
Chest pain patients	45 min
Abdominal pain patients	20 min
Other pain patients	30 min

- No significant differences for door-to-dispo decision, except for subgroup comprised of chest and epigastric pain.
  - In chest pain patients, tele-triage group had a decision made 40 min sooner than the regular triage group
- Example solution to disaster preparedness:
  - ICU without borders

**CHALLENGE**

**IMPACT DEPARTMENTS**

- EDs 50% - 100% over capacity per surge unit period
- ICUs all full
- Mobile carts constant use
- MBDs - non-tele emergency administrators - hospital discharges

**PLANNING**

**SOLUTION - Not one part in a system**

**LESSONS LEARNED**

- No internet or cell service
- Remember Walter Talsand II
- improved food planning
- showed sign
- carriage
- bedroom
- Create a tele-triage IC

## Persistent & Emerging Challenges

- ICU and PCU acuity/bed utilization
- ED surge, patient experience and ICU patients in the ED
- LOS and cost
- Disaster preparedness
- See the forest through the trees

## Discussion

- To fulfill the promises of health information technology, we need to maximize positive patient care expertise, and provide solutions to persistent and emerging healthcare challenges
  - BHSF's tele-critical care hub-and-spoke model of care delivery promotes optimized access to evidence-based, patient-centered care
  - BHSF's Center for Advanced Analytics applies predictive analytics to the data from tele-applications

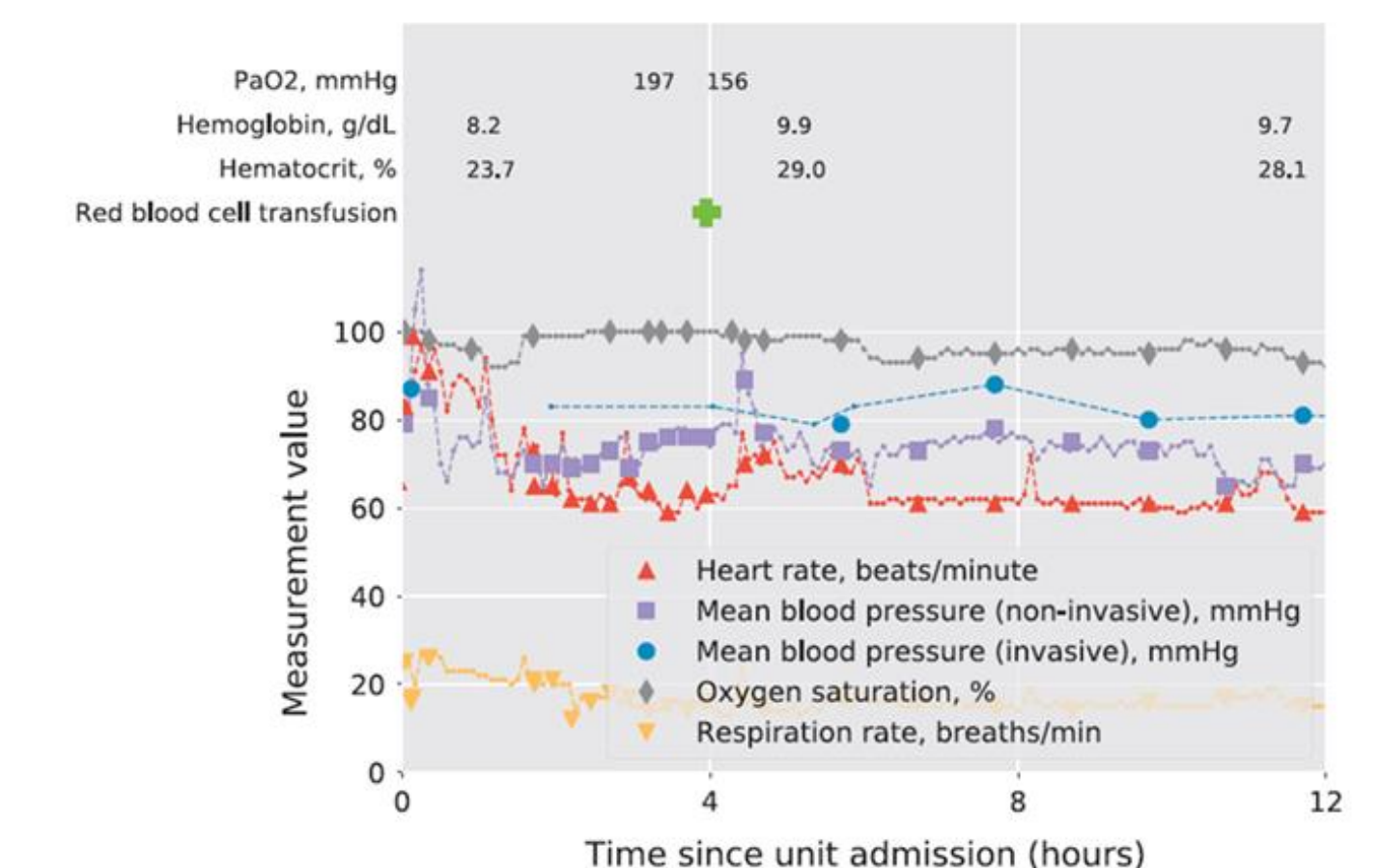


Figure 2. Visualization of a single patient's stay. Data shown are a subset of all data available, and include: high granularity vital signs (dashed lines, sourced from *vitalPeriodic* and *vitalAperiodic*), nurse validated vital signs (solid markers, sourced from *nurseCharting*), blood product administration (green cross, sourced from *intakeOutput*), and laboratory measurements (sourced from *lab*).

Source: [www.nature.com/sdata](http://www.nature.com/sdata)

## References

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