THE INTERNATIONAL SIMULATION DATA REGISTRY: CONNECTING DATA TO LIFE

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Disclosures

- Member of the Society for Simulation in Healthcare Research Committee
- Member of the AHA GWTG-R Quality Task Force

Overview

Why link simulation with reality?

The ISDR

Comparing data

Get With The Guidelines® Resuscitation

Uses of Healthcare Simulation for Resuscitation

- Training and assessment of learners' resuscitation skills
- "In-situ" evaluation of code/rapid response systems
- Assessment of clinical environments

Healthcare Simulation Dictionary, Agency for Healthcare Quality and Research. https://www.ahrq.gov/sites/default/files/publications/files/sim-dictionary.pdf

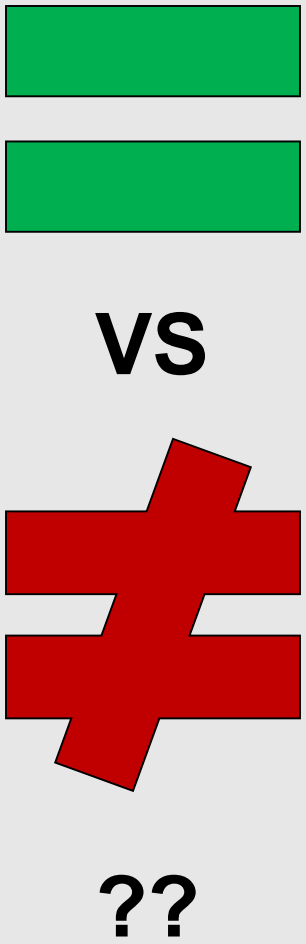
ISDR

INTERNATIONAL SIMULATION DATA REGISTRY

CONNECTING DATA TO LIFE

A Key Assumption…

- All of these uses depend on the assumption that learners/attendees behave similarly in both environments
- Critical to establishing the impact of the simulation-based resuscitation education, evaluation, and research work



Overview of the ISDR

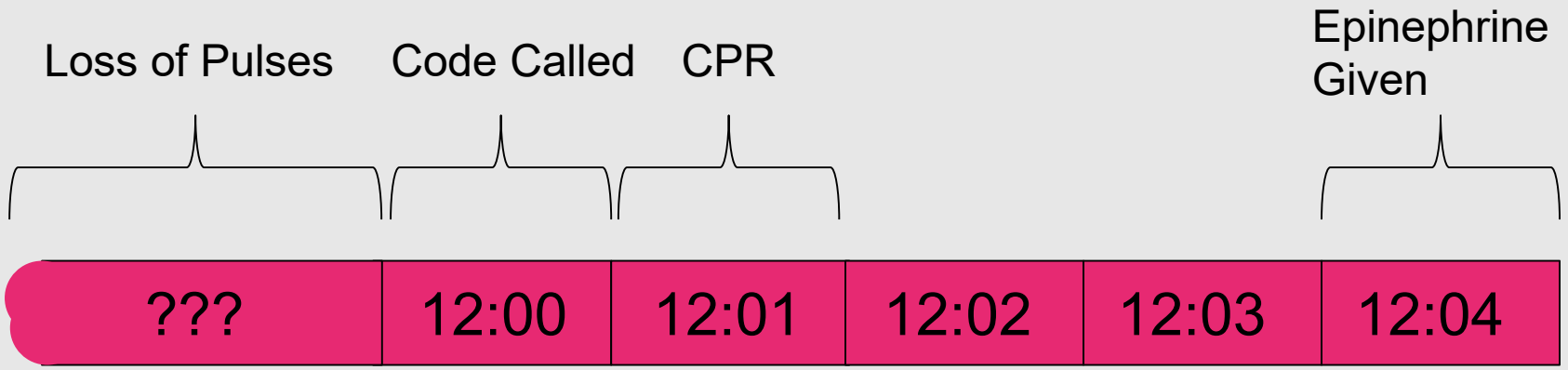
- Tracks the following simulations
  - Cardiac Arrest
  - Difficult Airway
  - Malignant Hyperthermia
- Cardiac Arrest simulations use data definitions interconvertible with AHA-GWTG
- Ability to differentiate systems testing, educational, and research simulations
- 35 registered centers
- 939 simulation sessions in the system as of September 2019 (approx. 100 per year)

Metrics Collected

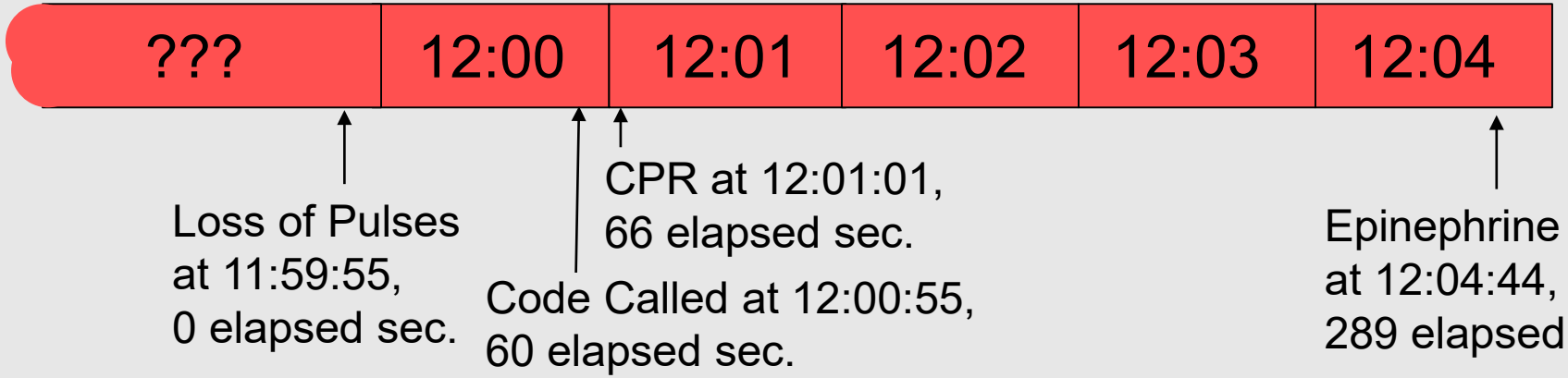
- Demographic
  - Simulator Used
  - Situation Simulated
  - Participants
  - Location of Case
    - Center-based
    - In-situ
  - Purpose of Simulation
    - Educational
    - Systems Testing
    - Research
  - Participant Awareness
    - Announced vs Unannounced
- Case-Specific
  - Total Arrest Duration
  - Time to Recognition
  - Time to first BMV/effective BMV
  - Time to first CPR/Effective CPR
  - Time to first Epi/Correct Dose
  - Time to first Defibrillation/Correct Dose
  - Case Outcome
  - Time to Dantrolene (MH)
  - Time to Airway (difficult airway)

An Example…

Actual Arrest - Using GWTG Data Collection Approach



Simulated Arrest – Using ISDR Data Collection Approach

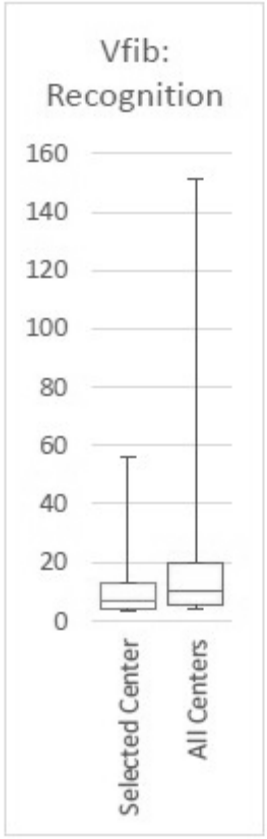


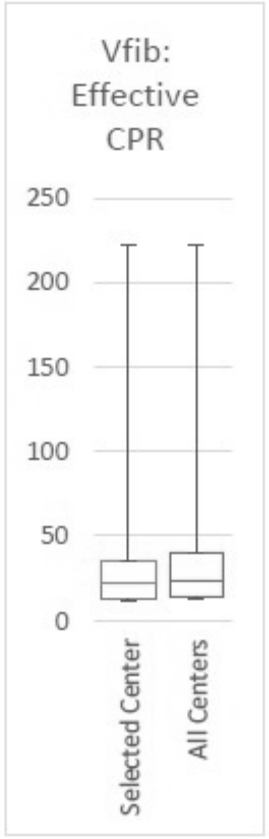
Current ISDR Demographics

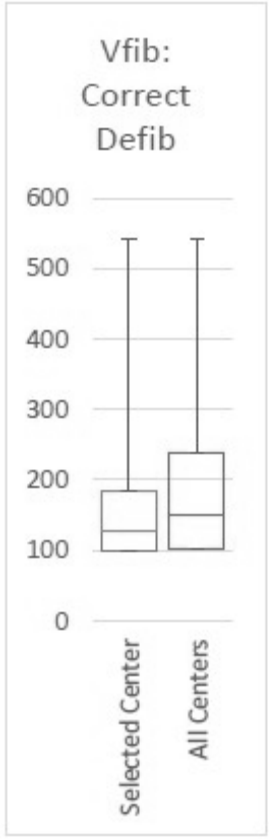
Data Field:	Percent of Sessions with Compete Data (n=939) per Category
Patient Population Simulated:	• Adult Cases - 31% (292/939) • Pediatric Cases – 65% (610/939) • Unidentified – 4% (37/939)
Case Location:	• Simulation Center – 16% (150/939) • In-situ – 84% (788/939) • Unidentified – <1% (1/939)
Case Category:	• Ventricular Fibrillation – 34% (321/939) • Pulseless Electrical Activity – 22% (210/939) • Pulseless Ventricular Tachycardia – 21% (195/939) • Asystole – 19% (174/939) • Malignant Hyperthermia – 2% (15/939) • Difficult Airway – 3% (24/939)

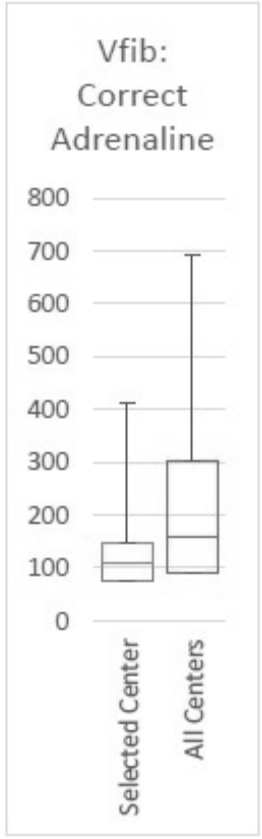
Registry Report

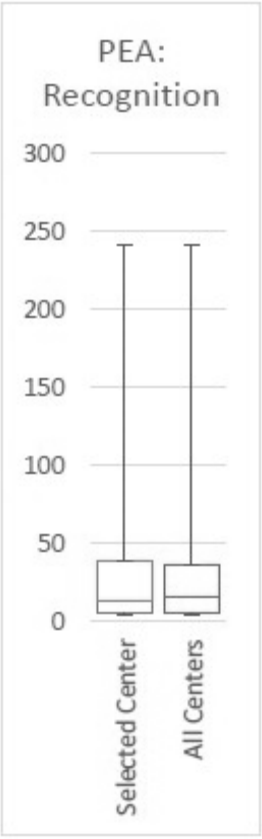
	Total (count)		Intervention not done (%)		Median (time in seconds)	
	Selected Center	All Centers	Selected Center	All Centers	Selected Center	All Centers
Vfib: Time to Recognition	75	160	1%	1%	7	10
Vfib: Time to effective CPR	74	132	7%	4%	22	24
Vfib: Time to correct defibrillation	75	176	19%	12%	126	150
Vfib: Time to correct adrenaline	28	111	11%	18%	110	160
PEA: Time to Recognition	95	132	7%	6%	13	15
PEA: Time to effective CPR	96	134	10%	8%	40	30
PEA: Time to correct adrenaline	94	131	12%	10%	129	138
Pneumothorax: time to decompression	-	-	-		-	-
MH: diagnosis to d/c agent	0	5	-	0%	-	120
MH: diagnosis to Dantrolene	0	5	-	0%	-	390
Diff. Airway: time to ventilation	0	4	-	0%	-	419

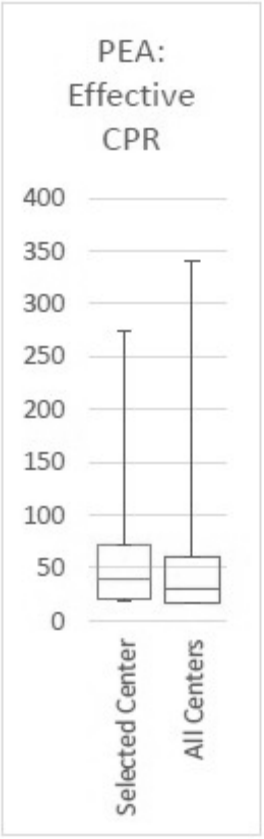


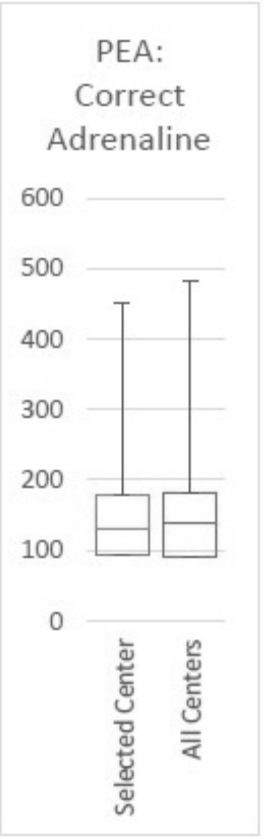












Value to Participants

Provision of yearly benchmarking reports

Comparison of performance with other centers

Mechanism for demonstrating ROI to institutional leadership

Access to data for research purposes

Now part of Society for Simulation in Healthcare

Currently migrating data

After this will be available to all members as a benefit and expect significant increase in contribution

THANK YOU