

Digital Learning Boards (DLBs):

A platform for the Journey to High Reliability health care

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*Executive Vice President and Chief Physician Executive, Houston Methodist
President and CEO, Houston Methodist Specialty Physician Group*

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- HRO Principles in Practice at HM
- Digital Learning Boards (DLBs) as a platform for the journey to high reliability health care
- DLBs in Houston Methodist ICUs: A Video
- Learnings, Outcomes and Costs

HRO Aspirational Principles at Houston Methodist

HRO Principle	Everyday Practice at HM
Deference to expertise	
Sensitivity to Operations	
Reluctance to Simplify	
Commitment to Resilience	
Preoccupation with Failure	

What HRO gaps are we trying to close?

Organizational Culture of Safety Surveys

2015 AHRQ Culture of Safety

- Teamwork
- Intra- and Inter-departmental communication

2018 Employee Opinion Survey

- Teamwork and Intra-departmental communication ongoing opportunities

2019 Employee Opinion Survey

- Job stress
- Psychological safety
- Non-punitive handling of errors

Unit Level – Culture of Safety Assessments

2015 SCORE* survey

- Burnout climate/work fatigue
- Teamwork

2017 SCORE Survey

- Psychological safety, handling of errors;
- Work-life balance; workload; respect;
- Night and Day shift communication (handoff)

2019 SCORE Survey

- Burnout Climate/Personal Burnout
- Work-life balance
- Intentions to Leave Organization

Functioning effectively as a Learning Health System to close HRO gaps

- “Learning health systems (LHS) are health care systems in which knowledge generation processes are embedded in daily practice to produce continual improvement in care”
- IOM 2007

Digital Learning Boards: A solution to Identified Problems

2015 - 2018

- Partnered with ***Safe and Reliable Healthcare*** to pilot multiple methods to identify staff concerns, to improve communication, teamwork, and engagement of front-line staff in ICUs
- Most successful pilots were analog learning boards where staff posted their issues and managers addressed them to resolution
- Digital boards using ***Learning Engagement System*** (LENS)[™] technology became available in late 2017 and we moved toward these since we thought that they offered a more efficient and appealing method for achieving goals of high reliability and a learning health care system

Project Phases & Stakeholder Participation

Digital Learning Boards

Pre Initiative



Fall 2018 – Winter 2019

Socialization/Training/Installation

Intervention



Winter 2019 – Spring 2020

Engagement & Transformation

Post Initiative



Spring 2020 and Beyond

Sustainability

SQPS Project
Team/LEAN Coach

System ICUs,
HMCL Acute
Care Units

Hospital
Leadership

Digital Learning Boards

1

Gives Voice to the Front-line

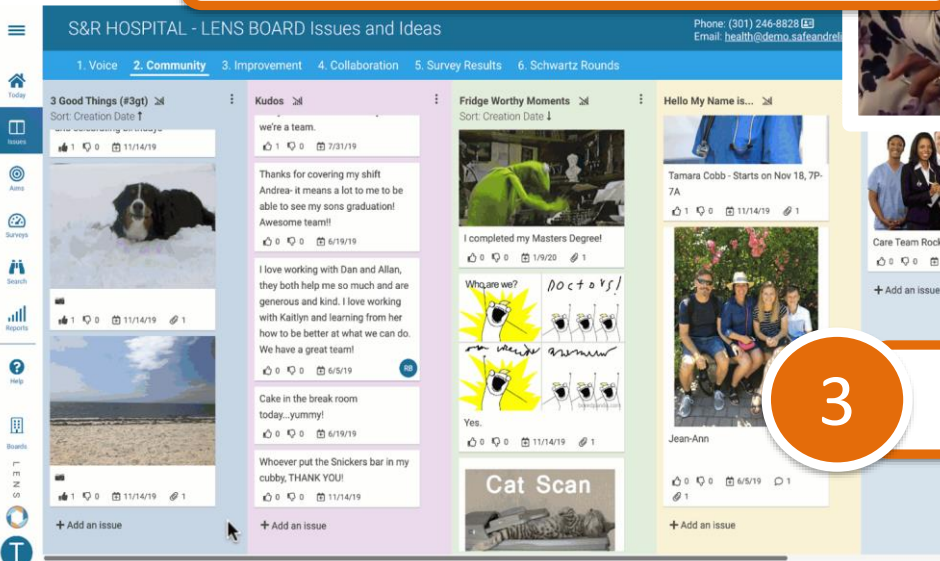
Visual system for management of daily work

2

MARY KNOBLES, RN
Charge Nurse, Houston Methodist Willowbrook Hospital ICU

3

Build Resiliency & Community



Front Line Have Voice.

Be heard.

Someone cares.

Deference to Expertise in Practice

Add an Issue or Idea

☰

Today

Issues

Aims

Surveys

Search

Reports

Help

Boards

LENSS

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S&R HOSPITAL - LENS BOARD Issues and Ideas

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Filter

1. Voice 2. Community 3. Improvement 4. Collaboration 5. Survey Results

Identified

Sort: Creation Date ↓

+ Add an issue

In Progress

Review SIRS criteria with 4 Medical
0 0 6/17/19
11/14/19

Update policy for AMA patients with staff education/awareness.
0 0 6/19/19
10/31/19

+ Add an issue

Completed

pyxis machine needs to be moved closer to unit
1 0 11/14/19
1/6/20 2

The printer is not working in RN station
0 0 11/14/19
1/6/20

+ Add an issue

Pt Thank Yous

Can we get posey pad alarms added to server?
0 0 6/19/19

What is the process for a patient leaving AMA? After the nurse sees the patient, do we call the MD to come see them too?
0 0 6/19/19

+ Add an issue

Daily Safety Briefing Issues

EHR down in ICU last night hours
0 0 11/14/19

Thank you Jennifer for taking care of me today when I was scared and alone. I know you were busy but the moment you sat on the bed with me in my hand let me know that it meant more than you know
0 0 11/14/19

+ Add an issue

REMINDER: Do not post any identifiable patient information/PHI (Protected Health Information)

8

Deference to Expertise in Practice

Add an Issue or Idea

☰

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+ Add an issue

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Deference to Expertise in Practice

Add an Issue and Idea

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Can we get extra security for the ED waiting room on night shift?

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11/14/19

REMINDER: Do not post any identifiable patient information/PHI (Protected Health Information)

Deference to Expertise in Practice

Add and issue or idea BY TEXT

S&R HOSPITAL - LENS BOARD Issues and Ideas

1. Voice | 2. Community | 3. Improvement | 4. Collaboration | 5. Survey Results

Identified Sort: Creation Date ↓

+ Add an issue

In Progress

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6/17/19
11/14/19
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6/19/19
10/31/19

+ Add an issue

Completed

- pyxis machine needs to be moved closer to unit
11/14/19
1/6/20
- The printer is not working in station
11/14/19
1/6/20

+ Add an issue

LENS Board

Can we get extra security for the ED waiting room on night shift?!

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Deference to Expertise in Practice

Add and issue or idea BY TEXT

The image displays the S&R HOSPITAL - LENS BOARD Issues and Ideas interface, which is organized into three main columns: Identified, In Progress, and Completed. The interface includes a sidebar with navigation options such as Today, Issues, Aims, Surveys, Search, Reports, Help, and Boards. The Identified column contains an issue titled "Can we get extra security for the ED waiting room on night shift?" with a creation date of 1/7/20. The In Progress column shows two issues: "Review SIRS criteria with 4 Medical" (dated 6/17/19) and "Update policy for AMA patients with staff education/awareness." (dated 6/19/19). The Completed column lists two issues: "pyxix machine needs to be moved closer to unit" (dated 11/14/19) and "The printer is not working in RN station" (dated 11/14/19). A hand is holding a smartphone that displays the LENS Board app, showing the same issue "Can we get extra security for the ED waiting room on night shift?" in a speech bubble format. A notification at the bottom of the screen reads "Issue added".

S&R HOSPITAL - LENS BOARD Issues and Ideas

Phone: ()
Email: ()

1. Voice 2. Community 3. Improvement 4. Collaboration 5. Survey Results

Identified Sort: Creation Date ↓

Can we get extra security for the ED waiting room on night shift?

👍 0 🗨️ 0 📅 1/7/20

+ Add an issue

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Completed ✓

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👍 1 🗨️ 0 📅 11/14/19

✓ 1/6/20 🗨️ 2

The printer is not working in RN station

👍 0 🗨️ 0 📅 11/14/19

✓ 1/6/20

+ Add an issue

LENS Board

Can we get extra security for the ED waiting room on night shift?

Issue added

REMINDER

Managing Daily Work: Cultural, Clinical, Operational

Enables managers to be more sensitive to operations by efficiently resolving issues (cultural, clinical, and operational) that are identified by the front-line staff

Embeds a learning healthcare culture into the organization as identification of issues and their resolution becomes the cultural expectation

Sensitivity to Operations in Practice

Managing added issues

☰

Today

Issues

Aims

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LENS

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1. **Voice** 2. Community 3. Improvement 4. Collaboration 5. Survey Results 6. Schwartz Rounds

Identified

Sort: Creation Date ↓

Where can we go for advice on caring for pediatric ED pts that are suffering from abuse or severe trauma. These cases are difficult in many dimensions
👍 0 🗨️ 0 📅 1/7/20

Can we get extra security for the ED waiting room on night shift?
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+ Add an issue

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Sensitivity to Operations in Practice

Managing added issues

☰

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0 0 6/19/19

+ Add an issue

Build Resiliency & Community

The “community” copes with and bounces back from errors or unexpected events because they are a team with bonds and know and support each other every day

Commitment to Resilience in Practice

S&R HOSPITAL - LENS BOARD Issues and Ideas

1. Voice 2. Community 3. Improvement 4. Collaboration 5. Survey Results 6. Schwartz Rounds

3 Good Things (#3gt)

Sort: Creation Date ↑

1 0 11/14/19



1 0 11/14/19 1



1 0 11/14/19 1

+ Add an issue

Kudos

we're a team.

1 0 7/31/19

Thanks for covering my shift
Andrea- it means a lot to me to be
able to see my sons graduation!
Awesome team!!

0 0 6/19/19

I love working with Dan and Allan,
they both help me so much and are
generous and kind. I love working
with Kaitlyn and learning from her
how to be better at what we can do.
We have a great team!

0 0 6/5/19

Cake in the break room
today...yummy!

0 0 6/19/19

Whoever put the Snickers bar in my
cubby, THANK YOU!

0 0 11/14/19

+ Add an issue

Fridge Worthy Moments

Sort: Creation Date ↓



I completed my Masters Degree!

0 0 1/9/20 1



Yes.

0 0 11/14/19 1



Hello My Name is...



Tamara Cobb - Starts on Nov 18, 7P-7A

1 0 11/14/19 1



Jean-Ann

0 0 6/5/19 1

+ Add an issue

Our Team



Care Team Rocks

0 0 11/14/19

+ Add an issue

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DIGITAL LEARNING BOARDS WORKING IN ICUs

<https://vimeo.com/396529530/dc04731652>

HOUSTON
Methodist[®]
LEADING MEDICINE




00:03



Outcomes - ICUs

SCORE Survey & EOS Survey

Employee Engagement

- 2018 Tier
7 of 9 Tier 1
2 of 9 Tier 2
 - 2019 Tier
9 of 9 Tier 1
- 

These EOS data represent only the 9 ICUs we have been tracking since 2015 in our HRO process improvement work

Burnout – SCORE Domain

- **Burnout Climate** - perception re: environment & others
 - Down 7% across work settings from 2019 to 2020*
- **Personal Burnout**
 - Down 8% across work settings from 2019 to 2020*

* Prelim Analysis

Teamwork – SCORE Domain

- Comparing 2020 (post intervention) to 2017 and 2019 (pre-intervention) SCORE data, there were no significant improvements in teamwork domain*
- A reduction around communication breakdowns was observed and sustained from 2017, 2019, and 2020*

* Prelim Analysis

Learnings to Date

- **Voice:** Giving a voice
- **Issues:** Excitement about ability to raise issues and have their voice heard
- **Resolution:** Speed to action greatly increased; time to resolution reduced
- **Engagement:** staff fixing issues; connected to patients
- **Family Engagement:** family's satisfaction/trust/comfort
- **Leaders:** Making leaders stronger and better
- **Pride in work:** Display of collective accomplishments (e.g., CAUTIs, CLABIs)
- **Mindfulness:** Getting into the “mindset”
- **Methodology:** Issues mgt; daily mgt – A3s and drivers
- **Communication:**
 - Between day and night shifts
 - Knowing new staff, residents
- **Community:** joy from a sense of community; “knowing” your coworkers

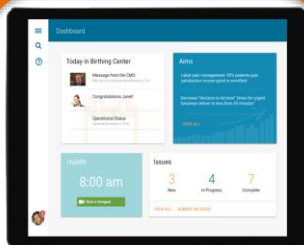
Project Team for Innovation and Costs

HRO Consultants - SRH

System Quality Team

Local Project Team

12 - ICUs
1 - LTACH
3 - IMU
3 - Med Surg
1 - L&D
1 ED
21 boards



DLB Hardware -
\$3500

DLB/LENS™
License &
Technical Team
Support
\$7300/yr

HRO Consultation
& Support
\$150,000/yr

Chief Physician
Executive

Program Director

15%
effort

Project Manager

25%
effort

**LEAN Coaches/
Process Engineer (4)**

15%
effort

**LEAN Coach/
Nurse Educator (1)**

100%
effort

Hospital
Leadership

Unit Leadership

Unit Champion(s)

7 FTEs, ~ \$187,500 Labor/yr

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