



Intel Health & Life Sciences *American RFID Solutions*
Where information and care meet

RAIN RFID : Innovation In Healthcare Data Loss Prevention To Saving Lives

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Healthcare Industry Trends

CHS Breach a Sign of Health Care's Security Illness

By Robert Lemos | Posted 2014-08-24 | Email | Print

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NEWS ANALYSIS: The health care industry spends less on IT security than other industries, and data shows that breaches are on the rise.

Community Health Systems announced Aug. 18 that hackers had breached its health care network of 206 facilities and stolen sensitive information on approximately 4.5 million patients.

The compromise and subsequent data loss is part of a general trend in the sector. The health care industry has given short shrift to IT security, spending less on protecting

its systems and data than most, if not all other, industries, as measured as a percentage of the overall IT budget. And data from firms that track threat intelligence shows that signs of breaches are rampant in the health care industry.

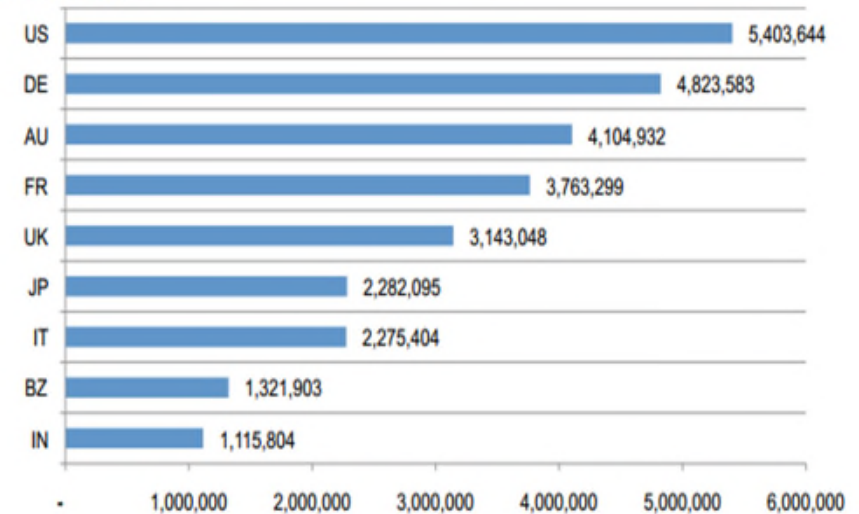
Over the last 10 months, for example, security firm Websense has seen attacks on health care-related firms increase by 600 percent, according to Carl Leonard, senior manager of security research for the company.

"It should certainly be a wake-up call for the entire industry, if one is needed," he told eWEEK. "The health care industry is a very ripe, and seemingly readily-available, target."

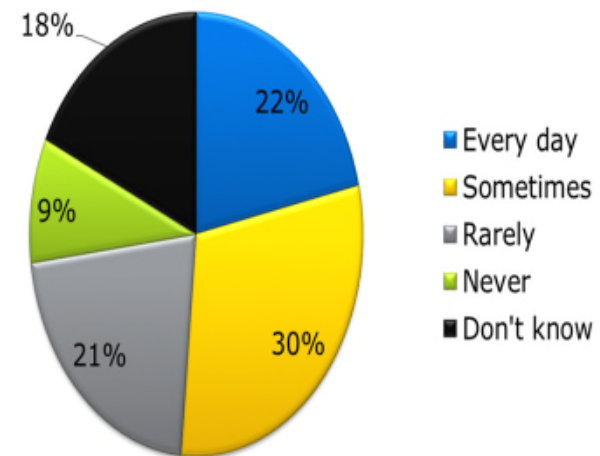
*2013 Cost of Data Breach Study: Global Analysis – Ponemon

**2014 eWeek.com

Figure 3. The average total organizational cost of data breach *
Measured in US\$



How commonly do “workarounds” happen in your organization, which may involve the use of alternative tools such as personal devices / apps or social media that may be out of compliance with policy?



Patient Safety

FierceHealthcare NEWS TOPICS ANALYSIS FEAT

Topics: Patient Care & Outcomes

Hospital medical errors now the third leading cause of death in the U.S.

New study highlights the fact that estimates in 'To Err is Human' report were low

September 20, 2013 | By Ilene MacDonald

SHARE Medical errors leading to patient death are much higher than previously thought, and may be as high as 400,000 deaths a year, according to a new study in the *Journal of Patient Safety*.

Email

240

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127

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597

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The latest numbers are dramatically higher than those in the Institute of Medicine's 1999 report, *To Err is Human: Building A Safer Health System*, which estimated that up to 98,000 people a year die because of hospital mistakes. The data for that report is based on medical record reviews from 1984 and doesn't take into account studies published since 2008.

The new study reveals that each year preventable adverse events (PAEs) lead to the death of 210,000-400,000 patients who seek care at a hospital. Those figures would make medical errors the third leading cause of death behind heart disease and cancer, according to Centers for Disease Control and Prevention statistics.

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*2014 FierceHealthcare

**2014 Journal of Patient Safety

Intermountain Healthcare

Transformation Lab

Intermountain[®]
Healthcare
Transformation Lab

Intel conducts ethnographic research with clinical end users at Healthcare Transformation Lab at Intermountain Healthcare, a state-of-the-art facility designed to bring transformational technologies to the patient bedside quickly and more efficiently.



Collaborative work between clinicians, researchers and technologists focuses on realizing Intel's vision of "Care Anywhere," "Care Networking" and "Care Customization."



Premises-Aware Security

Seamless & Secure Data Access



Intermountain Transformation Lab: POC Use Cases

- Locked In-Transit
- Early Warning System
- Location-Based Security Policy
- RTLS (real-time location system)
- Centralized Compliance/Auditing Support
- Hand-Washing sensor/tracking

Premise Aware Security

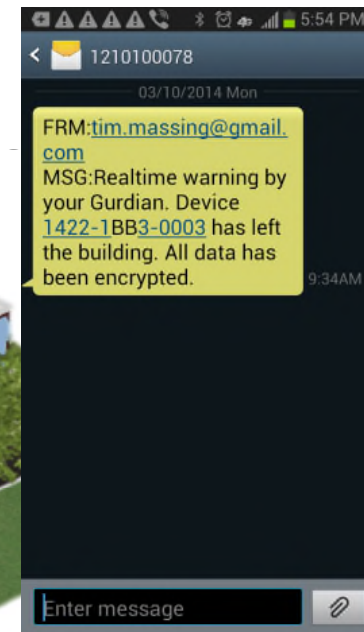


Zone 1

Zone 2

Zone 3

Zone X (Lobby & Outside/Exterior)



Premises-Aware Security Mitigates Healthcare Data Breaches

Wireless Credential Exchange-embedded RFID tag helps safeguard protected health information by enabling security policy enforcement based on device location

We need premises-aware solutions so we know what's happening with our data and where it's going.

– Karl West
Chief Information Security Officer
Intermountain Healthcare

Executive Overview

The Health Insurance Portability and Accountability Act (HIPAA) Security Rule requires healthcare organizations in the United States to prevent unauthorized access to their patients' electronic protected health information (PHI). When PHI is compromised, these organizations can be fined millions of dollars, have their reputations damaged, and lose their patients' trust. The primary causes of security breaches are lost or stolen devices and unauthorized access to PHI or applications that can compromise PHI.

To help mitigate the risk of security breaches in healthcare, Intel is exploring a premises-aware security capability that enables an organization's IT department to monitor all devices, receive alerts if a device leaves a secure zone, and control access to data and applications using location-based security policies, including forced encryption or self-wipe.

The key component to premises-aware security is a Wireless Credential Exchange¹ (WCE)-embedded radio frequency ID (RFID) tag with enhanced security and privacy features connected to Intel's system on a chip (SoC).

HAI Fast Facts

1:21 patients admitted to a hospital will catch a HAI



More people die annually from HAI than from prostate cancer, breast cancer, heart failure or diabetes



Annual infection rate equals 1.9 per bed for an average hospital cost of \$43,649 per CDC. Hand washing evidence based system pay for themselves in 1/2 a month. Ref.: Table 6, "The Direct Medical Costs of Healthcare-Associated Infections in US Hospitals and the Benefits of Prevention from the CDC web site.



Real world use case In
action ...

Hospital Acquired

Hand Washing Activity Platform - HARP

1

Hand washing event occurs via:

- 1) Authorized person at the station
- 2) Detect dispensing of cleansing agent



2

Touch-free EV device sends wash event over Wi-Fi



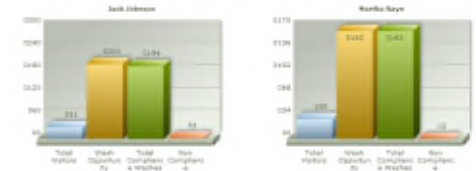
3

Event reports created

Improved Hygiene Compliance Entering Patient Room Summary [Data](#)

Patient	Total Visits	Wash Opportunities	Total Compliance	Non Compliance	WFI	State	Wash Compliance
Jack Johnson	31	206	204	2	99.0%	12/14/13	98%
						David Crickett	12/14/13
						Dr. Morrison	12/14/13

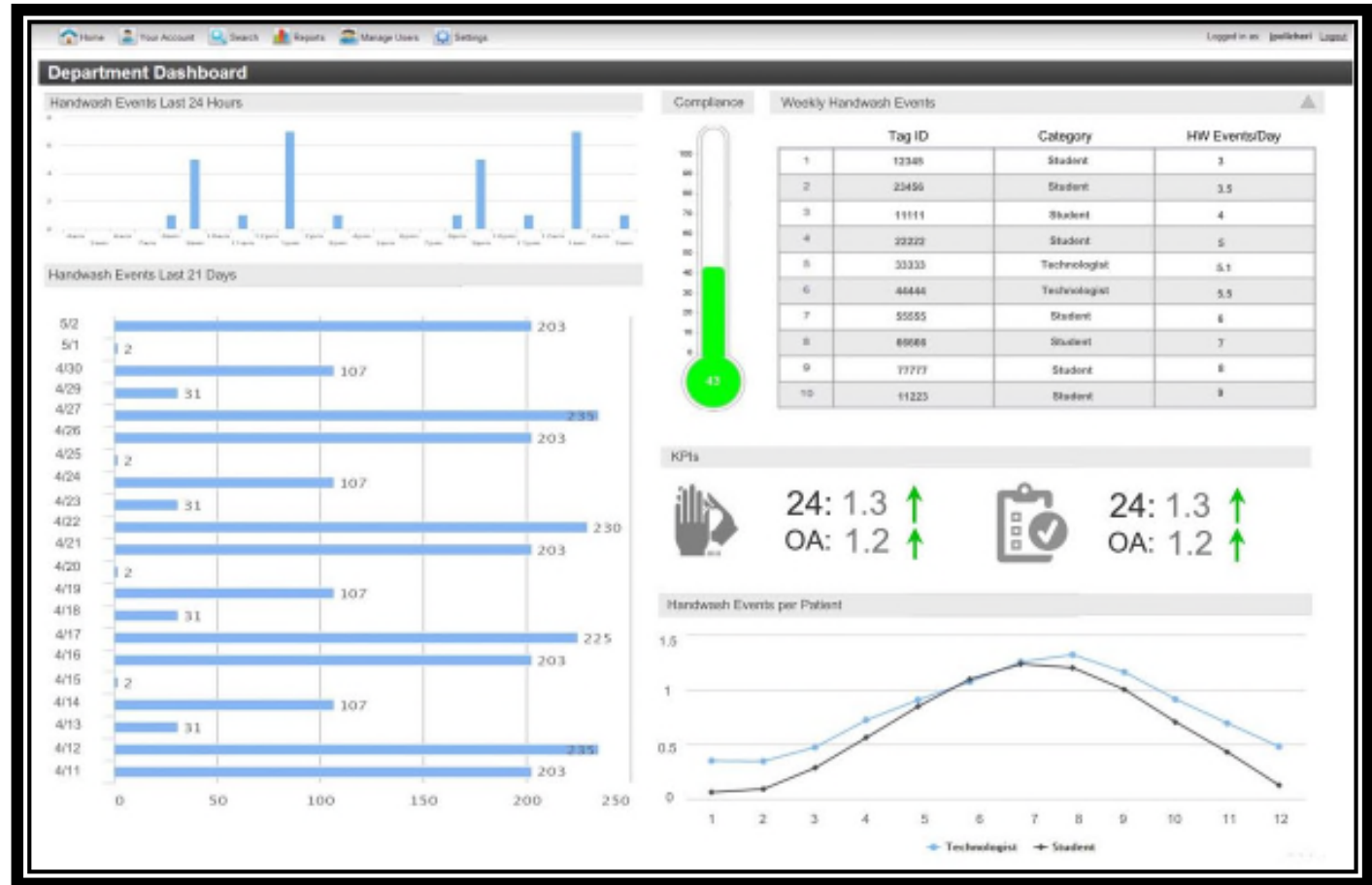
Patient	Total Visits	Wash Opportunities	Total Compliance	Non Compliance	
MARTIN BLAKE	50	343	343	0	100%



Log all hand washing events wherever a HARP is used.

SAMPLE HARP SOLUTION REPORTS

HUNDREDS
OF
STYLES
TO
CHOOSE
FROM



SAMPLE HARP SOLUTION REPORTS

HUNDREDS

OF

STYLES

TO

CHOOSE

FROM

Hand Washing



Room	In(%)	Out(%)
Patients	92	84
OR	98	97
ICU	100	100
Exam	81	70

Report provides real time metrics on compliance for hand washing into and out of a user defined geodetic area

HAND WASHING TRACKING SOLUTION

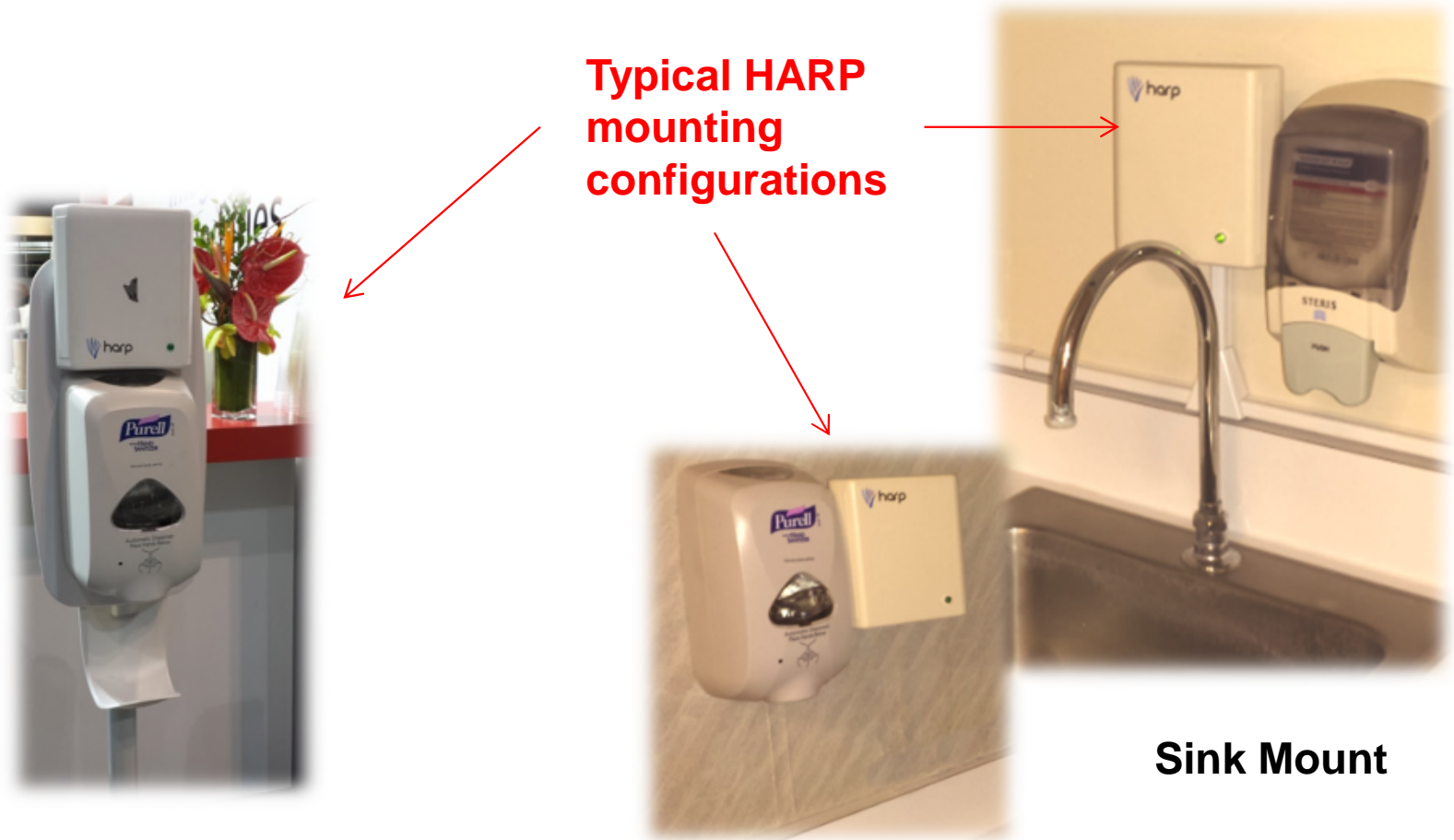
Proximity to hand washing station of X seconds within a 1 foot gives compliance **“event”**

pRFID infrastructure gives wash-in or wash-out **“opportunity”**

Detection of hand cleansing agent ensures compliance **“verification”**



TYPICAL HARP INSTALLATION



Typical HARP
mounting
configurations

Sink Mount

Wall Mount

BENEFITS OF HAND WASHING SYSTEM



Floor standing
HARP unit



**ESSENTIAL
COMPONENT
FOR
ELIMINATING
\$43,649 HAI
AVERAGE
COST/BED
PER YEAR**