HiMSS10

change is everywhere...opportunity is here

EHR Usability Pain Points Survey Q4-2009
HIMSS EHR Usability Taskforce – User Pain Points Workgroup

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Conflict of Interest Disclosure

Ron Ribitzky, M.D., CEO, R&D Ribitzky

- **Receipt of Intellectual Property Rights/Patent Holder:**
  - Inventor/Owner, U.S. Patent 6,363,393 "Component-based Object-Relational Database Infrastructure and User Interface"
- **Consulting Fees (e.g., advisory boards):**
  - Founder/CEO, R&D Ribitzky
  - Board Member, My LifePlan Healthcare Technologies, Inc.
  - Retainer Consultant as Interim Chief Medical Informatics Officer, My LifePlan Healthcare Technologies, Inc
- **Ownership Interest (stocks, stock options or other ownership interest excluding diversified mutual funds):**
  - Intel

MaryAnne Sterling, CEA, Owner, Sterling Health IT Consulting, LLC

- Has no real or apparent conflicts of interest to report

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EHR Usability Task Force
User Pain Points Workgroup

Leadership Council:
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- MaryAnne Sterling, CEA, Owner, Sterling Health IT Consulting, LLC

User Pain Points Workgroup Chair: MaryAnne Sterling, CEA, Owner, Sterling Health IT Consulting, LLC

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Agenda

- Problem Statement

- Purpose of the HIMSS EHR Pain Points Survey

- Key Findings

- Survey Design & Methods

- Deep dive: Results of the EHR Clinicians Survey Q4-2009

- Where do we go from here?

Problem Statement:
Concerns about usability of EHR[2]

Adoption

100% | Grand Challenge in Healthcare I.T.

75%

50%

25%

Adoption of EHR — Uninstall EHR

1960 1970 1980 1990 2000 2010 2020

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(1)

- Poor uptake

- Source of new categories of errors in care delivery

- Less attention than software features, functions, technical requirements

- Very little systematic evidence on the implications on clinical practice

- Larger scale implications anticipated beyond 1:1 Clinician/Patient encounter
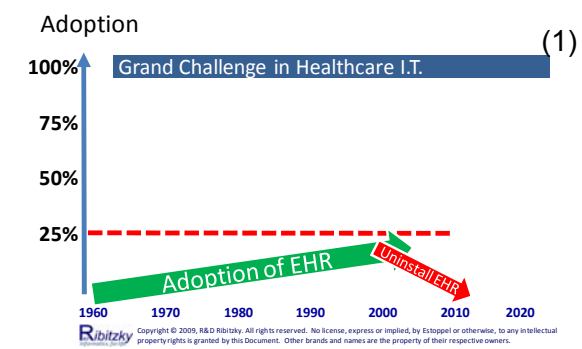
Purpose of the HIMSS EHR Usability Survey

Listen, Learn, Understand, Collaborate, Influence

- Elicit actionable insights on EHR usability pain points

- Serve as an EHR usability reference to designers, developers, and implementers

Key Findings

- Contrary to low adoption of EHR in general, most of the respondents to the survey are satisfied with their EHR

- **Although most of the respondents to the survey are satisfied with their EHR, they reported 1,237 usability problems and rated the severity of 80% of them as 'High' or 'Medium'**

- Workflow is #1 EHR usability pain point throughout all the 17 EHR modules and components that were surveyed

- Other EHR usability pain points include configuration, integration, presentation, content, data integrity, policy, and performance
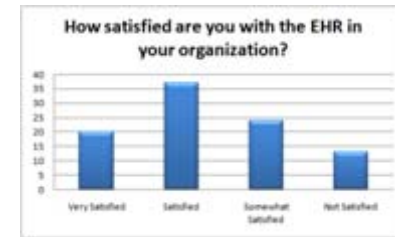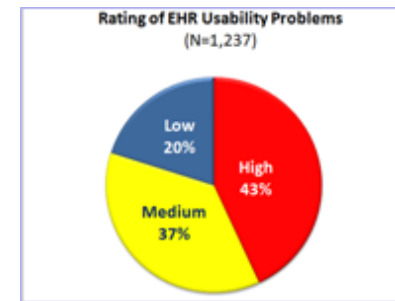
Let's do the numbers…

Design and Methods

Does this survey accurately represent
EHR Usability Pain Points?

No
23%

Yes
77%

Design Principles

- Clinician user focused
- Action-oriented

Descriptive Qualitative study

- 17 Questions
- Professional category
- Organizational context
- Length of experience using EHR
- Deep dive on EHR component usage
  - How often
  - 0-3 pain points (High, Medium, Low; Narrative)
- Other insights and guidance

Web Survey

- Pilot among EHR usability task force July 2009
- Survey distribution: Invitation to Nursing and Physician Members at HIMSS. Invitation posted in HIMSS Weekly Insider
- November 10 - December 10, 2009
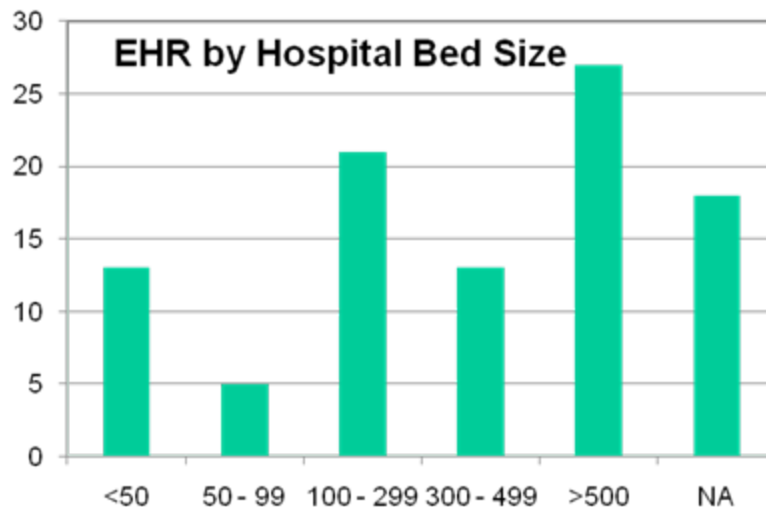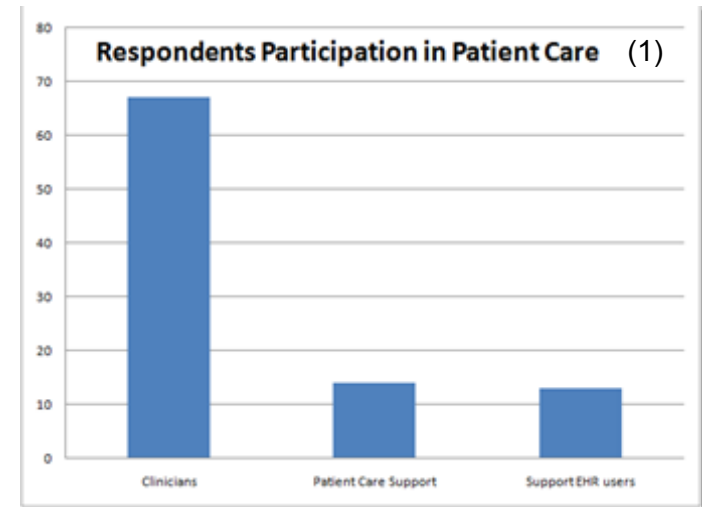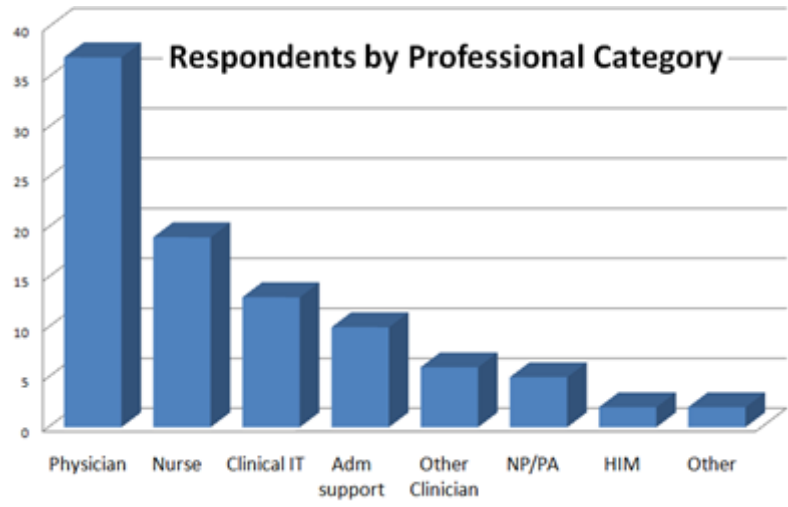- Convenience Sample: 106 received

Data Analysis

- 94 Clinical User Responses
- Review of pain points for actionable insight themes
- 1,237 severity ratings of EHR usability pain points
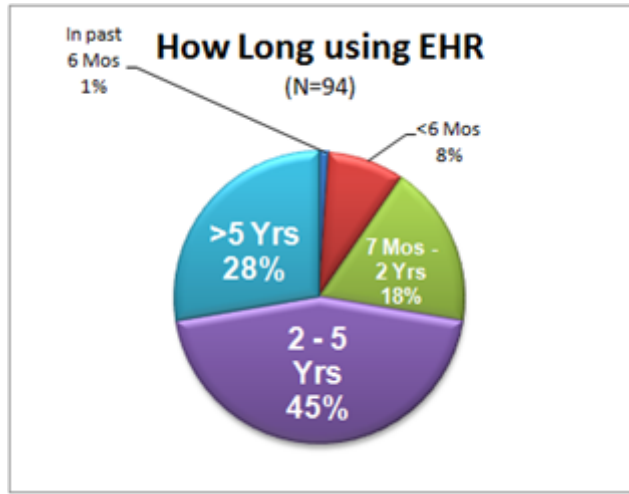- 890 narrative descriptions of EHR usability pain points
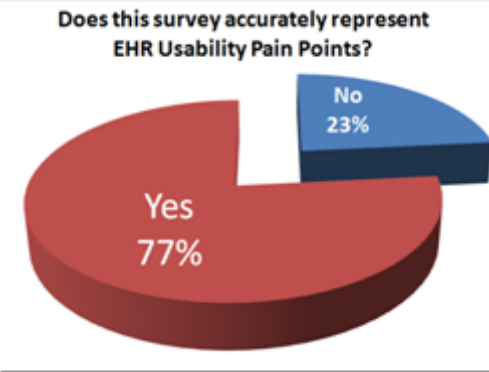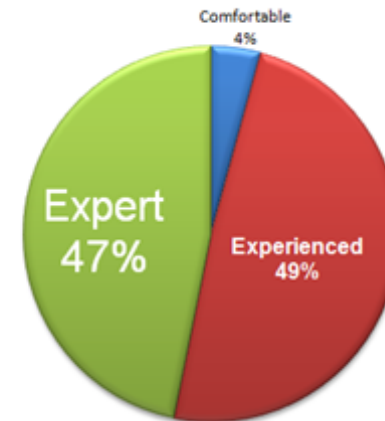
Respondents characteristics (1 of 2)
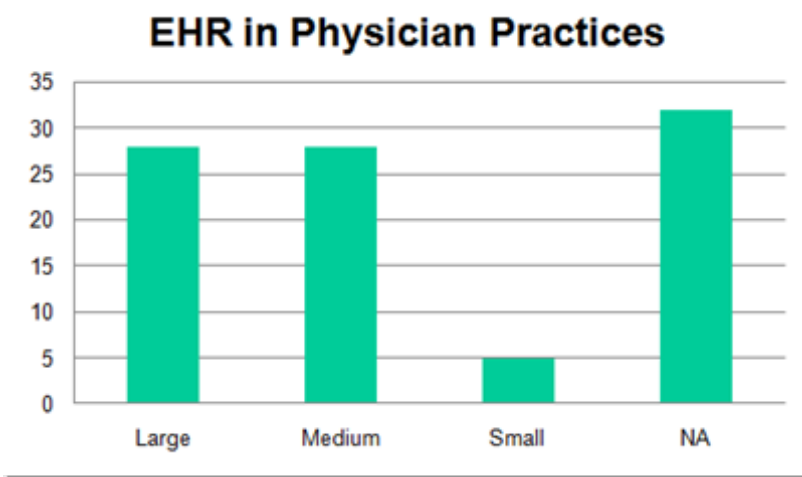
Respondents characteristics (2 of 2)
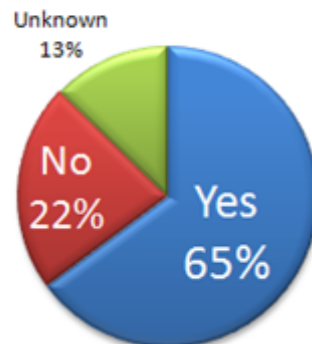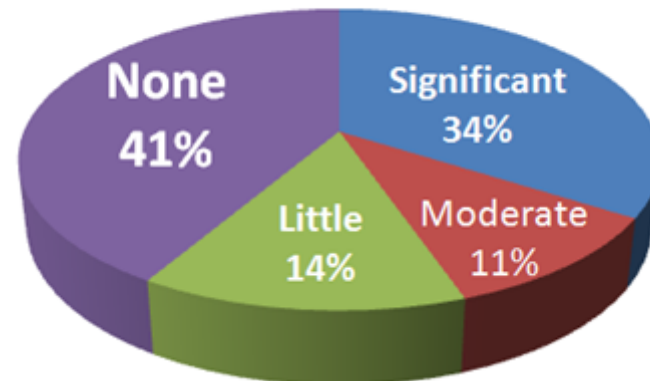
Frequency of using EHR modules or components
(17 modules; 94 Respondents)

Monolithic EHR or Multi-Module/Multi Vendor

Don't Know 7%
Multi-Module Multi-Vendor 47%
Monolithic EHR 46%

Rank Usability Problems d/t interoperability

Low 9%
Medium 40%
High 51%

Interoperability Barriers to EHR Usability (N=98)

Performance 5%
Configuration 3%
Presentation 8%
Integration 37%
Workflow 47%
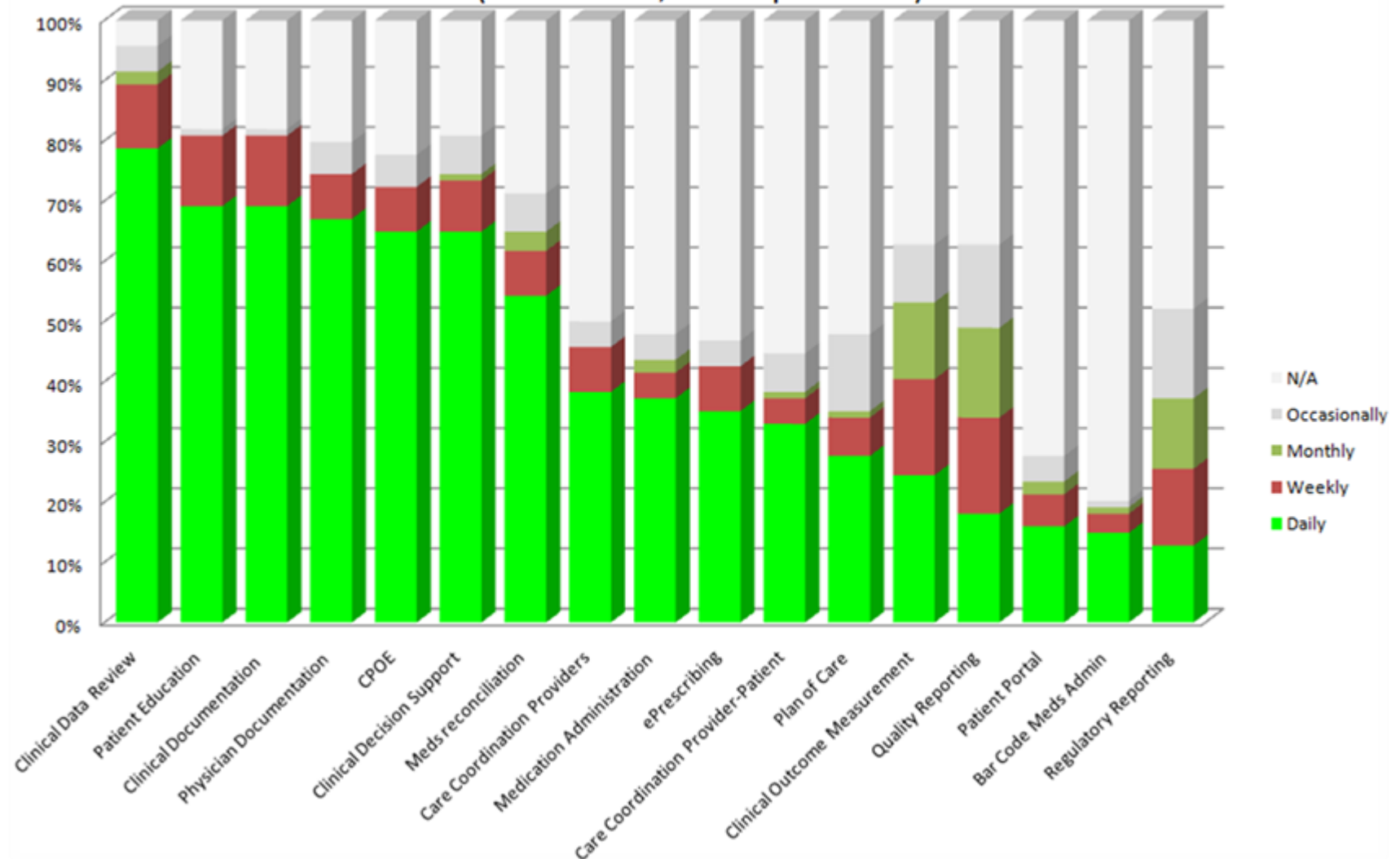
EHR Usability: Interoperability Pain
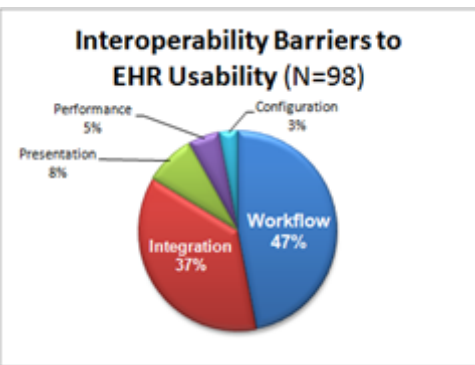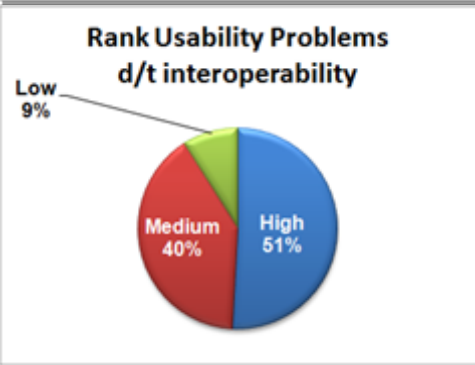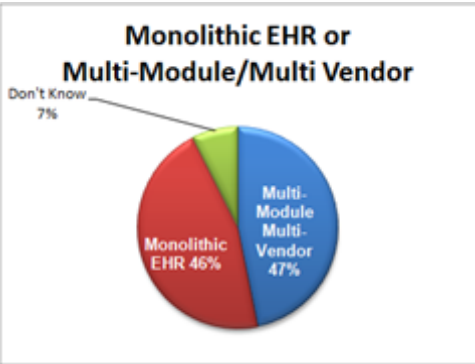
- **Interoperability problems** in multi-module/multi-vendor EHRs cause **severe to significant usability problems** for clinicians (N=112)[1]
  - **High** (N=57; 51%)
  - **Medium** (N=45; 40%)   **91%**
  - Low (N=10; 9%)

- **Workflow disruption tops clinicians pain** (N=98)[2]
  - **Workflow** (N=46; 47%)
  - **Data Integration** (N=36; 37%)   **84%**
  - Presentation (N=8; 8%)
  - Performance (N=5; 5%)
  - Configuration (N=3; 3%)

- **Selected remarks**
  - *"Too many passwords, lack of single sign-on"*
  - *"Varying user interfaces"*
  - *"Duplicated documentation"*
  - *"Errors due to patient info not mapping correctly"*
  - *"Reliability of data between systems"*

(1) Number of usability pain point rankings
(2) Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded

EHR Usability Pain: Clinical Data Review

Using EHR for Clinical Data Review

- Occasionally 5%
- Monthly 2%
- Weekly 11%
- Daily 82%

EHR Clinical Data Review Usability Problem Ranking

- Low 19%
- High 44%
- Medium 37%

Usability Barriers to EHR Clinical Data Review

- Configuration 1%
- Performance 5%
- Integration 5%
- Data Integrity 9%
- Workflow 64%
- Presentation 16%

- **Most of the survey respondents use EHR frequently to review clinical data**, yet it is painful (N=170)[1]
  - **High** (44%)
  - **Medium** (37%) **81%**
  - Low (19%)

- **Workflow disruption tops clinicians pain when using EHR to review clinical data** (N=142)[1]
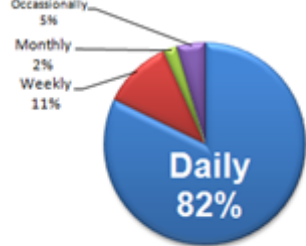 - **Workflow** (67%)
  - **Presentation** (16%) **83%**
  - Data Integrity (8%)
  - Integration (5%)
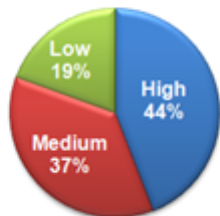 - Performance (5%)
  - Configuration (1%)

- **Selected remarks**
  - *"Must view many areas to capture the entire patient's story"*
  - *"Too much info in too many different places, getting lost and overwhelming"*
  - *"Inaccuracies"*
  - *"Inconsistencies"*
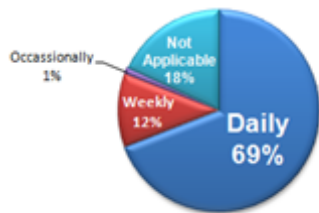 - *"We call the same thing different names"*

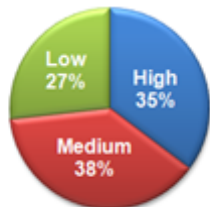(1) Number of usability pain point rankings
(2) Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded

Using EHR for Patient Education

Occasionally 1%
Not Applicable 18%
Weekly 12%
Daily 69%

EHR for Patient Education Usability Problem Rating

Low 27%
High 35%
Medium 38%

Usability Barriers to EHR Patient Education

Presentation 2%
Performance 2%
Policy 4%
Integration 6%
Configuration 19%
Workflow 38%
Content 29%

EHR Usability Pain: Patient Education

- **Over 2/3 of the survey respondents use EHR frequently for Patient education**

- **The severity of usability problems with Patient Education is equally spread along 'High', 'Medium', and 'Low'** (N=71)[1]

- **Workflow, Content, and Configuration top usability problems with patient Education** (N=52)[2]
  - **Workflow** (38%)
  - **Content** (29%)   **86%**
  - **Configuration** (19%)
  - Other (14%; Integration, Policy, Performance, Presentation)

- **Selected remarks**
  - *"List is not up to date with appearance of new illness such as swine flu or MRSA"*
  - *"Poorly written"*
  - *"Generally too complex/theoretical info"*
  - *"Reading level too sophisticated"*
  - *"Non-patient centric"*
  - *"No patient input"*
  - *"Inefficient. Poor tracking of what has been taught and patient response"*
  - *"Integration into workflow"*
  - *"Physicians or nurses responsibility?"*
  - *"Was a nursing function now pushed to physician"*
  - *"Not embedded into clin doc well"*
  - *"No automation for diagnosis driven education"*
  - *"Printer placements inconvenient"*

(1) Number of usability pain point rankings
(2) Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded
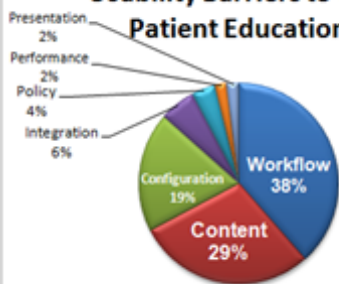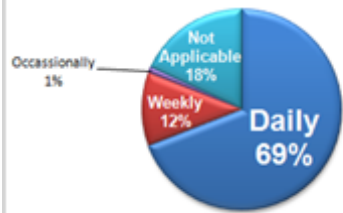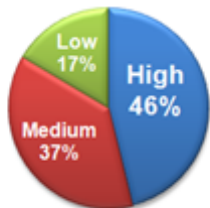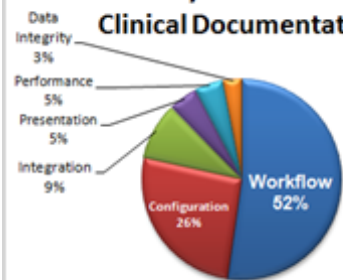
Using EHR for Clinical Documentation

- Occasionally 1%
- Not Applicable 18%
- Weekly 12%
- Daily 69%

EHR Clinical Documentation Usability Problem Rating

- Low 17%
- Medium 37%
- High 46%

Usability Barriers to EHR Clinical Documentation

- Data Integrity 3%
- Performance 5%
- Presentation 5%
- Integration 9%
- Configuration 26%
- Workflow 52%

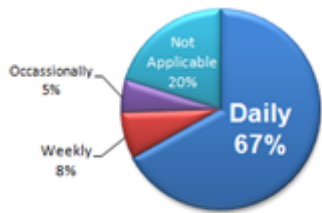# EHR Usability Pain: Clinical Documentation

- **2/3 of the survey respondents use EHR frequently for Clinical Documentation**

- **Most of the usability problems of EHR Clinical Documentation are severe or significant** (N=91)[1]

- **Workflow tops usability problems with Clinician Documentation** (N=65)[2]
  - **Workflow (52%)**
  - Configuration (26%)   **87%**
  - Integration (9%)
  - Presentation (5%)
  - Performance (5%)
  - Data Integrity (3%)

- **Selected remarks**
  - *"Nurses documentation flowsheets often do not tell story"*
  - *"Often not reflective of real situation"*
  - *"Not clinically relevant"*
  - *"Bad design/layout of notes--does not match workflow"*
  - *"Difficulty completing while giving care"*
  - *"Additional fields added by administrators for automated tracking increase workload on clinicians"*
  - *"Very difficult to follow course of action in the chart"*
  - *"Too many steps to arrive at desired spots"*
  - *"There are interface issues leading to multiple versions or copies of the same document"*
  - *"End users have the attitude, if the computer doesn't tell me to do it, then I guess I don't need to.(decrease in critical thinking skills)"*
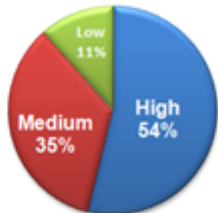
(1)   Number of usability pain point rankings
(2)   Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded
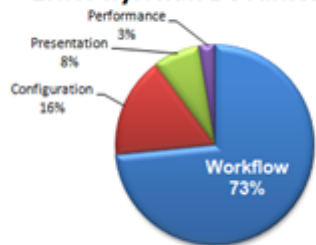
EHR Usability Pain: Physician Documentation

Using EHR for Physician Documentation

EHR Physician Documentation Usability Problem Rating

**Usability Barriers to EHR Physician Documentation**

- **2/3 of the survey respondents use EHR frequently for Physician Documentation**

- **Most of the usability problems of EHR Physician Documentation are severe or significant** (N=104)[1]

- Workflow tops usability problems with Physician Documentation (N=79)[2]
  - **Workflow (73%)**
  - Configuration (16%)
  - Presentation (8%)
  - Performance (3%)

  97%

- **Selected remarks**
  - *"Getting MD's to change business practices/habits to accommodate EHR functionality"*
  - *"Poor fit to workflow"*
  - *"Confusing pathways"*
  - *"Takes too much time"*
  - *"Too many clicks"*
  - *"Too many screens to deal with"*
  - *"Difficulty pulling info from chart into note"*
  - *"Structured text grammar is embarrassing to read or send to colleague"*
  - *"Transforming coded, templated data to readable script"*
  - *"Far too time consuming"*
  - *"We have turned this off as well"*
  - *"DOS format"*

(1) Number of usability pain point rankings
(2) Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded
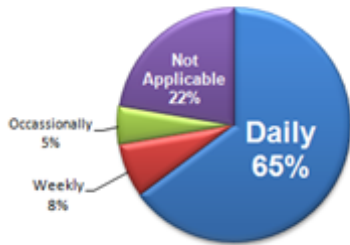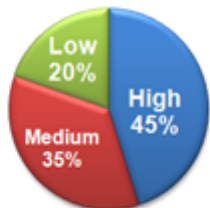
EHR Usability Pain: CPOE
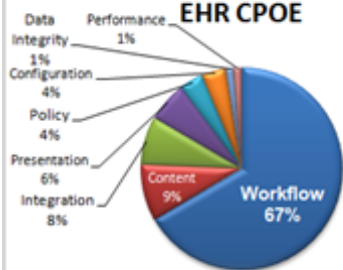
Using EHR for CPOE

EHR CPOE Usability Problem Ranking

Usability Barriers to EHR CPOE

- **Using EHR for CPOE is very frequent, yet painful** (N=102)[1]
  - **High** (45%)
  - **Medium** (35%)   **80%**
  - Low (12%)

- **Workflow overwhelmingly tops a range of usability problems with CPOE** (N=78)[2]
  - **Workflow (67%)**
  - Other
    - Content (9%)
    - Integration (8%)
    - Presentation (6%)
    - Policy (4%)
    - Configuration (4%)
    - Data Integrity (1%)
    - Performance (1%)

- **Selected remarks**
  - *"Doesn't match clinician thought process"*
  - *"Wayyyyy too many screens to get what I want"*
  - *"Incredibly time consuming"*
  - *"Confusing pathways"*
  - *"Lacks 'intelligence'*
  - *"Excessive CDSS alerts"*
  - *"Users blowing by duplicate alerts"*
  - *"Alert fatigue"*
  - *"Not all physicians use the system"*

Using EHR for Clinical Decision Support
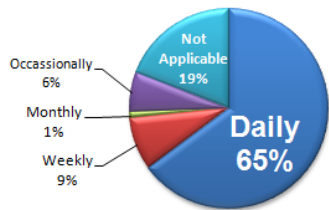
EHR Clinical Data Repository Usability Problem Ranking
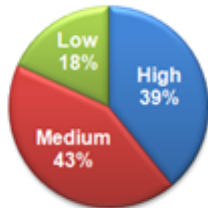
Usability Barriers to EHR Clinical Data Repository

EHR Usability Pain: Clinical Decision Support

- **Using EHR for Clinical Decision Support is frequent, yet painful** (N=110)[1]
  - **High** (39%)
  - **Medium** (43%)   **82%**
  - Low (18%)

- **Workflow disruption tops clinicians pain when using EHR Clinical Decision Support** (N=88)[2]
  - **Workflow** (56%)
  - **Logic** (20%)   **83%**
  - **Presentation** (7%)
  - Other (17%; Content , Performance, Configuration, Integration)

- **Alerts make up 35% of EHR-CDS usability problems** (N=31)

- **Selected remarks**
  - *"Alert fatigue"*
  - *"Not enough alerts"*
  - *"Alerts not actionable"*
  - *"Lack of relevance"*
  - *"Imprecise alerts/decision support"*

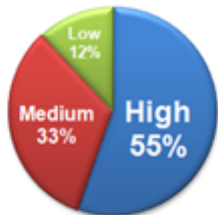(1)   Number of usability pain point rankings
(2)   Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded

EHR Usability Pain: Medication Reconciliation

Using EHR for Medication Reconciliation
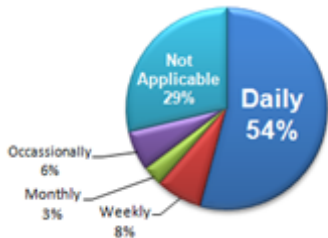
EHR Medication Reconciliation Usability Problem Ranking

**Usability Barriers to EHR Medication Reconciliation**

- **Using EHR for Medication Reconciliation is frequent, yet painful** (N=92)[1]
  - **High** (55%)
  - **Medium** (33%) **88%**
  - Low (12%)

- **Workflow disruption and content top clinicians pain when using EHR for Medication Reconciliation** (N=89)[2]
  - **Workflow** (70%)
  - **Content** (13%) **83%**
  - Other (17%; Integration, Presentation, Configuration, Performance)

- **Selected remarks**
  - *"Does not support workflow"*
  - *"Complicated"*
  - *"Confusing"*
  - *"Unwieldy, inefficient"*
  - *"Requires far too much navigation through various dialogs"*
  - *"Labor intensive"*
  - *"When the hospital reconciles, it deletes associations and notes from the outpatient record"*
  - *"Consensus re process"*
  - *"Have to "order" them (providers don't like this, it appears as though they are recommending those OTC & herbals as part of the patient's care)"*
  - *"PCP specialist conflicts no one wants responsibility"*
  - *"The medication list is not trustworthy "*
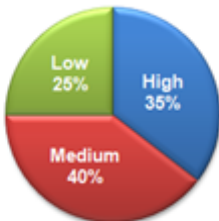 - *"Inaccurate med lists"*

Using EHR for Care Coordination among Providers

Daily 38%
Not Applicable 50%
Weekly 8%
Occasionally 4%
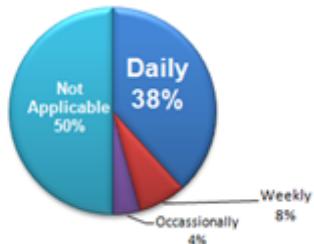
EHR for Care Coordination among Providers Usability Problem Rating

Low 25%
High 35%
Medium 40%

Usability Barriers to EHR Care Coordination among Providers

Data Integrity 4%
Policy 3%
Integration 17%
Workflow 52%
Configuration 24%

EHR Usability Pain: Care Coordination among Providers

- **Only about a 1/3 of the survey respondents use EHR frequently for Care Coordination among Providers**

- **The severity of usability problems with Care Coordination among Providers is nearly equally spread along 'High', 'Medium', and 'Low' (N=48)[1]**

- **Workflow, Configuration, and Integration top usability problems with Care Coordination among Providers (N=29)[2]**

- **Selected remarks**
  - *"Provider-provider communication not consistent"*
  - *"Inconsistent methods of following up"*
  - *"Non-integrated into workflow"*
  - *"Can't comment or annotate communication well"*
  - *"No electronic handoff"*
  - *"Not obvious who is getting which type of communication"*
  - *"…we would like to have more control over who gets our reports and what they get (i.e. we don't think we need to send them a 4 page note that includes a lot of things they already know, like meds, allergies, PMH, etc.)"*
  - *"No way to see response"*
  - *"Not all providers on compatible system"*
  - *"Lack of standardization"*

Using EHR for Electronic Medication Administration

Daily 37%
Not Applicable 52%
Weekly 5%
Monthly 4%
Occasionally 2%
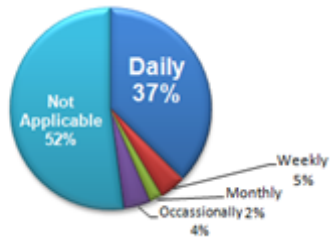
EHR for eMed Administration Usability Problem Ranking

Low 24%
High 39%
Medium 37%
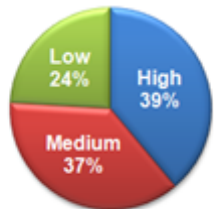
Usability Barriers to EHR eMedication Administration

Performance 7%
Configuration 11%
Presentation 21%
Workflow 61%

EHR Usability Pain: Electronic Medication Administration

- **Most of the survey respondents do not use EHR for Electronic Medication Administration**

- **The severity of usability problems with eMed Administration is equally spread along 'High', 'Medium', and 'Low' (N=54)[1]**

- **Workflow and Presentation are the most prevalent usability problems with Electronic Medication Administration (N=28)[2]**

- **Selected remarks**
  - *"Lack of standardization of medication delivery times"*
  - *"The layout the eMAR is complex"*
  - *"Disjointed presentation of data"*
  - *"Some complicated scheduling may cause erros"*
  - *"Medication given at the clinic, documented only if it is given at the time of visit"*

(1) Number of usability pain point rankings
(2) Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded

Using EHR for ePrescribing

EHR ePrescribing Usability Problem Ranking
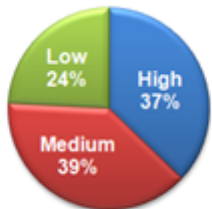
Usability Barriers to EHR ePrescribing

EHR Usability Pain: ePrescribing

- **Most of the survey respondents do not use EHR for ePrescribing**

- **The severity of usability problems with ePrescribing is equally spread along 'High', 'Medium', and 'Low'** (N=62)[1]

- **Workflow tops usability problems with ePrescribing** (N=45)[2]
  - **Workflow (60%)**
  - Content (14%)
  - Integration (13%)
  - Configuration (11%)
  - Performance (2%)

- **Selected remarks**
  - *"Different formulary for scripts v. eMAr"*
  - *"NO NARCOTICS!!!"*
  - *"Unable to use conventional abbreviations because 'they are not patient friendly!!"*
  - *"Resulting from the lack of integration - issues around accuracy"*
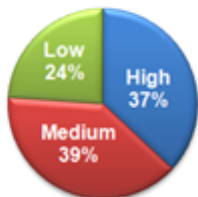 - *"Much too long lists"*
  - *"Too many clicks"*

(1)   Number of usability pain point rankings
(2)   Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded

Using EHR for Care Coordination Provider-Patient

Daily 33%
Not Applicable 55%
Weekly 4%
Monthly 1%
Occasionally 7%

EHR for Care Coordination Provider-Patient Usability Problem Rating

Low 24%
High 37%
Medium 39%

Usability Barriers to EHR Care Coordination Provider-Patient

Data Integrity 6%
Policy 6%
Content 5%
Configuration 5%
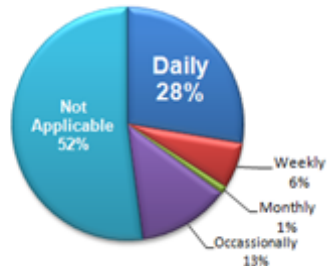Integration 17%
Workflow 61%

EHR Usability Pain: Care Coordination Provider-Patient

- **Only about a 1/3 of the survey respondents use EHR frequently for Care Coordination between Providers and Patients**

- **The severity of usability problems with Care Coordination between Providers and Patients is nearly equally spread along 'High', 'Medium', and 'Low' (N=46)[1]**

- **Workflow tops usability problems with Care Coordination between Providers and Patients (N=18)[2]**

- **Selected remarks**
  - *"Non-integrated into workflow"*
  - *"Communicating with patients who are not on the portal"*
  - *"Physician use of extenders & security issues"*
  - *"Difficult to easily add HIPAA consents as the consumer moves through our services"*
  - *"Time consuming"*
  - *"Too many click to get the job done"*
  - *"Had to develop report for this function, can't do with the app itself"*
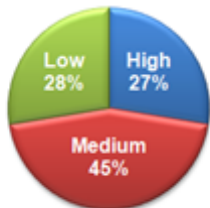 - *"Lack of standardization"*
  - *"Data integrity"*

(1) Number of usability pain point rankings
(2) Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded

Using EHR for Plan of Care

EHR Usability Pain: Plan of Care

- **Use of EHR Plan of Care is infrequent, notwithstanding lower severity of usability problems compared to other EHR sections** (N=58)[1]

- **Workflow disruption and content top clinicians pain when using EHR Plan of Care section** (N=40)[2]
  - **Workflow** (50%)
  - **Content** (30%) **80%**
  - Integration (12%)
  - Presentation (8%)

EHR Plan of Care Usability Problem Ranking

- **Selected remarks**
  - *"Care plans are not presented in my workflows - must go to a separate 'file' to find them"*
  - *"Unable to auto-link Quarterly Review outcomes to planned interventions"*
  - *"There are multiple nomenclatures to select (NIC/NOC, NANDA, etc). makes it difficult to provide standardization"*
  - *"Care plans are occasionally applicable"*
  - *"There are a plethora of care plans"*
  - *"Quality of data"*

Usability Barriers to EHR Plan of Care

- **Recommendation**
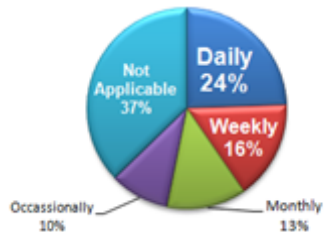 - Further study on drivers and barriers for adoption of Plan of Care

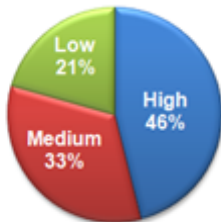(1) Number of usability pain point rankings
(2) Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded

EHR Usability Pain: Clinical Outcomes Measures

Using EHR for Clinical Outcome Measures

EHR for Clinical Outcome Measures Usability Problem Rating

Usability Barriers to EHR Clinical Outcome Measures

- **About half of the survey respondents use EHR for Clinical Outcome Measures daily, weekly, or monthly**

- **Most of the usability problems with EHR for Clinical Outcome Measures are rated severe to significant** (N=63)[1]

- **Workflow, Configuration, and Data Integrity top usability problems with EHR's Clinical Outcome Measures** (N=43)[2]
  - Workflow (56%)
  - Configuration (25%)   **95%**
  - Data Integrity (14%)
  - Integration (5%)

- **Selected remarks**
  - *"Reporting of outcomes measurement VERY immature - have to try to get customized report of selected measures"*
  - *"Not enough measures available in system"*
  - *"Lack of baseline data"*
  - *"Some data are not able to be retrieved by our current system"*
  - *"Inaccuracy"*
  - *'Inconsistency"*
  - *"Dirty data"*
  - *"Necessary data not reliably or completely captured in structured form"*
  - *"External data being siloed as PDF"*
  - *"We have reached the point where we are 'studying for the test', not really taking care of patients"*
  - *"Still stuck with manual review of the (electronic) chart"*

Using EHR for Quality Reporting

EHR for Quality Reporting Usability Problem Rating
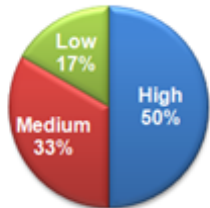
Usability Barriers to EHR Quality Reporting

EHR Usability Pain: Quality Reporting

- **About half of the survey respondents use EHR for quality reporting either daily, weekly, or monthly**

- **Half of the usability problems with EHR for quality reporting are rated severe** (N=60)[1]
  - **High** (50%)
  - **Medium** (33%)   **83%**
  - Low (17%)

- **Workflow tops usability problems with EHR's quality reporting** (N=30)[2]
  - Workflow (42%)
  - Configuration (23%)
  - Integration (14%)
  - Data Integrity (10%)
  - Other (6%; Content, Presentation)

- **Selected remarks**
  - *"Clear Standards of care not set for many areas"*
  - *"Inconsistent vocabularies among entities"*
  - *"Inconsistency"*
  - *"Inaccuracy"*
  - *"Dirty data"*
  - *"Provider often inaccurate"*
  - *"Core Measure reports still need a lot of work. Not capturing all pertinent data points"*
  - *"Health maintenance reports are difficult to update with pt obtaining other test from other facilities"*
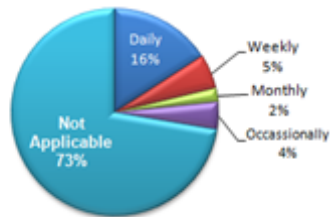 - *"Too much manual intervention"*

EHR Usability Pain: Patient-Consumer Collaboration Portal

Using EHR for Patient-Consumer Collaboration Portal

Daily 16%
Weekly 5%
Monthly 2%
Occassionally 4%
Not Applicable 73%

EHR for Patient-Consumer Portal Collaboration Usability Problem Rating

High 24%
Low 41%
Medium 35%

The number of conclusive and actionable narrative descriptions of usability problems with EHR's Patient-Consumer Collaboration Portal is not statistically useful (N=8)[2]

- **Most of the survey respondents do not frequently use the EHR's Patient-Consumer Collaboration Portal**

- **Most of the usability problems with the EHR's Patient-Consumer Collaboration Portal are rated significant to minor** (N=29)[1]

- The number of conclusive and actionable narrative descriptions of usability problems with EHR's Patient-Consumer Collaboration Portal is not statistically useful (N=8)[2]
  - *"Needs patient-oriented trackers and tools"*
  - *"Good data from EMR not being sent to patient system"*
  - *"Not fully integrated"*
  - *"Proxy for teen/parent relationships"*
  - *"Works well, like everything else in [VENDOR NAME] though, layout is not eye friendly"*
  - *"Process to correct errors"*
  - *"Need improvements in communication initiation"*
  - *"Providers don't make appointment time available to Portal Patients"*
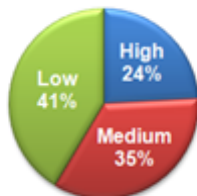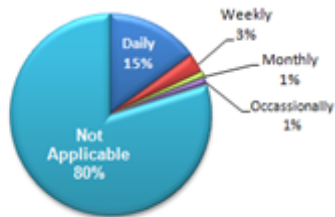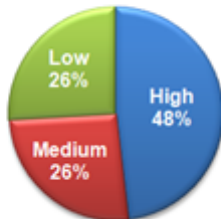
(1)   Number of usability pain point rankings
(2)   Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded
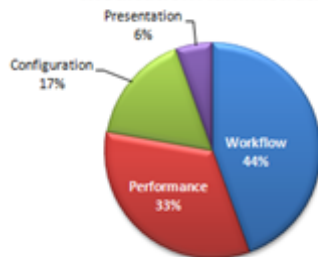
Using EHR Bar Code Medication Administration

- Daily 15%
- Weekly 3%
- Monthly 1%
- Occassionally 1%
- Not Applicable 80%

EHR Bar Code Meds Administration Usability Problem Ranking

- Low 26%
- High 48%
- Medium 26%

Usability Barriers to EHR Bar Code Medication Administration

- Presentation 6%
- Configuration 17%
- Workflow 44%
- Performance 33%

EHR Usability Pain: Bar Code Medication Administration

- **Only 15% of the survey respondents use EHR Bar Code Medication Administration**

- **The severity of half of the usability problems with Bar Code eMed Administration is rated 'High' (N=27)[1]**

- **Most significant pain points using EHR Bar Code Medication Administration are Workflow , Performance, and Configuration (N=18)[2]**

- **Selected remarks**
  - *"Have to push a big cart around"*
  - *"System requires bar codes verify, but screen can be far away - and not visualized"*
  - *"Medications that we can not make scannable (example, sliding scale insulin)"*
  - *"Bar codes on armbands"*
  - *"Equipment failure"*
  - *"Loss of connectivity with laptops thus not allowing bedside administration"*
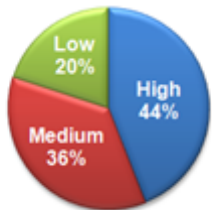 - *"Alert Fatigue"*
  - *"Meaningful Alerts"*

(1) Number of usability pain point rankings
(2) Number of conclusive and actionable narrative descriptions of the ranked usability pain points; 0-3 per respondent ; Percentage points are rounded

Using EHR for Regulatory Reporting

EHR for Regulatory Reporting Usability Problem Rating

Usability Barriers to EHR Regulatory Reporting

EHR Usability Pain: Regulatory Reporting

- **Only a 1/3 of the survey respondents use EHR for Regulatory Reporting daily, weekly or monthly**

- **Most of the usability problems with EHR for Regulatory Reporting are rated severe to significant** (N=50)[1]

- **Workflow, Configuration, Integration, and Data Integrity top usability problems with EHR's regulatory reporting** (N=30)[2]
  – Workflow (47%)
  – Configuration (23%)   **94%**
  – Integration (14%)
  – Data Integrity (10%)
  – Other (6%; Content, Presentation)

- **Selected remarks**
  – *"Required reporting not in line with clinical workflow"*
  – *"Difficult to capture all points due to hybrid chart"*
  – *"Manual submission requiring data re-entry"*
  – *"Unable to generate the data in a way that is meaningful and easy to understand"*
  – *"Data isn't validated"*
  – *"Dirty data"*
  – *"Inconsistent vocabularies among entities"*

In summary…

- Recommend industry leaders apply the 80/20 rule to address usability pain points throughout the EHR lifecycle

- Workflow is #1 EHR usability pain point throughout all EHR usage models

- Other EHR usability pain points include configuration, integration, presentation, content, data integrity, policy, and performance

- Technology pain-points deep dive coming soon…

Listen, Learn, Understand, Collaborate, Influence

Presenters Contact Information

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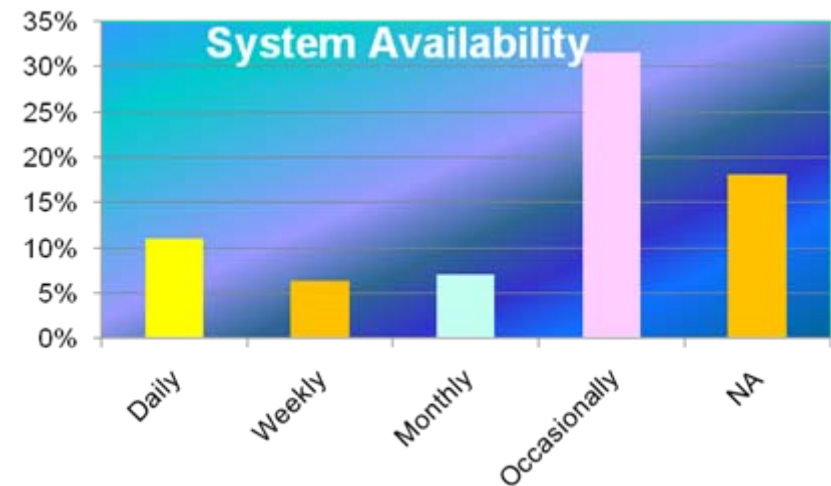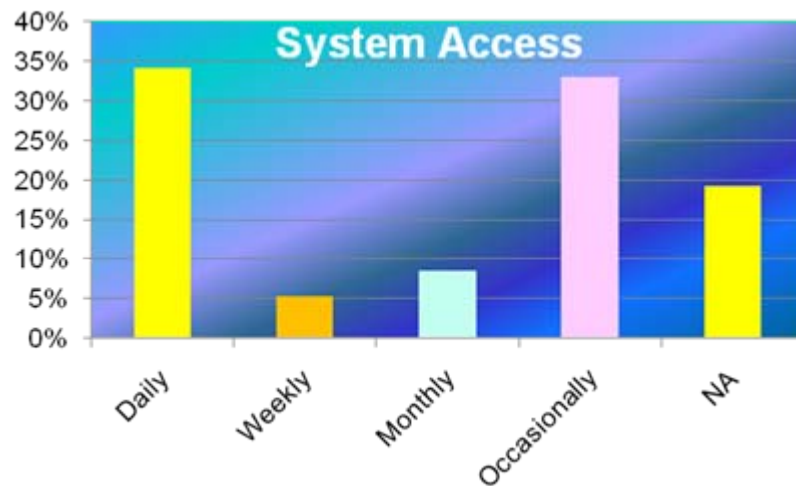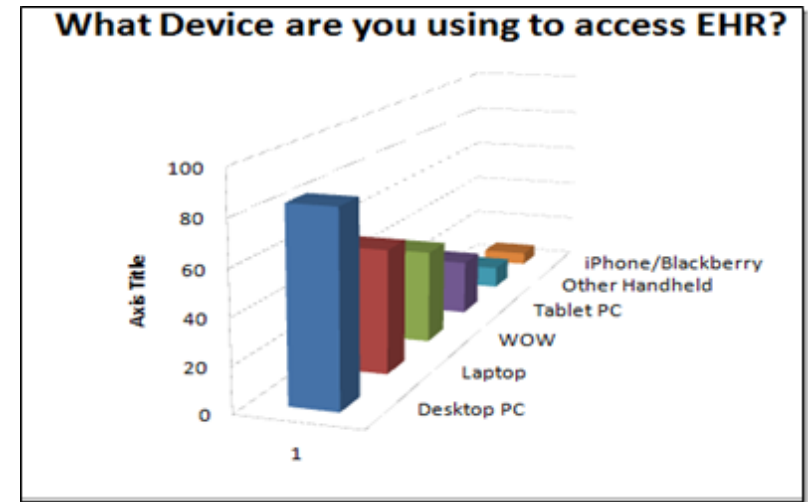Member, HIMSS EHR Usability Task Force User Pain Points Workgroup
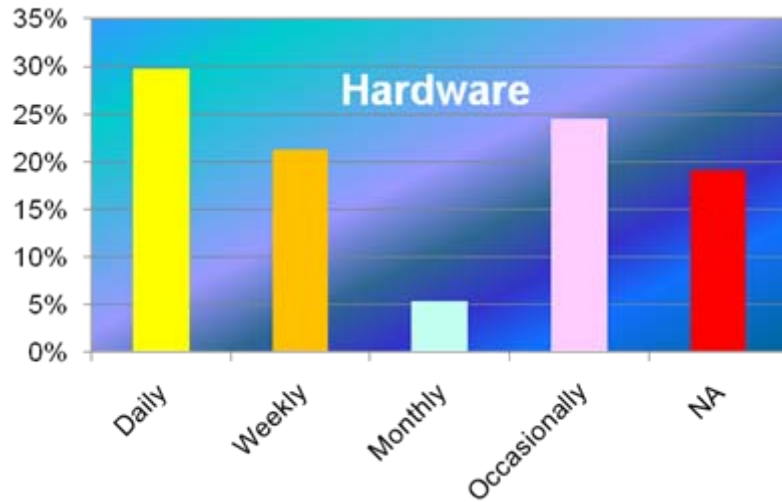
Office: (859) 523 - 5665

Victoria.Bradley@Eclipsys.com

BACKUP

EHR Usability Pain: Technology

HIMSS EHR Usability Taskforce
Purpose and Progress

1. Propose EHR usability principles: Published whitepaper "Defining and Testing EMR Usability: Principles and Proposed Methods of EMR Usability Evaluation and Rating" June 2009 http://www.himss.org/content/files/HIMSS_DefiningandTestingEMRUsability.pdf

2. **Identify user "pain points" that contribute to difficulties in using an EHR/EMR: Survey**

3. Identify 'cell top' usability principles

Definitions

Clinical Usability

- Effectiveness
- Efficiency
- Satisfaction

Pain Point

- Problem
- Difficulty
- Barrier to use

Impact

- Seek a solution
- Look for an alternative
- Not use

EHR usability concerns[1]

- Poor uptake
- Source of new categories of errors in care delivery
- Less attention than software features, functions, technical requirements
- Very little systematic evidence gathered on the implications on clinical practice
- Larger scale implications anticipated beyond 1:1 Clinician/Patient encounter

HIMSS EHR Usability Workgroup

- Chair: Jeffery L. Belden, MD   Chair
- Melanie Brodnik, PhD, RHIA   Vice   Chair, HIMSS EHR Usability Taskforce
- Michael Van Ornum, RPh, RN, BCPS – Vice   Chair, HIMSS EHR Usability Taskforce
- Edna Boone, MASS, CPHIMS – HIMSS Senior Staff Liaison
- Juanita Threat   HIMSS Coordinator
- Ron Ribitzky, MD   Leadership Council
- Cecilia Backman, MBA, RHIA, CPHQ   Leadership Council
- Robert Duthe, MBA   Leadership Council
- MaryAnne Sterling   Leadership Council and Co   chair EHR Usability User Pain Points Workgroup
- Carolyn Swanson   Leadership Council and Co   chair EHR Usability User Pain Points Workgroup
- Tiana Thomas   Leadership Council and Co   chair EHR Usability Principles Workgroup
- Penn White, MD   Leadership Council and Co   chair EHR Usability Principles Workgroup
- Albert Villari, MD   Leadership Council and Chair EHR Usability Vendor Best Practices Workgroup
- Victoria Bradley, DNP, RN, CPHIMS, FHIMSS CNIO, Eclipsys Corporation
- Patricia Alafaireet, MHA
- Janey Barnes, PhD
- Lyle Berkowitz, MD, FHIMSS
- Judi Binderman, MD, MBA
- Jon Duke, MD
- Rebecca Grayson
- Doron Gutkind
- Shannon Houser, PhD, MPH, RHIA
- Andrew Hutson
- Juhan Sonin
- Sandra Stork
- Royce Uehara
- Helen Volger, MSHA, CPHIMS