Building a Mobile Information Management Strategy

The Approach Taken by UHN to Balance Both
Security and Practice Needs

Jim Forbes and Geoff Hallford

Mobile Information Management Agenda

- **Mobile Information Management Framework**
  - Security by design
  - Understanding the Clinical Need

- **Mobile Device Management Framework**
  - CYOD → BYOD
  - Financial Model for consideration

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Security by Design

- Bottom up approach
  - Plan for being breached/malicious attacks (Proactive/Not Reactive);
  - Privacy as the default setting (least privilege)
  - Privacy and Security embedded into the design
  - Full Functionality; Positive Sum not Zero Sum
  - End to end security; Full lifecycle protection
  - Visibility and Transparent; Keep it open
  - Respect for user Privacy; Keep it user centric

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Understanding the Clinical Need

- Mobile Information Management Steering Committee
  - Learn from Clinicians and Administrators what will work and what will not
    - How they intend to use the devices (on campus & off campus)
    - What type of applications are they looking for?
    - How much do they use the device?
      - Battery life?
      - Frequency of Logging into the device & the implication of Policy restrictions?
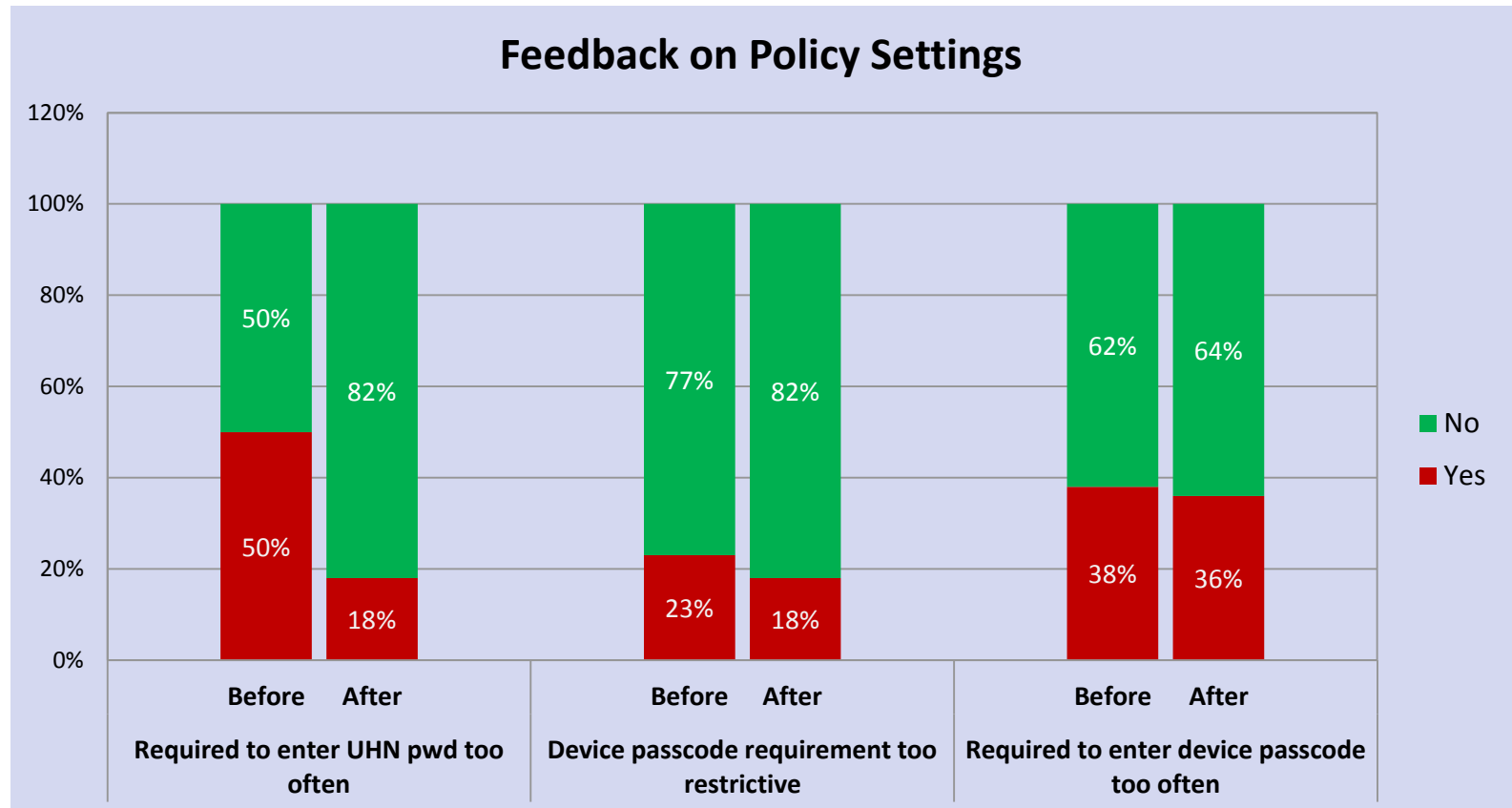   - Price point?

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Understanding the Clinical Need

- What Has the committee achieved to date
  - Pilot Mobile Information Management Product
  - Learn about the user's experience and what is important to them
  - Policy Development
  - App Store
  - Secure Drop Box
  - Productivity Tools
  - Next Steps

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Survey Results – Policy Settings:

Before and after the policy change October 2014:

Feedback on Policy Settings

	Before	After		Before	After		Before	After
No	50%	82%		77%	82%		62%	64%
Yes	50%	18%		23%	18%		38%	36%
	Required to enter UHN pwd too often			**Device passcode requirement too restrictive**			**Required to enter device passcode too often**	

Legend: ■ No ■ Yes

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Policy Configuration Validation During Pilot

Password Policies	Evaluated in the PIlot	iPhone	iPad	Samsung
UHN Password requirement to access UHN Apps	24 hours	🟢	🟢	🟢
Device Passcode Timeout	15 mins*	🔴	🟢	🟢
Minimum Password Length	6*	🟢	🟢	🔴
Complex Password Required	No*	🟢	🟢	🔴

The red status is given since certain platform has higher minimum requirements than UHN policy settings.
- iPhones only allow up to 5 minutes device timeout
- Samsung devices requires minimum 8 characters and complex password to allow encryption

Other policies enforced on the device:

Items	Value
Device Wipe Threshold	10
Require Device Encryption	Yes
Encrypt Storage Card	Yes
Enforce Encrypted Back Up (iOS only)	Yes
Data allowed outside MDM Productivity Tools (Mail, Web, Secure File Sharing, etc.)	No

Do we have the right policy in place?

Given the feedback received in the pilot around policy settings, we believe we have the right policy to move forward. Areas that users are not satisfied are due to device specific limitation irrespective to the MDM solution selected

Summary of Findings from the First Upgrade

Upgrade, Usability and Overall Service Feedback:

- **Battery Life**: One user reported an issue with it. Others have either noticed an improvement or did not notice an improvement because battery life was never an issue for them.

- **eMail Tool:** was working well for most users. Issues around syncronization of read/deleted emails were reported, speed on loading email, and display preference issues were also reported. Note: We continued to support email either through ActiveSync or Blackberry throughout the pilot.

- **Secure File Share:** Most users did not use it. Those who did, were generally not satisfied as they could not access files in UHN shared drive easily or make any edits to the documents.

- **EPR**: Those whose main purpose of using the service is to access EPR were not satisfied. Those who access EPR as a side, is generally satisfied with the service.

- **Overall Satisfaction**: 63% respondents were either extremely satisfied or very satisfied with the overall service, 14% are somewhat satisfied and 18% were either slightly satisfied or not satisfied. Those who are only slightly satisfied or not satisfied were typically those whose main purpose of using the service was for Secure File share, accessing EPR and other UHN apps made available through the AppStore

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Summary of Findings from the First Upgrade

Likelihood of signing up for the service and cost feedback :

- When costs are not of a consideration, here are the responses on how likely users will sign up for the service:

Given the experience, how likely are you to sign up for the service	Percentage
Very Likely	55%
Likely	27%
Somewhat Likely	9%
Not Likely	9%

- However, given the costs, many indicated that it will have impact to their decision. Most found that the costs are too high for the service being offered.

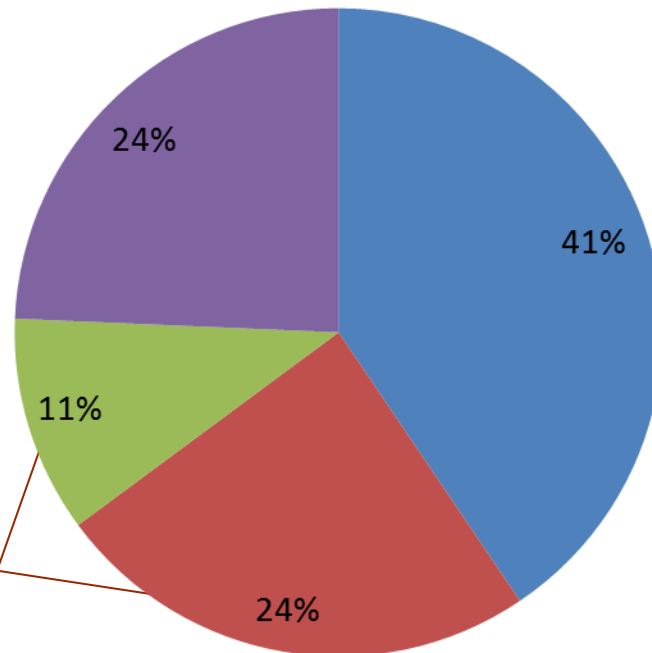| Given the cost, how much impact would it have for you to sign up for the service	Percentage
Huge Impact	41%
Some Impact	32%
Slight Impact	13.5%
No Impact	13.5%

Is this the right tool for UHN?

The followings are the criteria used to determine whether we have the right technology:

TECHNOLOGY ASSESSMENT CRITERIA	STATUS
Configure, secure, provision and support mobile devices • Does the product allow UHN to manage, control the security and support mobile devices?	🟢
Usability of sandboxed email and browser • Does the product meet users requirements and expectation to access UHN email and web browser?	🟢
UHN app store accessible on mobile devices • Does the product allow users to add UHN applications that they would like to access through mobile device?	🟢
Secure Document Viewing, Editing, Sharing • Does the product meet users requirements and expectations in providing access to a secured Drop Box?	🔴

MOBILE INFORMATION MANAGEMENT – CLOSEOUT SURVEY

Did you experience any issues during the Information Mobility Proof of Concept (PoC), and have the issues you previously experienced been resolved?
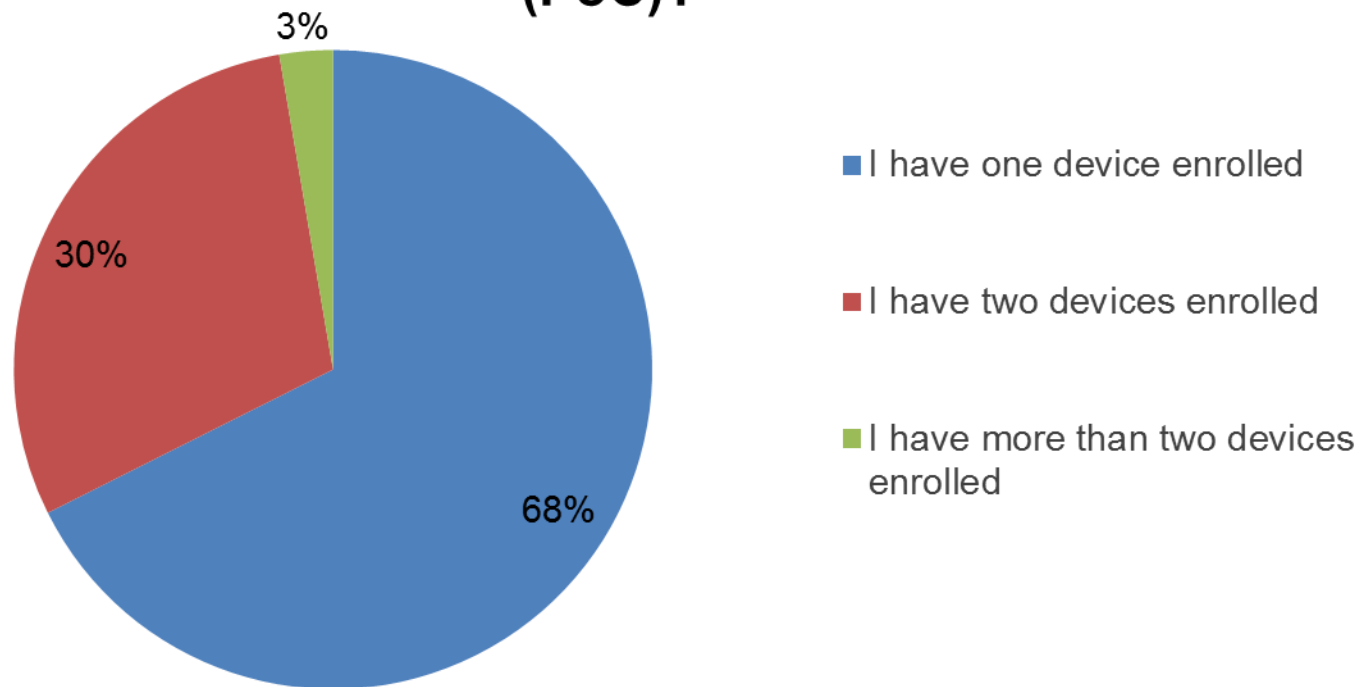

- Multiple logins still required
- Calendar and Secure File sharing issues related to permissions on the Android

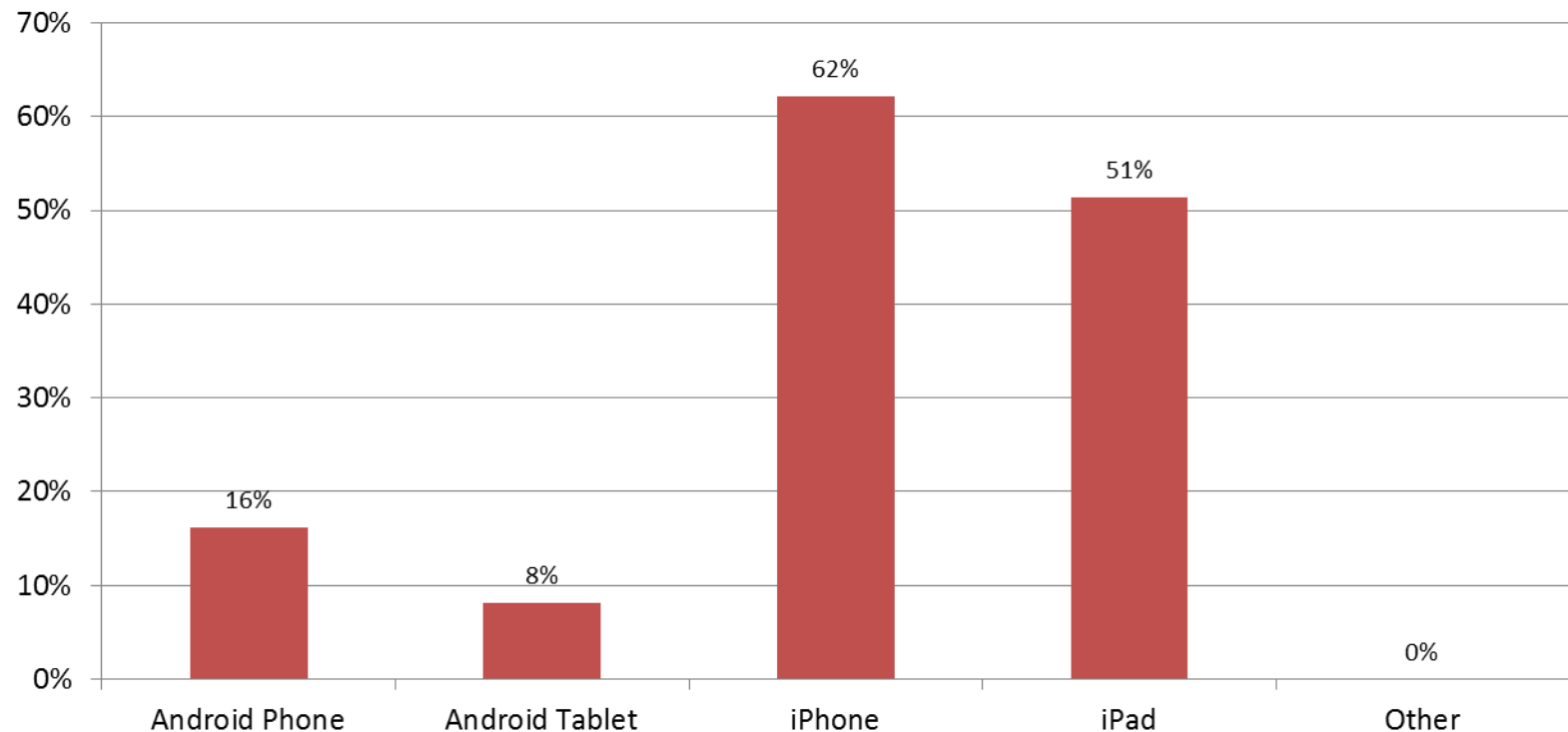Legend:
- Yes, resolved all issues
- Yes, resolved some issues
- No change
- Did not previously experience any issues

Pie chart values: 41%, 24%, 11%, 24%

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How many devices do you currently have enrolled in the UHN Information Mobility Proof of Concept (PoC)?

- 3%
- 30%
- 68%

■ I have one device enrolled

■ I have two devices enrolled

■ I have more than two devices enrolled

Total PoC Participant Responses : 38

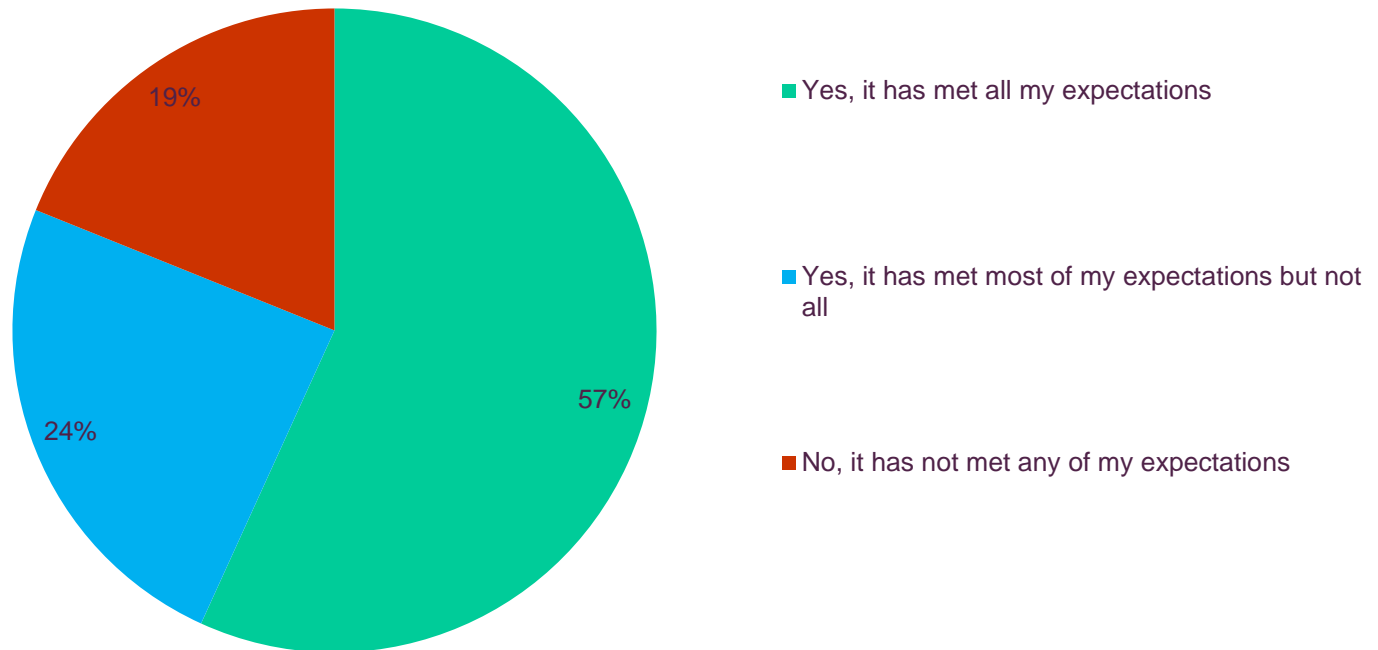# MOBILE INFORMATION MANAGEMENT – CLOSEOUT SURVEY

Please specify the devices that you have enrolled into the UHN Information Mobility Proof of Concept (PoC)

MOBILE INFORMATION MANAGEMENT – CLOSEOUT SURVEY

- For the 19% of respondents whose expectations were not met, reasons included:

  - Cumbersome and double login required on Android

  - Access to network folders hosted on the UHN Fileservers is still a challenge.

  - Interface was not very user friendly

Overall, how satisfied are you with the support materials and email/in person support received during the Information Mobility Proof of Concept (PoC)?
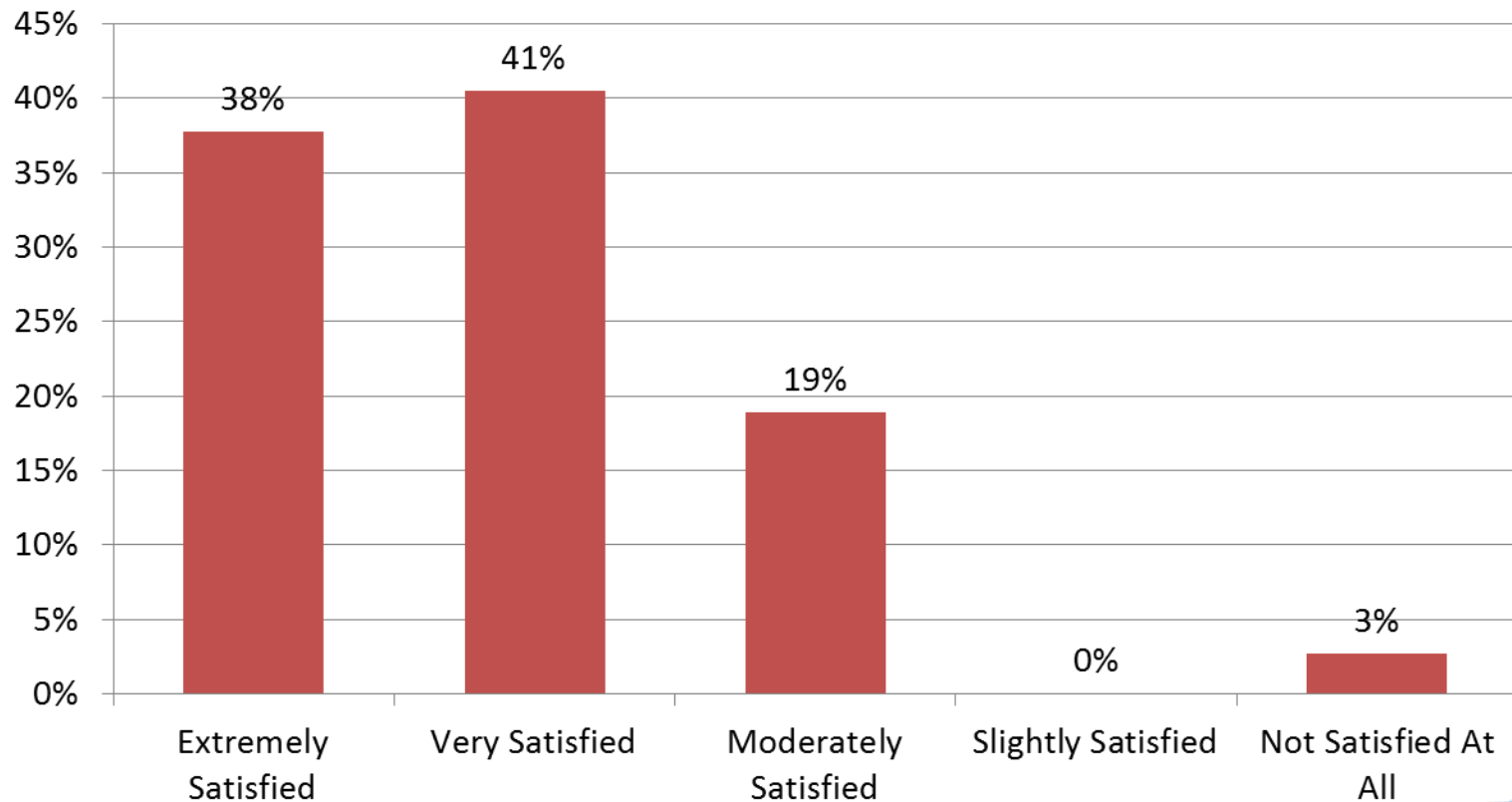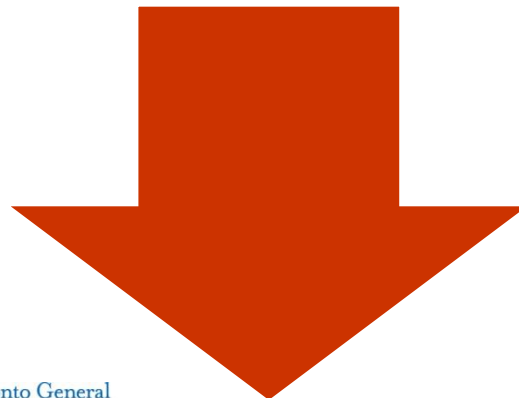
MOBILE INFORMATION MANAGEMENT – CLOSEOUT SURVEY

Additional feedback pertaining to staff's experience using this service …

Works Well

- Ease of use
- Accessibility of Work
- Provides increased mobility and productivity on the go
- Add-ons
- Eliminated the need to carry multiple devices
- Ability to stay connected
- Great project team support

Areas for Improvement

- Application slowness
- Login process – frequency, encryption requirements
- Integration – calendar, email
- Compatibility/Support with other devices
- Document Management
- More Apps in apps store
- Access to networks outside the LAN

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MOBILE INFORMATION MANAGEMENT – CLOSEOUT SURVEY

Recommendations for an enterprise wide rollout …

- ## Phased Rollout
  - Begin with Apple users
  - Address any outstanding Android issues prior to deployment

- ## Provide Training & Support
  - Enrolment process ("*how to*" to increase uptake)
  - FAQs
  - Instructional Guides
  - Onsite Technical Support / Help Desk

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MOBILE INFORMATION MANAGEMENT – CLOSEOUT SURVEY

Recommendations for an enterprise wide rollout (cont'd)…

- ## Cost Analysis
  - Suggest that costs are kept as low as possible so that it is accessible to the broadest group of people

- ## Functionality Overview
  - To increase uptake, clearly articulate:
    - *Features and functions currently available*
    - *Available Apps and what they do.*
    - *How to apply it to every day use*

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MOBILE INFORMATION MANAGEMENT – CLOSEOUT SURVEY

Recommendations for an enterprise wide rollout (cont'd)…

- Establish a Mobile Information Management Program
- Continue to listen and apply customer experience and expectations
  - Mobile Information Management Steering Committee
  - Mobile Application Management Steering Committee
  - Vendor Customer Council = voice of the customer

- Systemic Thinking
  - Understand the unique needs of cross appointed physicians
  - Continue to think of Mobile Information Management as a corner stone to establishing a consumer driven approach to Healthcare IT

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EMM Progression/Next Steps

1. ## CYOD

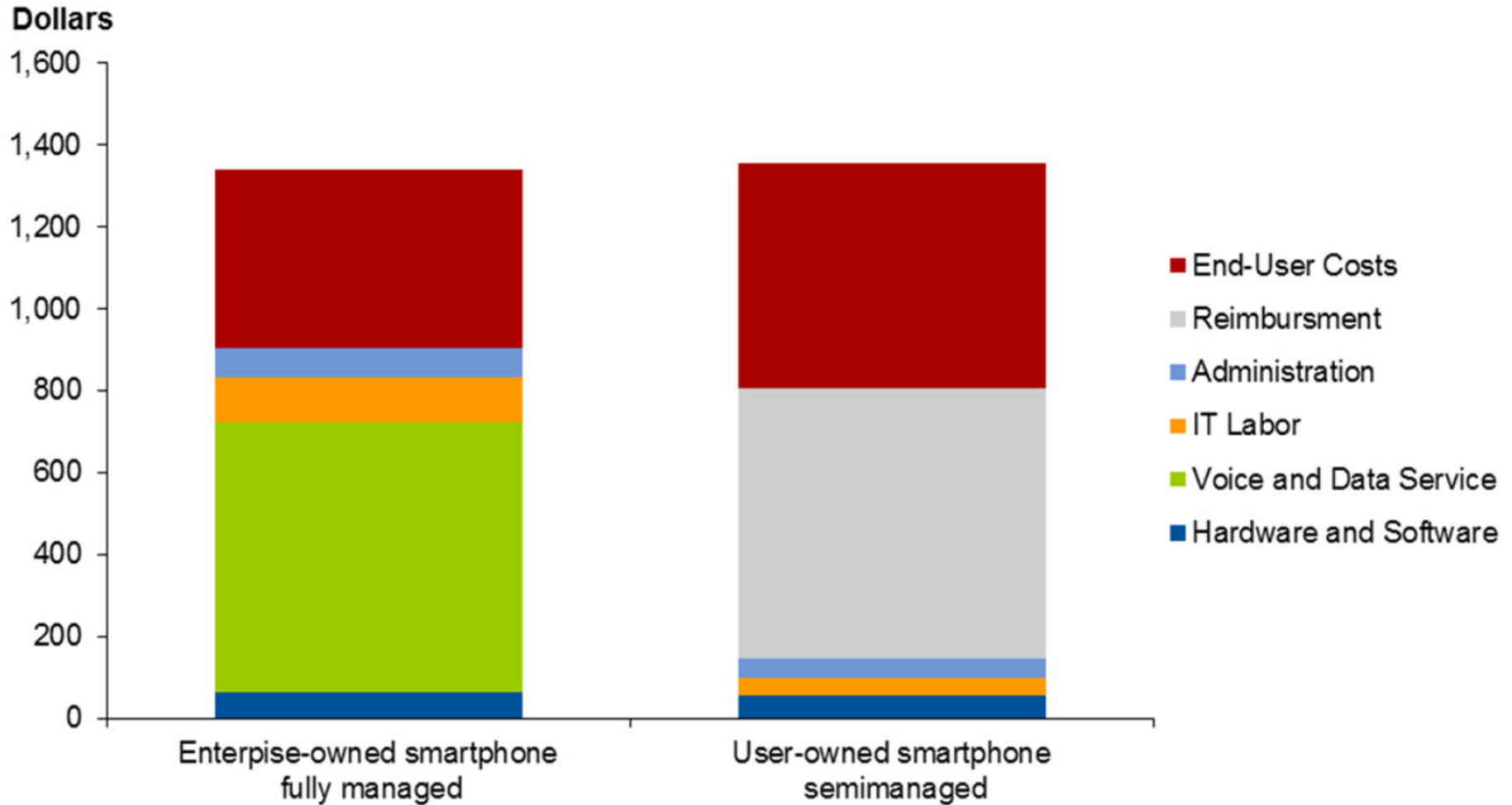   – They can choose between corporate standard owned and provided device (Blackberry 10+, Samsung Galaxy, Apple iOS)

2. ## BYOD

   – HR must be engaged to understand the implications of possible reimbursements and use of personal devices for business purposes (e.g. policy, acceptable use, etc.)

Figure 1. TCO Comparison of Enterprise- and User-Owned Smartphones

Source: Gartner (December 2014)

Finished

MDM: What is MDM

- Mobile Device Management as an administrative tool that allow UHN workers to connect their personally-owned BlackBerry, Apple iOS (iPhones, iPads) and Android devices to the UHN corporate network with integrated access to their UHN e-mail and calendar (eventually this will include other applications)

- The tool provides UHN with the security controls needed to secure and monitor and control access to corporate assets while allowing the individual to use the device for personal functions that many corporations don't allow on corporate devices. By controlling and protecting the data and configuration settings for all mobile devices in the network, MDM can reduce support costs and business risks. The intent of MDM is to optimize the functionality and security of a mobile communications network while minimizing cost

- MDM functionality typically includes over-the-air distribution of applications, data and configuration settings for all types of mobile devices, This can be applied to both company-owned and employee-owned (BYOD) devices or mobile devices owned by consumers.[1][2]

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MDM: What it is MDM?

- MDM will replace 'Good Technologies' at UHN
- Is not meant to be a replacement for critical UHN devices (e.g. ICU, Emergency)

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What devices are covered…

- Apple mobile devices (iPhones and iPads) running iOS 4.1 and later

- Android devices running Android 3.0 (Ice Cream) and later

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What Devices are not covered (for now)…

- Windows mobile devices (non-"Pro")

- Blackberry 10
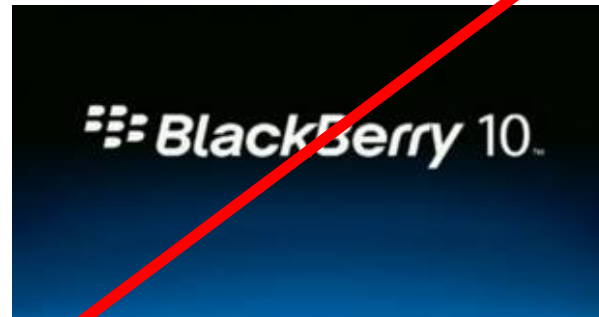
Costs and Enrollment process…

- Users who wish to enroll their personal devices will apply via NARF and be required to review and sign the personal mobile device Policy.

- When approved, the user will receive an e-mail with instructions and a link that will install, configure, and link the MDM client on their device automatically

- A $7-per-month network and support fee will be charged automatically to the user's FCC with an itemized report available to the FCC through Cognos or the Intranet. The FCC may choose to pass this fee to the user (same process and policy for personally-owned Blackberry devices currently in place)

- Each user is allowed up to 3 qualifying (iOS and/or Android) devices under the same licence, although each device must be individually registered

- The pricing model will be reviewed after one year

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How it works…

- The MDM system will allow iOS and Android mobile device users access to the corporate intranet and integrated UHN mail and calendar with the current UHN network policies (and restrictions) in place

- Apps forbidden by UHN policy (primarily apps that could circumvent security or privacy policies) will need to be removed in order for the user to access the network or their e-mail (it will prompt you with instructions). The list will be posted on the Intranet page (examples include DropBox, Google Drive, tTorrent Pro)

- UHN password and screen-lock policies will be enforced as on UHN-managed devices

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Security features and support…

- 24-hour support is available for help with MDM, device networking questions, and device usage via the regular HELP desk number(s)

- The device will wipe after 10 failed password attempts (remember to back-up)

- Minimum 6 alpha numeric character pin/password required

- Will time-out after 10-minutes (plus a 1-minute grace period)

- Jail broken devices will be denied access to the corporate network

- If the device is suspected lost or stolen, call the HELP desk and it can be locked or wiped remotely (remember to back-up)

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MDM post-project…

- A mobile-device/BYOD Steering Committee will be formed

- This group will regulate and advise on the further implementation and expansion of profiles, policies, tools, distribution, platform support and any other MDM topics and issues as mobile device use expands at UHN

- BB10 Implementation

Questions / Discussion

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