

# Health IT

## *Diffusion in Acute Care Hospitals*

### *Commission Brief*

*September 19, 2013*



The MARYLAND  
HEALTH CARE COMMISSION

# **MHCC - A Resource to Hospitals**

- **Information regarding electronic health records (EHRs), health information exchange (HIE), and telemedicine**
- **Health IT implementation strategy development support and evaluation**
- **Convener of CIOs and Chief Medical Informatics Officers**
- **Link to community-based ambulatory practices**
- **Shed light on best practices through reporting**

# The Hospital Health IT Assessment

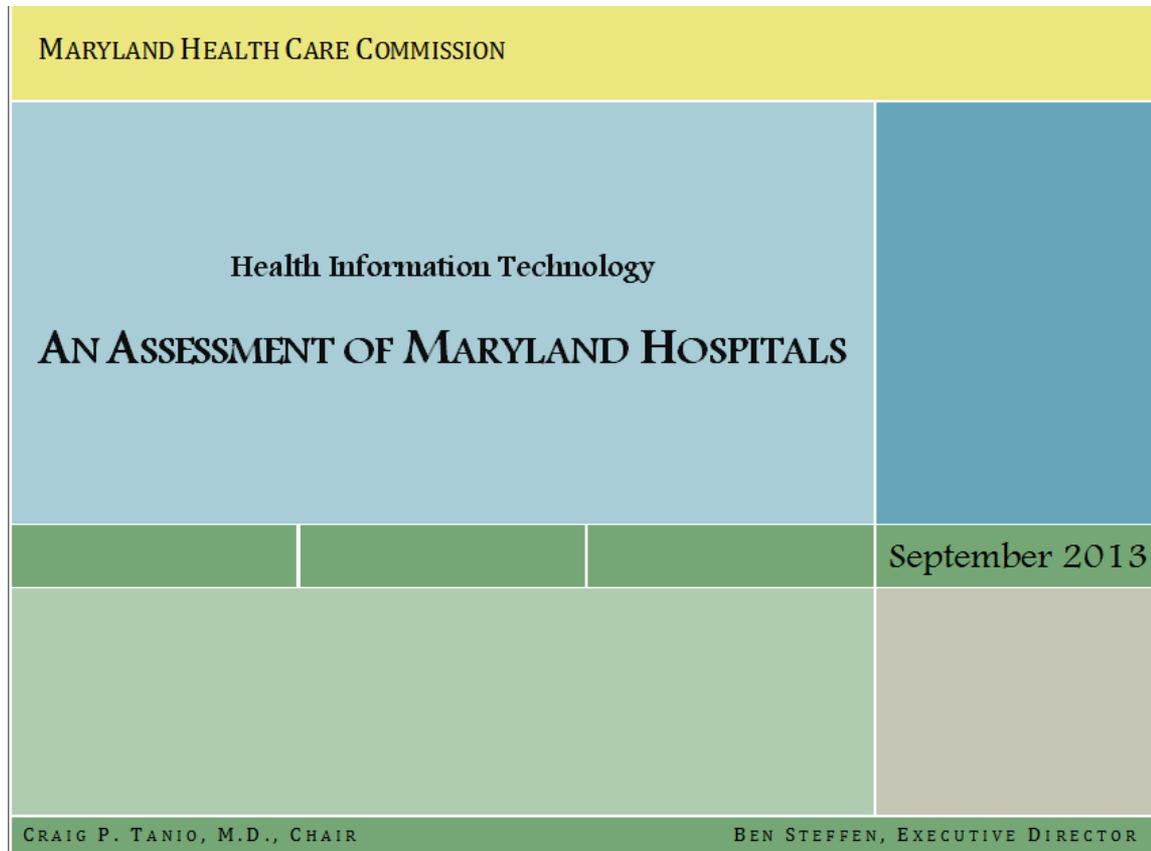
- Since 2008, MHCC has conducted an annual *Hospital Health Information Technology Survey* (survey)
  - Information self-reported by hospital Chief Information Officers (CIOs)
  - All 46 acute care hospitals
  - Data regarding hospital health information technology (health IT) adoption
  - Identifies hospitals' plans to implement technology
- Benchmarks Maryland hospital adoption rates against national adoption rates
- Provided several hospitals with recommendations regarding optimizing the use of health IT

# Why Assess Health IT Adoption?

- Health IT serves as the infrastructure to empower providers and patients, make health care and the health system more transparent, enhance the study of care delivery and payment systems, and drive substantial improvements in care, efficiency, and population health
  - The Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act of 2009 (ARRA), included roughly \$25.9 billion to promote the adoption and use of federally certified health information technologies
- Hospital health IT expansion initiatives are essential to Maryland's broader health IT strategy in building an interconnected system of care delivery where information about the patient is available at the point of care

# New to the 2012 Assessment

- Patient portal adoption
- Federal EHR incentive payments received
- Meaningful Use (MU) attestation and threshold achievements
- Data submission to the State-Designated HIE
- Telemedicine technology use and service offerings



# The Message....

- **Since 2008, the health IT adoption rate has increased roughly 25 percent**
- **Maryland hospitals exceed national adoption rates for 8 out of 10 technologies assessed**
- **Hospitals continue to take advantage of the federal incentives for the adoption and MU of health IT**
  - **As of 2012, approximately 83 percent of hospitals had received an incentive payment, totaling approximately \$67.9M**
  - **Approximately 54 percent of hospitals have attested to MU**

# National vs. Local Penetration

- Roughly 44 percent of hospitals nationally have adopted a basic EHR, compared to about 83 percent statewide
- Approximately 72 percent of hospitals nationally have implemented CPOE, as compared to nearly 85 percent in Maryland
- Nationally, about 87 percent of hospitals have implemented at least one CDS functionality, comparatively, about 67 percent of hospitals in Maryland
- About 61 percent of national hospitals have partially or fully implemented e-prescribing as compared to approximately 22 percent locally

# **National vs. Local Penetration** *(Continued)*

- **About 60 percent of hospitals nationally have adopted eMAR, compared with roughly 91 percent of Maryland hospitals**
- **The national adoption rate of BCMA among hospitals is about 27 percent compared to 78 percent for Maryland hospitals**
- **Around 20 to 25 percent of hospitals nationally are using ISS, which is an increase of 10 to 15 percent from 2009; locally, ISS is about 52 percent and has increased by roughly 11 percent since 2008**
- **Approximately 14 hospitals in Maryland have implemented a patient portal, nearly 24 are planning to implement**

# Health System Comparison – At a Glance

- On average, health systems health IT adoption is about 65 percent, as compared to community hospitals at about 76 percent

| Health System                                | Health IT Adoption |
|--|--------------------|
| LifeBridge Health                            | 83%                |
| Upper Chesapeake Health System               | 83%                |
| <b>Johns Hopkins Medical System</b>          | <b>71%</b>         |
| Adventist HealthCare                         | 67%                |
| <b>University of Maryland Medical System</b> | <b>67%</b>         |
| <b>MedStar Health</b>                        | <b>67%</b>         |
| Dimensions Healthcare                        | 8%                 |

Note: *Academic medical systems*

# Discussion



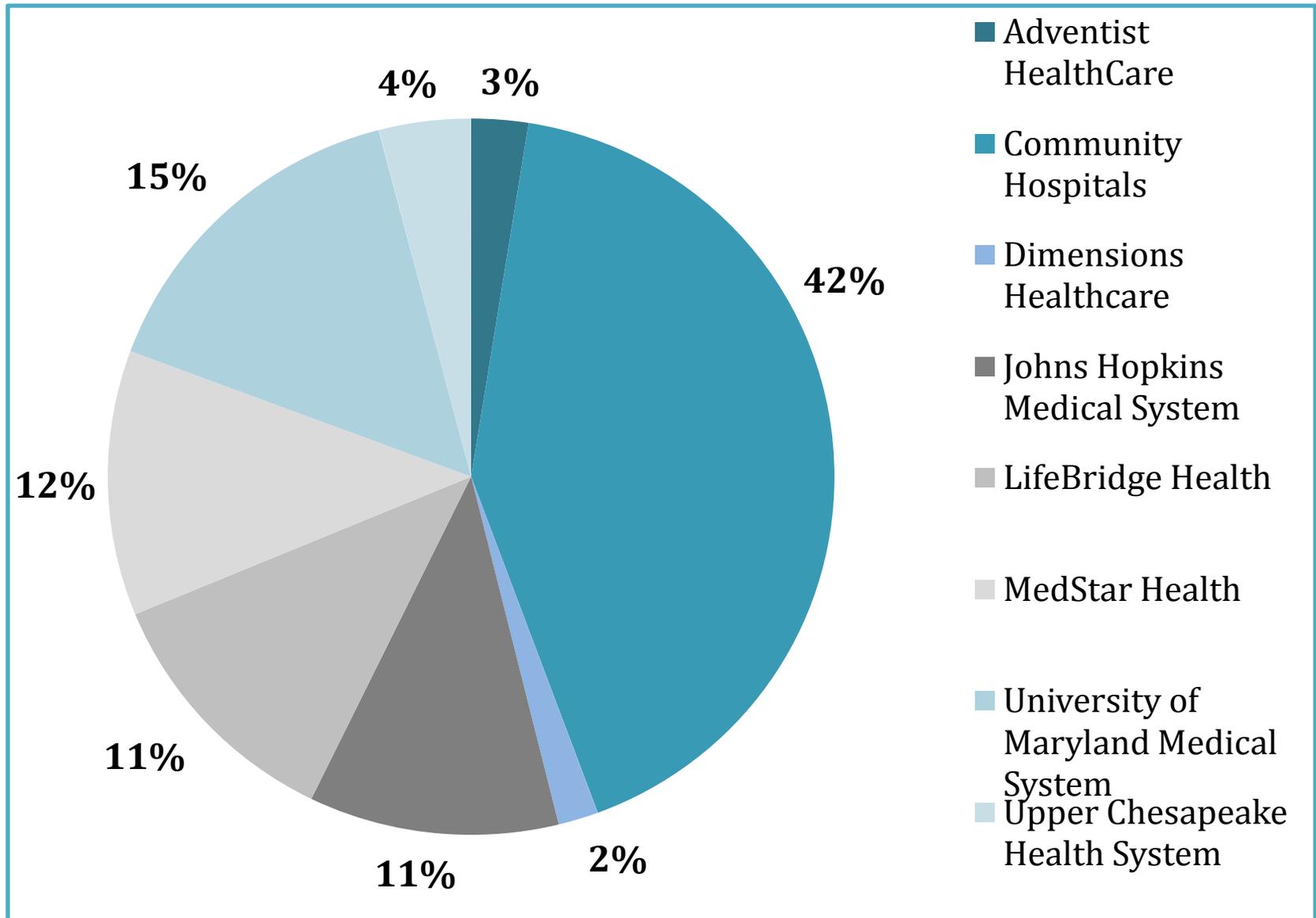
# Data Reference



# Overview of Hospital Health IT Adoption

| Technology                                  | 2012<br>n=46<br><i># of Hospitals</i> | 2008 - 2012<br>Change<br><i># of Hospitals</i> | Maryland<br>Hospitals<br>% | Hospitals<br>Nationally<br>% |
|---|---------------------------------------|--|----------------------------|------------------------------|
| EHR   | 41                                    | 7  | 83                         | 44                           |
| Computerized Physician Order Entry          | 39                                    | 15   | 85                         | 72                           |
| Electronic Prescribing                      | 10                                    | 7  | 22                         | 61                           |
| Electronic Medication Administration Record | 42                                    | 18   | 91                         | 60                           |
| Barcode Medication Administration           | 36                                    | 22   | 78                         | 27                           |
| Infection Surveillance Software             | 24                                    | 6  | 52                         | 20 - 25                      |
| <b>Health IT Adoption Rate (%)</b>          | <b>70</b>                             | <b>25</b>                                      | <b>70</b>                  | <b>48</b>                    |
| Clinical Decision Support                   | 31                                    | 14   | 67                         | 87                           |
| Patient Portal                              | 14                                    | -  | 30                         | 26                           |
| HIE Data Submission                         | 46                                    | 46   | 100                        | 30                           |
| Telemedicine                                | 21                                    | -4   | 46                         | -                            |
| MU Attestation                              | 25                                    | -  | 54                         | -                            |
| Federal Incentive Payment                   | 38                                    | -  | 83                         | 80                           |

# Share of MU Payments



# MU Requirement Attainment by Hospital

| <i>MU Core Objective</i>  | CPOE                   | Drug-Drug,<br>Drug Allergy | Problem List | Medication List | Electronic<br>Health<br>Information | Discharge<br>Information | Exchange<br>Information |
|---|------------------------|----------------------------|--------------|-----------------|-------------------------------------|--------------------------|-------------------------|
| <i>Threshold Requirement</i>  | 30%                    | Attest                     | 80%          | 80%             | 50%                                 | 50%                      | Attest                  |
| <b>Medicare &amp; Medicaid</b><br><i>n=14</i><br><i>Average/Total</i> | 83                     | 14                         | 94           | 97              | 79                                  | 56                       | 14                      |
| <b>Medicare Only</b><br><i>n=10</i><br><i>Average/Total</i>           | 85                     | 10                         | 83           | 96              | 43                                  | 63                       | 10                      |
| <i>MU Core Objective</i>  | Protect<br>Information | Medication<br>Allergy List | Demographics | Vital Signs     | Smoking Status                      | Quality<br>Measures      |                         |
| <i>Threshold Requirement</i>  | Attest                 | 80%                        | 50%          | 50%             | 50%                                 | Attest                   |                         |
| <b>Medicare &amp; Medicaid</b><br><i>n=14</i><br><i>Average/Total</i> | 14                     | 98                         | 96           | 85              | 89                                  | 11                       |                         |
| <b>Medicare Only</b><br><i>n=10</i><br><i>Average/Total</i>           | 10                     | 97                         | 96           | 91              | 95                                  | 9                        |                         |
| <i>MU Menu Objective</i>  | Drug Formulary         | Advanced<br>Directives     | Lab Results  | Patient List    | Immunization<br>Registries          |                          |                         |
| <i>Threshold Requirement</i>  | Attest                 | 50%                        | 40%          | Attest          | Attest                              |                          |                         |
| <b>Medicare &amp; Medicaid</b><br><i>n=14</i><br><i>Average/Total</i> | 14                     | 93                         | 96           | 14              | 12                                  |                          |                         |
| <b>Medicare Only</b><br><i>n=10</i><br><i>Average/Total</i>           | 10                     | 97                         | 99           | 10              | 7                                   |                          |                         |

# 2012 Health IT Adoption by Hospital

| Hospital<br><i>n=46</i>              | Total<br>Units# | EHRs<br>%<br>Unit | e-Prescribe<br>%<br>Unit | CPOE<br>%<br>Unit | eMAR<br>%<br>Unit | BCMA<br>%<br>Unit | ISS | Telemedicine |
|--------------------------------------|-----------------|-------------------|--------------------------|-------------------|-------------------|-------------------|-----|--------------|
| Anne Arundel Medical Center          | 35              | 100               | 22                       | 100               | 100               | 66                |     | ✓            |
| Atlantic General Hospital            | 14              | 50                | 1                        | 43                | 35                | 35                |     | ✓            |
| Baltimore Washington Medical Center  | 33              | 100               | 48                       | 100               | 58                | 0                 | ✓   | ✓            |
| Bon Secours Baltimore Health System  | 11              | 0                 | 0                        | 0                 | 0                 | 0                 |     | ✓            |
| Calvert Memorial Hospital            | 26              | 65                | 0                        | 19                | 58                | 46                |     | ✓            |
| Carroll Hospital Center              | 13              | 92                | 0                        | 92                | 92                | 92                | ✓   | ✓            |
| Civista Medical Center               | 19              | 100               | 0                        | 5                 | 11                | 11                |     |              |
| Doctors Community Hospital           | 19              | 100               | 0                        | 5                 | 100               | 53                | ✓   | ✓            |
| Edward McCready Memorial Hospital    | 8               | 100               | 38                       | 100               | 25                | 0                 | ✓   |              |
| Fort Washington Hospital             | 21              | 14                | 0                        | 14                | 48                | 14                |     |              |
| Frederick Memorial Hospital          | 24              | 100               | 0                        | 100               | 96                | 83                | ✓   | ✓            |
| Garrett County Memorial Hospital     | 9               | 44                | 0                        | 11                | 11                | 11                |     |              |
| Greater Baltimore Medical Center     | 23              | 100               | 100                      | 100               | 74                | 74                |     |              |
| Harford Memorial Hospital            | 7               | 43                | 0                        | 100               | 43                | 43                | ✓   |              |
| Holy Cross Hospital                  | 27              | 100               | 0                        | 100               | 100               | 85                | ✓   | ✓            |
| Howard County General Hospital       | 30              | 63                | 0                        | 63                | 63                | 63                | ✓   | ✓            |
| Johns Hopkins Bayview Medical Center | 25              | 96                | 0                        | 92                | 92                | 92                |     |              |
| Johns Hopkins Hospital               | 16              | 100               | 0                        | 100               | 100               | 0                 | ✓   | ✓            |
| Laurel Regional Hospital             | 10              | 0                 | 0                        | 0                 | 0                 | 0                 |     |              |

# 2012 Health IT Adoption by Hospital *(Continued)*

| Hospital<br><i>n=46</i>                   | Total<br>Units# | EHRs<br>%<br>Unit | e-Prescribe<br>%<br>Unit | CPOE<br>%<br>Unit | eMAR<br>%<br>Unit | BCMA<br>%<br>Unit | ISS | Telemedicine |
|---|-----------------|-------------------|--------------------------|-------------------|-------------------|-------------------|-----|--------------|
| MedStar Franklin Square Medical Center    | 47              | 32                | 0                        | 5                 | 38                | 32                |     | ✓            |
| MedStar Good Samaritan Hospital           | 18              | 100               | 0                        | 0                 | 67                | 67                |     | ✓            |
| MedStar Harbor Hospital                   | 25              | 36                | 96                       | 36                | 36                | 36                | ✓   |              |
| MedStar Montgomery Medical Center         | 18              | 100               | 0                        | 100               | 100               | 94                |     | ✓            |
| MedStar Southern Maryland Hospital Center | 10              | 0                 | 0                        | 0                 | 0                 | 0                 |     |              |
| MedStar St. Mary's Hospital               | 13              | 100               | 77                       | 100               | 77                | 77                |     | ✓            |
| MedStar Union Memorial Hospital           | 53              | 8                 | 100                      | 100               | 96                | 100               | ✓   |              |
| Mercy Medical Center                      | 28              | 64                | 0                        | 61                | 64                | 64                | ✓   | ✓            |
| Meritus Medical Center                    | 23              | 100               | 0                        | 4                 | 65                | 65                | ✓   | ✓            |
| Northwest Hospital Center                 | 23              | 100               | 0                        | 87                | 69                | 69                | ✓   |              |
| Peninsula Regional Medical Center         | 24              | 100               | 0                        | 100               | 100               | 100               | ✓   | ✓            |
| Prince George's Hospital Center           | 8               | 0                 | 0                        | 0                 | 0                 | 0                 | ✓   |              |
| Shady Grove Adventist Hospital            | 23              | 100               | 0                        | 4                 | 100               | 100               |     |              |
| Sinai Hospital                            | 19              | 100               | 0                        | 100               | 100               | 100               | ✓   |              |
| St. Agnes Hospital                        | 69              | 100               | 0                        | 25                | 32                | 20                | ✓   |              |
| Suburban Hospital                         | 14              | 100               | 0                        | 29                | 57                | 57                |     | ✓            |
| Union Hospital of Cecil County            | 15              | 100               | 0                        | 100               | 27                | 100               | ✓   | ✓            |
| University of Maryland Medical Center     | 105             | 100               | 57                       | 75                | 14                | 0                 | ✓   | ✓            |

# 2012 Health IT Adoption by Hospital *(Continued)*

| Hospital<br><i>n=46</i>  | Total<br>Units# | EHRs<br>%<br>Unit | e-Prescribe<br>%<br>Unit | CPOE<br>%<br>Unit | eMAR<br>%<br>Unit | BCMA<br>%<br>Unit | ISS       | Telemedicine |
|--|-----------------|-------------------|--------------------------|-------------------|-------------------|-------------------|-----------|--------------|
| University of Maryland Medical Center<br>Midtown Campus                | 15              | 100               | 0                        | 0                 | 73                | 73                | ✓         |              |
| University of Maryland Rehabilitation &<br>Orthopedic Institute        | 28              | 68                | 68                       | 68                | 68                | 0                 |           |              |
| University of Maryland Shore Medical<br>Center at Chester River Health | 5               | 100               | 0                        | 20                | 80                | 60                |           |              |
| University of Maryland Shore Medical<br>Center at Dorchester           | 6               | 100               | 0                        | 16                | 83                | 66                |           |              |
| University of Maryland Shore Medical<br>Center at Easton               | 15              | 100               | 0                        | 13                | 73                | 53                |           |              |
| University of Maryland St. Joseph Medical<br>Center                    | 26              | 0                 | 0                        | 0                 | 75                | 0                 | ✓         |              |
| Upper Chesapeake Medical Center  | 7               | 100               | 0                        | 100               | 24                | 29                | ✓         |              |
| Washington Adventist Hospital  | 18              | 100               | 0                        | 6                 | 11                | 100               |           |              |
| Western Maryland Health System   | 35              | 100               | 0                        | 3                 | 46                | 46                | ✓         |              |
| <b>Totals</b>  |                 | <b>80</b>         | <b>21</b>                | <b>54</b>         | <b>59</b>         | <b>48</b>         | <b>24</b> | <b>21</b>    |