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Electronic Health Record Adoption and Health Information Exchange Among Long Term and Post Acute Care Providers:

A Survey of LeadingAge New York Members

LeadingAge New York
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Executive Summary

Long-term/post-acute care ("LTPAC") providers will play an essential role in New York State's initiatives to transform care and reduce avoidable hospital use.[1] Serving medically-complex and frail elderly and disabled individuals, who experience high rates of hospitalization and frequent transitions between health care settings, LTPAC providers are well-positioned to contribute to the State's efforts. The success of these efforts will depend in part on LTPAC providers' adoption of electronic health records ("EHRs") and their engagement in health information exchange ("HIE") along the health care continuum.[2] With these technologies, LTPAC providers can efficiently collect and use clinical information and share it securely with other providers, in order to improve care coordination, avoid adverse events and unnecessary utilization, and measure and enhance quality.

This ability to collect, share, and analyze clinical information electronically is integral to all of the new models of care embraced by the State and federal governments under health care reform, including performing provider systems ("PPSs") participating in New York's Delivery System Reform Incentive Payment ("DSRIP") program, accountable care organizations, and Medicaid managed care. Moreover, the DSRIP program and other health care reform initiatives, such as the State's Fully-Integrated Duals Advantage (FIDA) program for dual eligibles, entail a shift from fee-for-service to value-based payment for health care services. In order to assess and manage the risk associated with these new payment arrangements, providers and health plans will need robust technology solutions linked to EHRs to analyze and share clinical, cost and performance data.

Despite the strong public interest in promoting active engagement of LTPAC providers in cross-continuum efforts to improve outcomes and reduce costs, public investment in health IT and HIE for this sector has been limited.[3] Although the State and federal governments have invested billions of dollars in the adoption of EHRs and in HIE, much of the funding to date has been focused on hospitals, clinics and physician practices. Nursing homes, home care agencies, adult day health care programs and assisted living providers have been ineligible for federal EHR Incentive Program funding and under-represented in State health IT funding opportunities.

LeadingAge New York conducted a survey of 418 LTPAC members to determine the level of EHR adoption and HIE among its members and the members of its affiliate, the Adult Day Health Care Council. Survey recipients included not-for-profit organizations[4] that operate nursing homes, home care

[1] For purposes of this paper, long-term/post-acute care (LTPAC) providers are nursing homes, home care agencies, assisted living facilities, adult day health care programs, managed long-term care plans, and PACE programs.
[2] This paper and the associated survey use the terms electronic health records (EHRs) and electronic medical records (EMRs) interchangeably.
[3] Health IT in Long-Term and Post Acute Care, Issue Brief, Office of the National Coordinator for Health Information Technology, Mar. 5, 2013 at 4-5, available at http://www.healthit.gov/sites/default/files/pdf/HIT_LTPAC_IssueBrief031513.pdf.
[4] Adult day health care programs surveyed included both for-profit and not-for-profit operators, due to the composition of the Adult Day Health Care Council's membership.

agencies, assisted living facilities, adult day health care programs, PACE programs and managed long term care plans.[5] We received 126 unduplicated responses to the survey – a response rate of 30 percent.

Overall, approximately 60 percent of the respondents reported full or partial adoption of EHRs. EHR adoption was concentrated among nursing homes and home care agencies (73 percent and 68 percent respectively). Rates of full or partial adoption were lower among managed long term care plans/PACE programs (56 percent), assisted living facilities (46 percent), and adult day health care programs (24 percent). Based on other studies and anecdotal evidence, we believe that there was a higher response rate among EHR adopters and that these results may be skewed in favor of providers that have adopted EHRs.[6] Thus, at least 40 percent of New York's LTPAC providers, and probably more, have not even partially adopted an EHR.

The survey not only showed suboptimal rates of EHR adoption, it also indicated that the rate of HIE between respondents and other providers lags well behind EHR adoption. Surprisingly, most of the HIE appears to be occurring independent of the State's Regional Health Information Organizations (" RHIO"s). Only 31 percent of respondents reported health information exchange with a RHIO. Even though 53 percent of respondents indicated that they exchange or view information with a hospital, only 30 percent actually receive information from, or transmit information to, a hospital. The remaining 23 percent merely views the health information in the hospital record. Only 26 percent of respondents receive electronic transfer documents when a patient transitions to their care, and only 13 percent generate such a document when a patient is transferred from their care. Only 7 percent receive electronic alerts when a patient or resident presents in an emergency room, is admitted to a hospital or is treated by another provider.

The low rates of engagement with RHIOs and of bi-directional exchange of health information among the survey respondents are troubling. While the ability of an LTPAC provider to view patient information in a hospital record is clearly helpful in coordinating care, it does not offer the efficiencies and timeliness of the bi-directional exchange of information into interoperable EHRs. Because viewing requires the treating provider to log into another system and look for relevant clinical data, it is not easily integrated into workflow and may delay access to important information. Moreover, information

[5] For purposes of this survey analysis, "assisted living facility" includes all types of adult care facilities licensed by the Department of Health. These include facilities that provide only personal care, supervision, monitoring, and case management, as well as Medicaid assisted living programs that serve nursing home eligible beneficiaries and provide a variety of health care services, including nursing, therapies and personal care.

[6] Erika L. Abramson, MD, MS; Alison Edwards, MS; Michael Silver, MS; Rainu Kaushal, MD, MPH; and HITEC investigators. "Trending Health Information Technology Adoption Among New York Nursing Homes," AJMC, available at http://www.ajmc.com/publications/issue/2014/2014-11-vol20-sp/trending-health-information-technology-adoption-among-new-york-nursing-homes/2. 2012 National Study of Long-Term Care Providers: Tables on Use of Electronic Health Records and Health Information Exchange among Adult Day Services Centers and Residential Care Communities, Table 1, available at http://www.cdc.gov/nchs/data/nsltcp/EHRUse_Exchange.pdf. Residential care communities in New York State were omitted from the CDC study's results due to unreliability of the data.

viewed is not easily incorporated into the treating provider's record system. The scant use of electronic transfer documents and electronic alerts further complicates care coordination efforts.

Costs associated with EHR adoption and HIE varied significantly among respondents and included not only the initial outlays for purchasing an EHR and building the HIE connections, but also annual expenses for maintenance and upgrades. Two-thirds of the respondents that estimated the initial cost of EHR adoption spent more than $100,000 on their EHR. Eighteen percent spent more than $500,000. One-third of the respondents that estimated the initial and annual cost of building and maintaining HIE infrastructure reported initial costs in excess of $10,000. Forty percent reported annual maintenance and upgrade expenses in excess of $1,000, with 14 percent estimating annual expenses in excess of $10,000.

The survey findings demonstrate that mere adoption of an EHR does not ensure the ability to share information electronically. To engage in HIE, the digital pathway from each provider's information system or EHR to the RHIO or a partnering provider must be built. Each step in the process requires an investment in hardware, software, and staff. To date, the resources necessary to invest in these technologies have been scarce in the long-term/post-acute care sector. In order to ensure the success of New York's DSRIP program and other efforts to improve outcomes while reducing spending, an investment of public dollars is needed in EHRs and health information exchange infrastructure for LTPAC providers.

Introduction

Long-term/post-acute care ("LTPAC") providers will be a critical component of state and federal efforts to achieve the Triple Aim of better health, better care, and lower overall costs. LTPAC providers serve older adults and people with disabilities who have complex medical conditions and who are overwhelmingly covered by Medicaid and/or Medicare. With frequent hospital admissions and transitions between health care settings, these patients and residents are at risk of sub-optimal outcomes and avoidable hospitalizations due to miscommunications, disruptions in needed services, and lack of clinical continuity.[7]

New York State and the Centers for Medicare & Medicaid Services are trying to reduce fragmentation in care and advance the Triple Aim through new models of care and payment that bring together providers along the health care continuum and pay them based on quality and outcomes rather than volume of services. These efforts include the State's ambitious program, known as the Delivery System Reform Incentive Payment ("DSRIP") program, to reduce avoidable hospitalizations by 25 percent over five years. They also include federal initiatives, such as the Medicare Shared Savings Program ("MSSP") and Bundled Payments for Care Improvement ("BPCI"). They demand that providers communicate and coordinate with each other, implement evidence-based practices, measure and analyze clinical and financial performance, and engage in continuous quality improvement.

These new models not only seek to transform the way that care is delivered, but also how it is reimbursed. By the end of the fifth year of the DSRIP program, the federal government and the State expect at least 90 percent of payments to providers by Medicaid managed care plans to be made under a value-based (non-fee-for-service) methodology. New York's Fully Integrated Duals Advantage (FIDA) program has a similar requirement. MSSP accountable care organizations receive a portion of the savings they achieve, provided that they meet specified quality measures. Likewise, participants in the BPCI receive the savings they generate in relation to a target price and must re-pay amounts in excess of the target. These value-based payment arrangements often entail the assumption of financial risk by providers and require providers to collect and analyze data to assess and manage that risk.[8]

The adoption of electronic health records ("EHRs") and broad participation in health information exchange ("HIE") among LTPAC providers are critical to the success of New York's work to improve outcomes and quality and reduce hospitalizations and overall spending.[9] Whether a provider is involved in a performing provider system ("PPS") under New York's DSRIP program, a health home,

[7] *See* "Medicare Nursing Home Hospitalization Rates Merit Additional Monitoring," U.S. Dept. of Health & Human Services, Office of Inspector General, 2013, Appendix C, available at http://oig.hhs.gov/oei/reports/oei-06-11-00040.pdf .

[8] For example, providers may be asked to accept a pre-paid, per patient amount for a specified set of services or to share in savings or losses in relation to a benchmark spending amount for a specified condition or procedure.

[9] For purposes of the survey, the terms "electronic health records" (EHRs) and "electronic medical records" (EMRs) were used interchangeably.

an accountable care organization ("ACO"), a bundled payment initiative, or a managed care program, it is expected to be able to share information securely with other providers and collect and analyze cost and performance data. These technologies are important not only to the success and sustainability of the providers themselves, as they strive to succeed in today's health care environment, but also to the consumer's experience of care.

Methodology

In order to gauge the levels of EHR adoption and HIE engagement among its LTPAC members, LeadingAge New York conducted a survey, in 2014, of its members and the members of its affiliate, the Adult Day Health Care Council. The LeadingAge New York survey instrument was disseminated electronically, using a web-based application, in May through August of 2014 to 418 LTPAC members of LeadingAge New York and its affiliate the Adult Day Health Care Council, including nursing homes, adult day health care programs, home care agencies, adult care facilities, continuing care retirement communities, PACE programs and managed long term care plans.[10] Since many of the facilities, agencies and programs surveyed are under common control, the 418 service providers represented approximately 263 independent organizations. We contacted survey recipients initially by email and followed up with emails and telephone calls to those that did not respond.

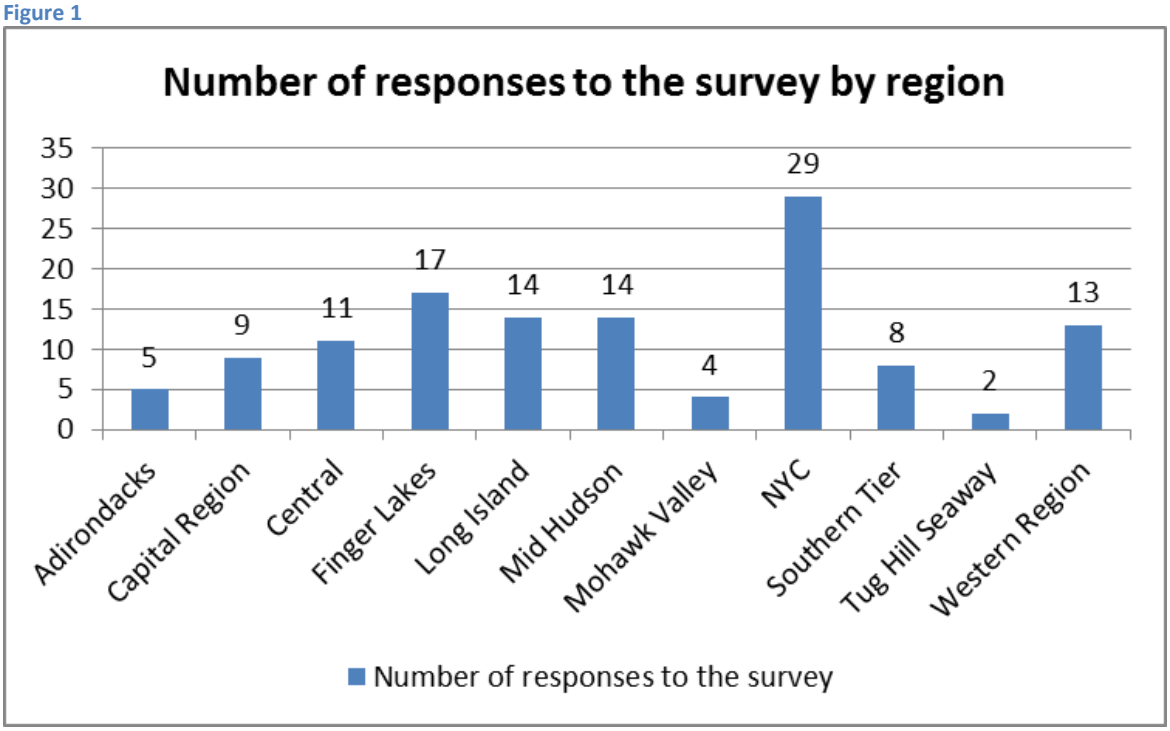
We received 126 unduplicated responses to the survey, which represented facilities, agencies, programs and MLTC plans controlled by 117 organizations. In many cases, multiple providers under a single organizational umbrella received the survey, but the organizational "parent" responded on behalf of all of its affiliated providers. In other cases, related providers responded individually. Thus, although only 30 percent of the individual providers surveyed responded, 44 percent of the organizations represented responded. With the exception of the adult day health care programs, which include proprietary entities, all of the respondents are operated by not-for-profit or public entities.

We identified the services offered by the respondents using the LeadingAge New York member database and respondents' websites. Of the service providers and organizations that responded, 95 operate nursing homes, 28 operate home care agencies, 58 operate adult day health care programs, 35 operate assisted living facilities, and 16 operate managed long-term care plans or PACE programs. Most respondents operate more than one type of service. This analysis refers to the various services that may be provided by an organization as "service lines."

We distributed survey respondents geographically in accordance with the eleven population health planning regions identified by the State Department of Health.[11] These regions coincide to some extent with the RHIO regions; in some areas of the state, however, these regions are a subset of the RHIO regions, reflecting the local utilization patterns of many health care services. The distribution of responses is depicted in Figure 1:

[10] A copy of the survey instrument is attached as Appendix A.
[11] A map of the regions is attached as Appendix B.

Figure 1



*Regions are the population health planning regions defined by the NYS Department of Health.

Some survey respondents did not respond to every question. Unless otherwise noted, when a respondent did not answer, the respondent was excluded from both the numerator and denominator of any rate calculation resulting from that question (see Appendix A for the complete survey instrument). With respect to Question 4 ("Please identify the business/service line(s) for which you have fully or partially implemented an EMR/EHR"), the denominator for each service line also includes the respondents that skipped the question and therefore have not adopted an EHR for any service line. Similarly, the denominator for Question 8 ("If you view, send or receive health information electronically (not including fax) for any business/service line(s), with whom do you exchange information") includes respondents that skipped the question.

EHR Adoption Responses

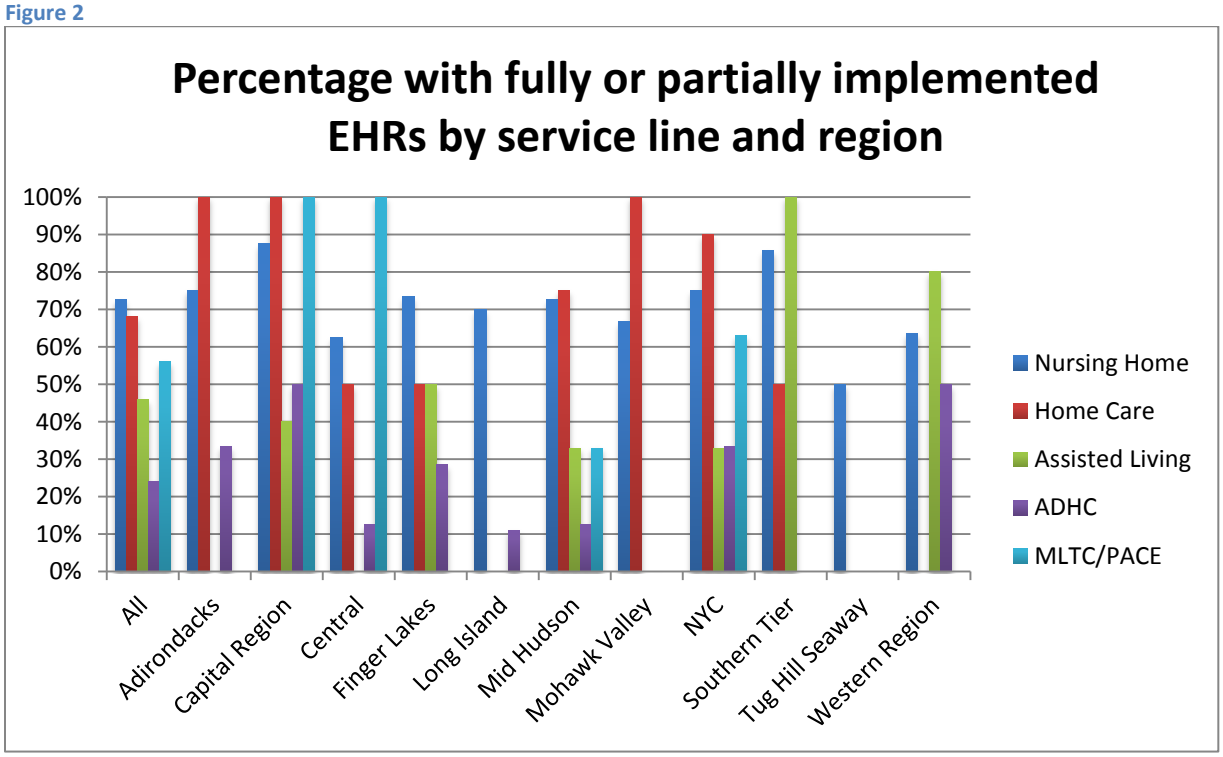
I) EHR PENETRATION

Approximately 60 percent of respondents indicated that they had partially or fully implemented electronic health records (EHRs) in one or more service lines. However, EHR penetration rates varied by service line and by region. The following table sets forth the percentage of respondents in each service line that have partially or fully implemented an EHR:

Table 1

Service	% of respondents operating the service that have partially or fully implemented an EHR
Nursing Homes	73
Home Care Agencies	68
MLTC Plans/PACE Programs	56
Assisted Living	46
Adult Day Health Care	24

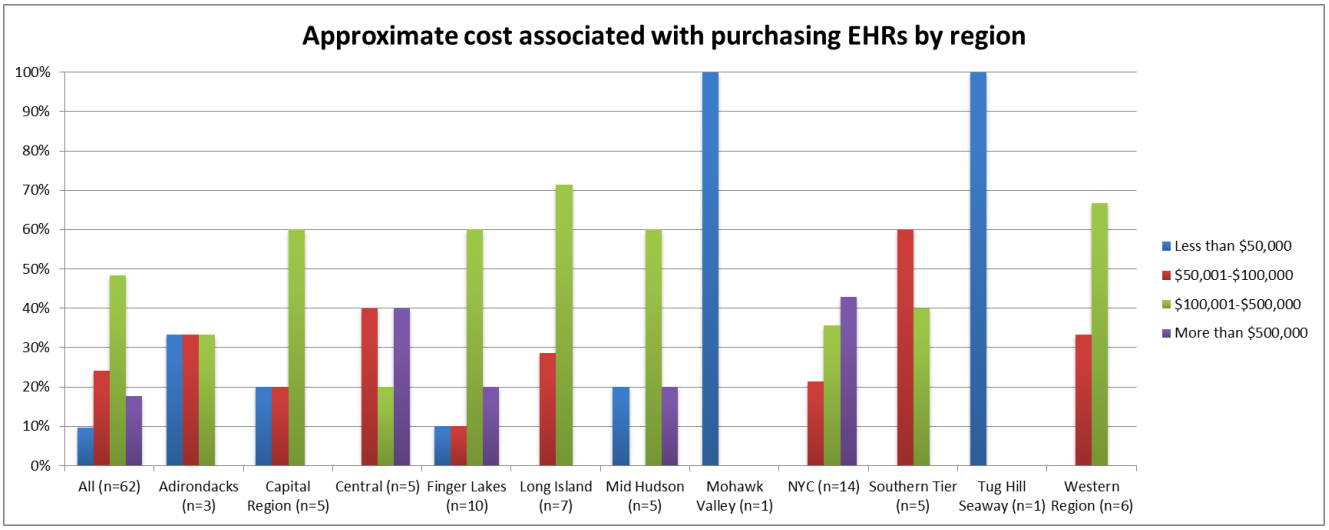
Figure 2



II) EHR COST

The cost of purchasing an EHR varied significantly among respondents. Nearly half of the respondents that reported the expense associated with purchasing an EHR indicated spending between $100,000 and $500,000 for their EHR, while 24 percent paid between $50,000 and $100,000, another 18 percent paid over $500,000, and approximately 10 percent paid less than $50,000.[12] In addition to the initial cost, many respondents reported annual maintenance and upgrade expenses. Forty-two percent of the respondents that estimated such expenses reported that they incur or expect to incur annual maintenance and upgrade expenses in excess of $50,000.[13] Twenty-three percent indicated that such costs are or will be between $50,000 and $100,000, approximately 14 percent reported annual costs between $100,000 and $500,000, and five percent reported annual costs of over $500,000.

Figure 3



III) EHR VENDORS

The EHR vendors selected by respondents varied by service line and by region. SigmaCare was used by the highest number of nursing home respondents overall, but this was largely due to its dominance downstate. Allscripts was used by highest share of home care agency respondents, and Answers on Demand had the highest number of assisted living facility users.

[12] Sixty-four respondents either skipped this question or answered "Don't know." These respondents are excluded from the denominator.
[13] Sixty-two respondents either skipped this question or answered "Don't know." These respondents are excluded from the denominator.

Figure 4

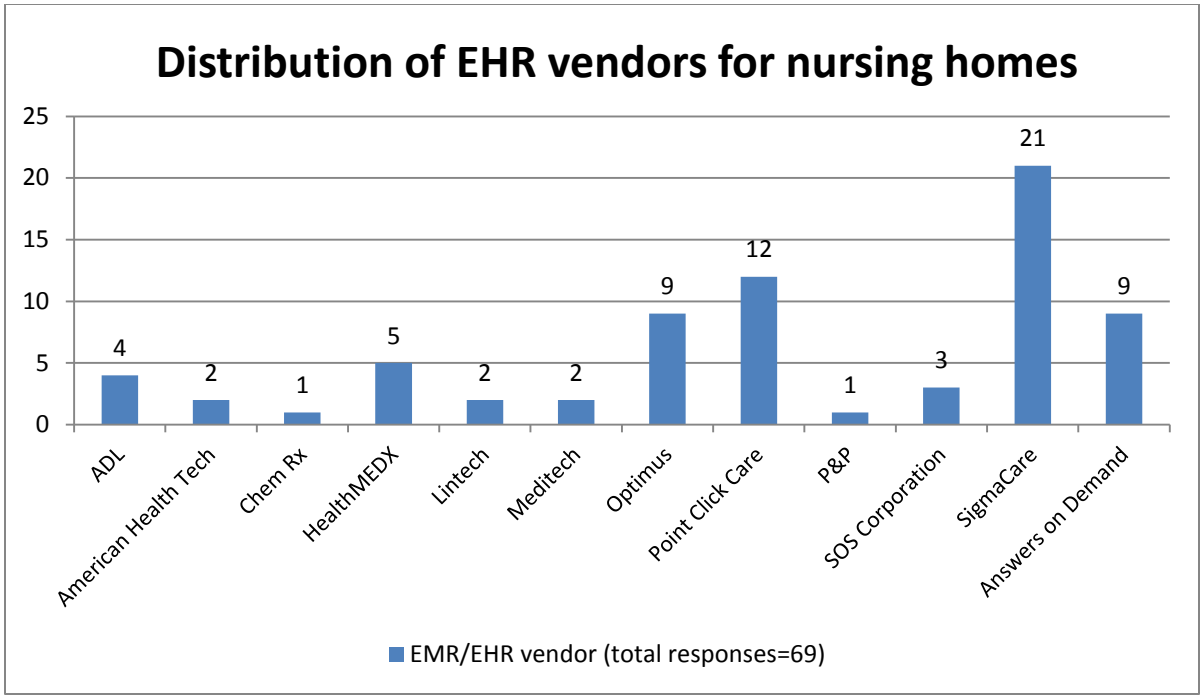


Figure 5

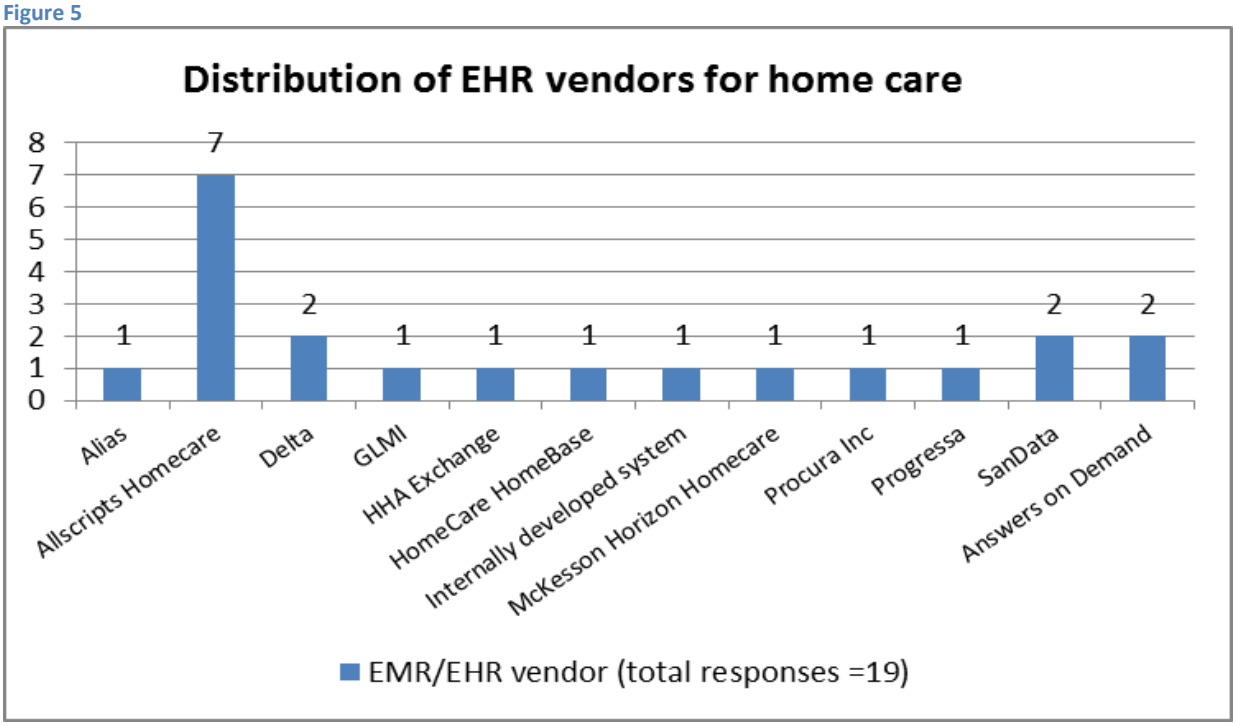


Figure 6

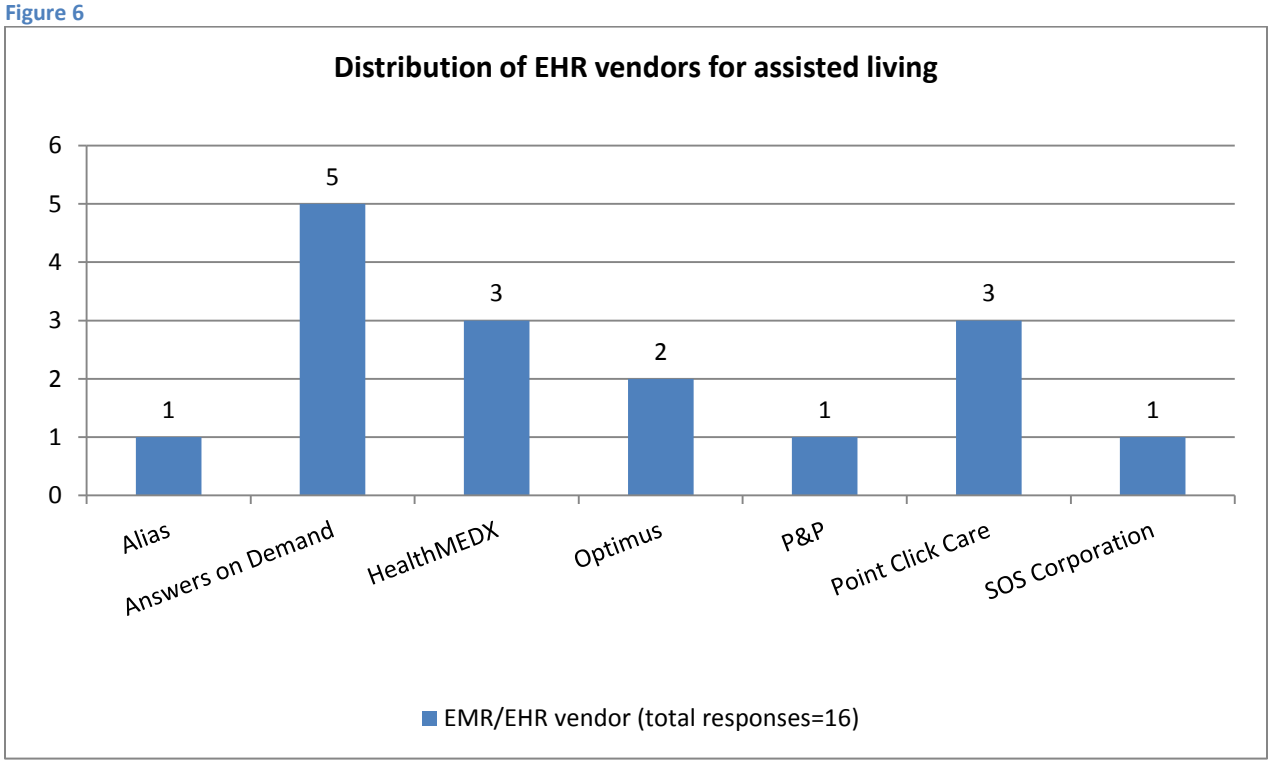
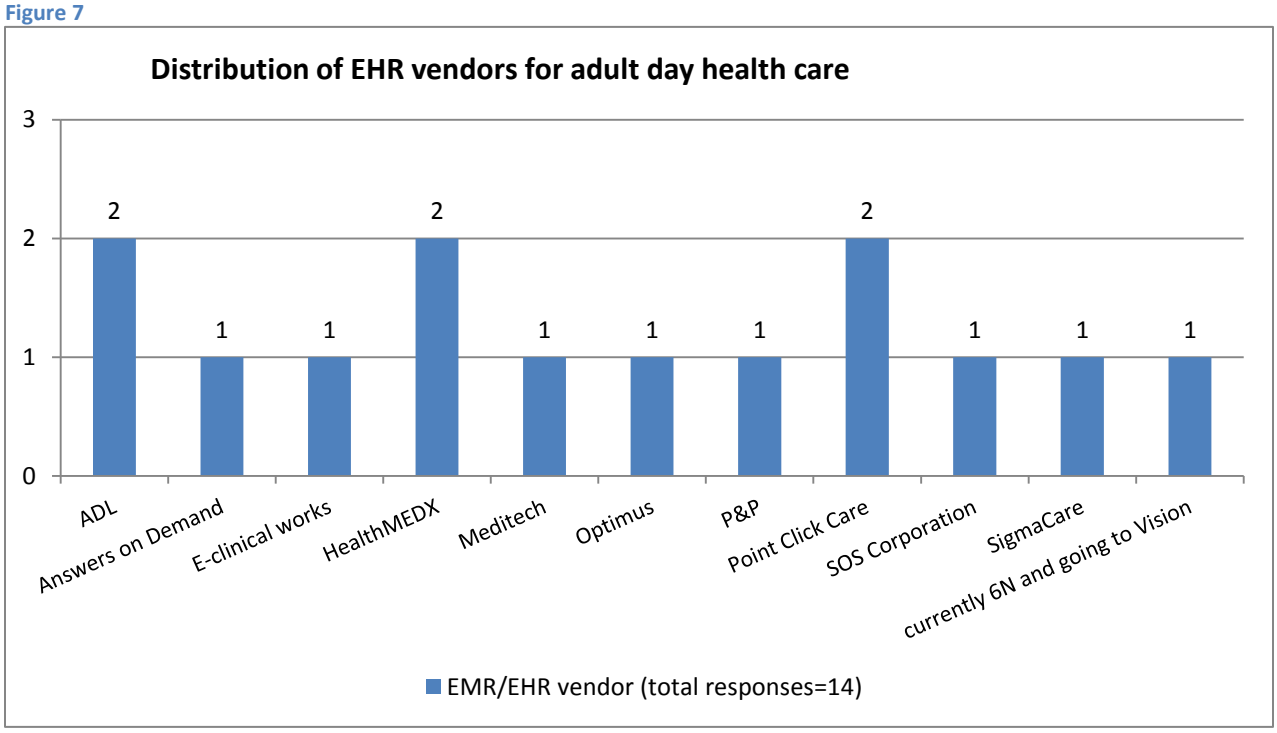


Figure 7

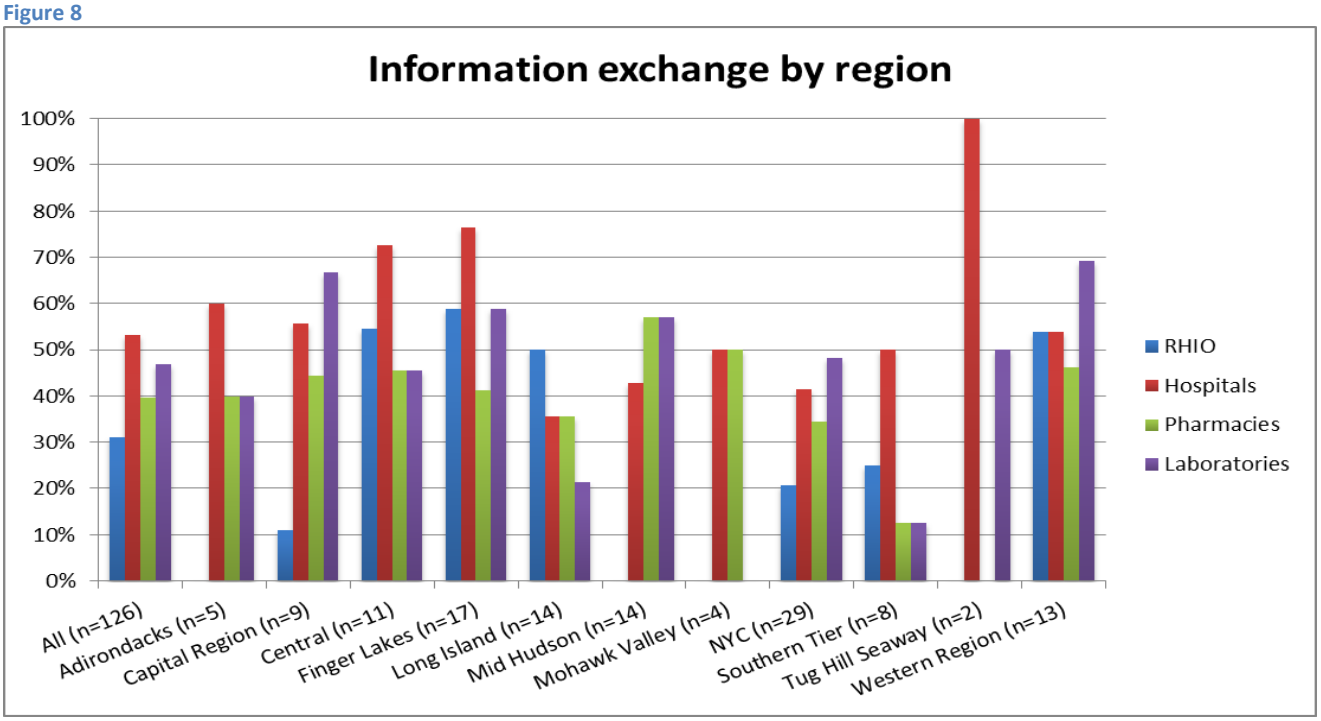


Health Information Exchange Responses

I. Engagement in Health Information Exchange

Although more than half of respondents have fully or partially adopted EHRs in one or more service lines, engagement with RHIOs and electronic health information exchange (HIE) between respondents and their health care partners is more limited. Only 31 percent of all respondents (n=39) indicated that they engage in health information exchange with a RHIO.[14]

Figure 8



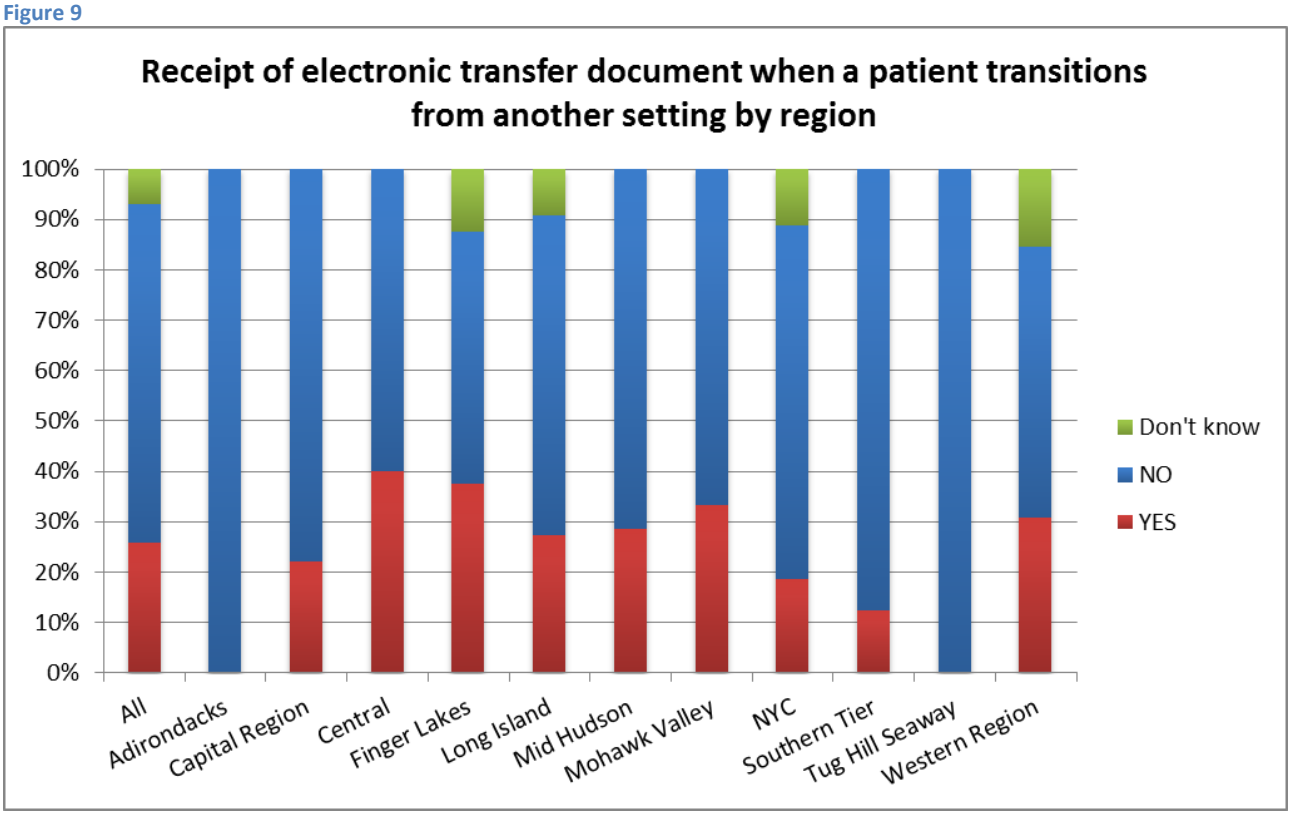
Approximately 53 percent of all respondents (n=67) indicated that they view or exchange information electronically with hospitals. However, nearly half of those respondents (n= 30) – or 24 percent of the total -- reported that they view health information only. They do not receive information from, or transmit information to, a hospital. Only 16 percent of all respondents (n=20) indicated that they send information electronically to hospitals, and 27 percent (n=34) receive information electronically from hospitals. Statewide and regional rates of HIE with health care partners are illustrated in Figure 8.

[14] The rates in this section are expressed as a percentage of all respondents, not just those that answered the question.

II. Health Information Exchange at Transitions in Care

Only 26 percent of the 116 respondents (n=30) who answered questions regarding transitions in care receive an electronic transfer document when a patient transitions into their care from another provider's care.[15] The use of such documents was highest in the Central and Finger Lakes regions. Only 13 percent of these respondents (n=15) generate and transmit an electronic transfer document when a patient transitions from their care to another provider. Very few of these respondents – only 7 percent (n=8) -- indicated that they receive electronic alerts when a patient receives care by a hospital or other provider.

Figure 9



[15] The rates in this section are express as a percentage of respondents who answered the pertinent questions. Ten respondents skipped these questions.

Figure 10

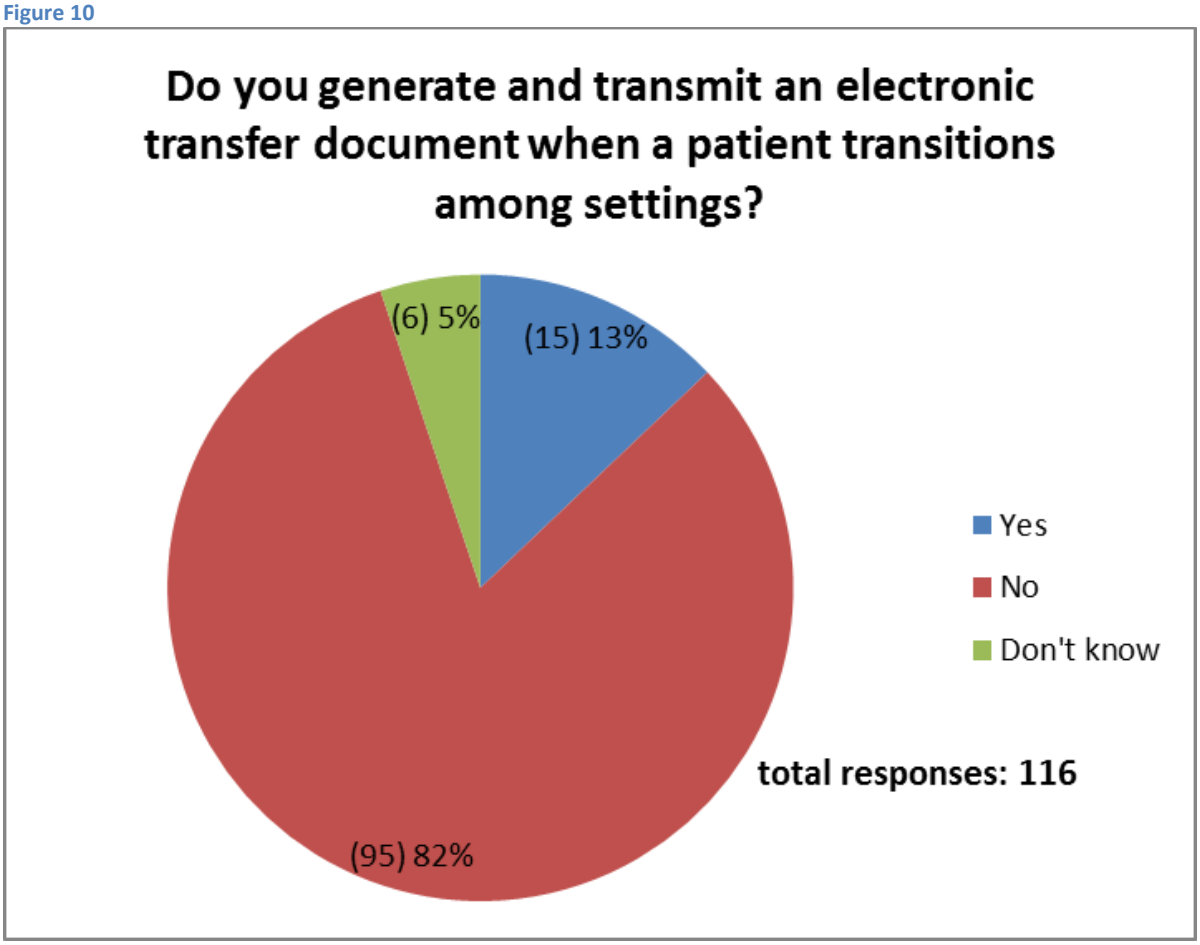
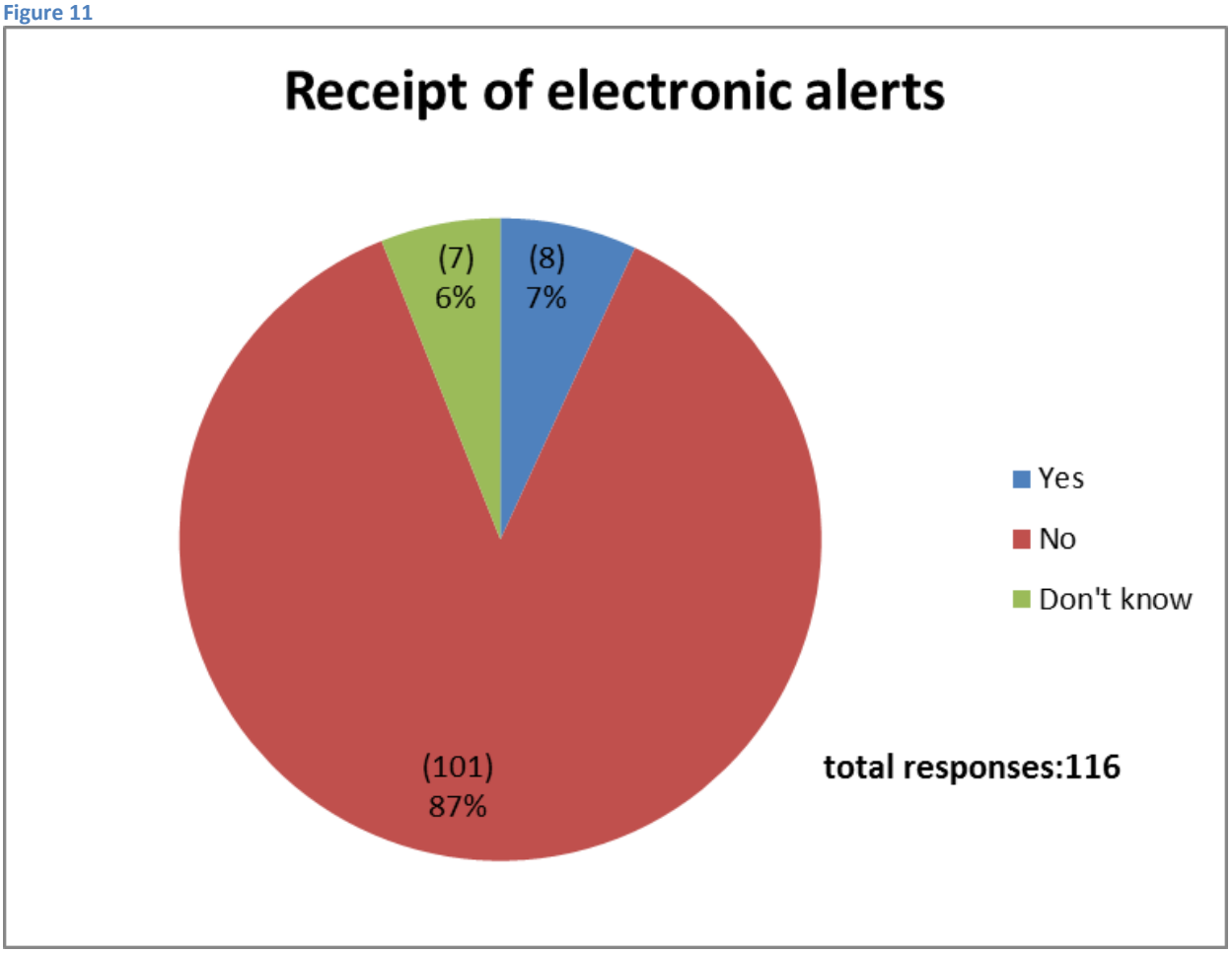

Do you generate and transmit an electronic transfer document when a patient transitions among settings?
(6) 5%
(15) 13%
(95) 82%
Yes
No
Don't know
total responses: 116

Figure 11



III. RHIO ENGAGEMENT

The majority of respondents indicated either that they are not engaged with a RHIO or do not know whether they are exchanging information through a RHIO. Only 31 percent of all respondents (n=39) affirmatively indicated that they exchange information through a RHIO. On a regional basis, the RHIO participation of respondents varies significantly, as shown in the table below. The regions with the highest rates of RHIO participants among respondents were the Western, Finger Lakes**,** and Central regions**.**

Table 2

Region	Participation Rate*	RHIO
Adirondacks	0%	NA
Capital	11% (n=1)	HIXNY
Central	60% (n=6)	HealtheConnections
Finger Lakes	63% (n=10)	Rochester RHIO
Long Island	45% (n=5)	Healthix (n =3) eHealth Network (n=2)
Mid-Hudson	0%	NA
Mohawk Valley	0%	NA
NYC	22%** (n=6)	Bronx RHIO (n=4) Brooklyn RHIO n=(3) Healthix (n=5) Interboro (n=1)
Southern Tier	25% (n=2)	Southern Tier Healthlink
Tug Hill/Seaway	0%	NA
Western	54%** (n=7)	HealtheLink (n=6) Rochester RHIO (n=2)

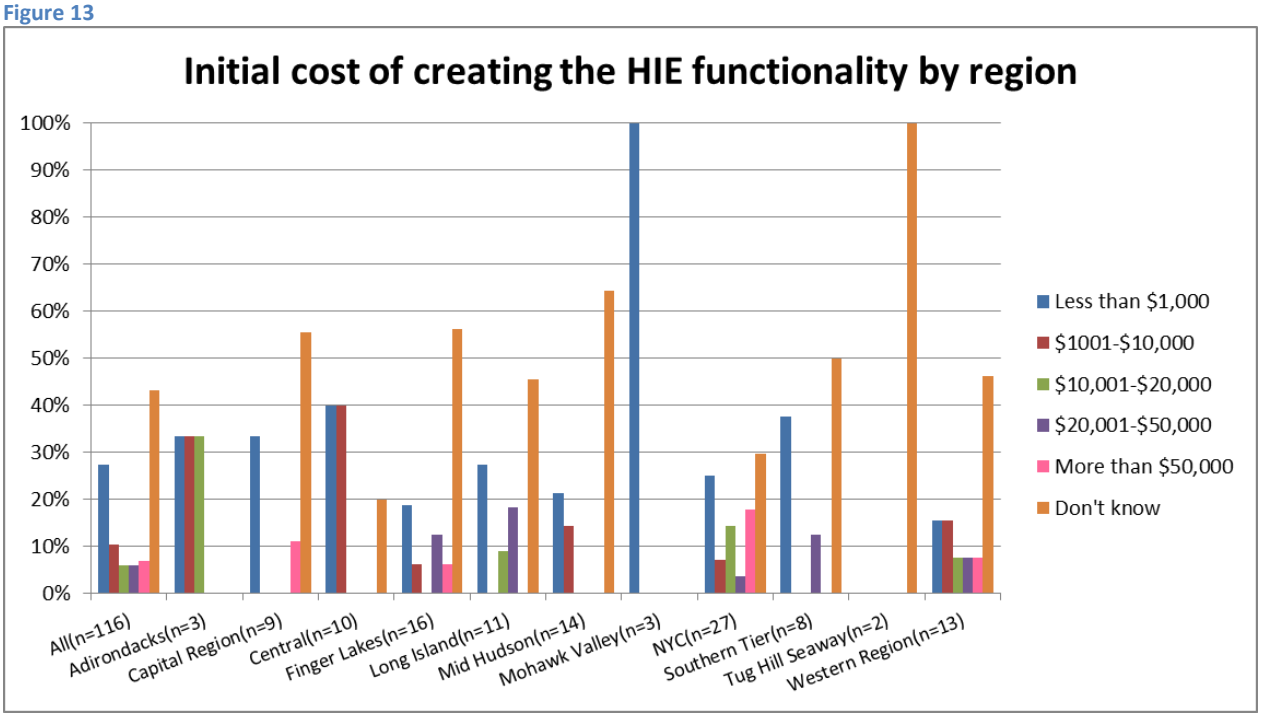
***Rates are expressed as a percentage of the respondents that answered Question 12 ("If your organization views, sends or receives information electronically with a Regional Health Information Organization (RHIO), please indicate which RHIO (check all that apply)").**

****Some respondents in the NYC and Western regions reported participating in multiple RHIOs.**

IV. HIE COSTS

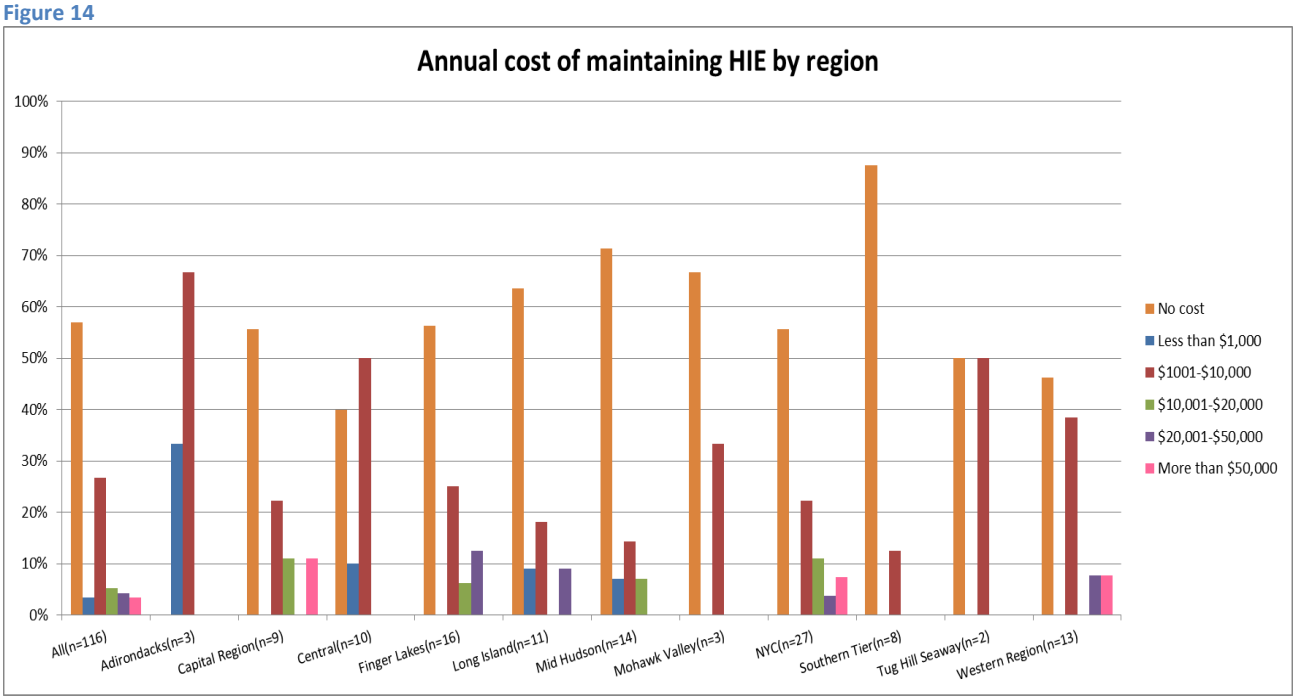
There are a variety of approaches to HIE, ranging from Direct messaging (a form of secure e-mail), to web-based portals that allow providers and patients to view clinical information, to bidirectional exchange of information between EHRs. The cost associated with HIE will vary based on the approach and the unique needs of each provider. Of the respondents that estimated the initial cost (i.e., of those that did *not* answer "Don't know"), nearly half reported spending less than $1,000 (n=32), and one-third spent more than $10,000 (n=22). Twelve percent reported an initial cost in excess of $50,000 (n=8). Sixty respondents either skipped the question or reported that they do not know the cost.

Figure 13



In addition to the cost of building the connections to health information exchange partners, HIE may require ongoing maintenance and upgrades. Forty percent (n=46) of respondents that answered the question pertaining to ongoing expenses indicated an annual cost in excess of $1,000 associated with maintaining the exchange functionality (not including RHIO subscription or usage fees). Twenty-seven percent (n=31) indicated that the cost would range from $1,000 to $10,000 and 13 percent (n= 15) reported costs from $10,000 to over $50,000.

Figure 14



Discussion

The survey findings demonstrate that 40 percent or more of New York's LTPAC providers lack EHRs and may, as a result, be unprepared to participate effectively in new models of care and payment under healthcare reform. The survey further shows that mere adoption of an EHR does not ensure the ability to share information electronically.

Based on the results of other studies and anecdotal evidence, even the suboptimal rates of EHR penetration disclosed by the survey may be overstated. A recently-released study of New York nursing homes found that 56 percent of the respondents had partially or fully adopted EHRs in 2013, as opposed to the 73 percent adoption rate among nursing homes found in this 2014 survey.[16] It is unlikely that the adoption rate increased from 56 percent to 73 percent in a single year.[17] Nor is there any reason to believe that that the inclusion of proprietary nursing homes in the 2013 study drove down the EHR adoption rate in comparison with our survey of largely not-for-profit providers. In fact, the 2013 study found that being part of a nursing home chain was positively associated with EHR adoption.

[16] Erika L. Abramson, MD, MS; Alison Edwards, MS; Michael Silver, MS; Rainu Kaushal, MD, MPH; and HITEC investigators. "Trending Health Information Technology Adoption Among New York Nursing Homes," *AJMC*, available at http://www.ajmc.com/publications/issue/2014/2014-11-vol20-sp/trending-health-information-technology-adoption-among-new-york-nursing-homes/2.

[17] The study observed a 7.7 percent growth in adoption between 2012 and 2013.

Studies of other LTPAC service lines similarly reflect lower rates of EHR adoption than those found in the LeadingAge New York survey. A study conducted by the Centers for Disease Control's Long-Term Care Statistics Branch found that 18.4 percent of New York adult day programs had adopted EHRs, whereas 25 percent of the LeadingAge New York adult day health care program respondents had done so. Nationwide, according to the CDC study, only 20 percent of "residential care communities" (analogous to assisted living facilities in New York) had adopted EHRs, in comparison with 46 percent of the LeadingAge New York assisted living respondents.[18]

It is possible that the LeadingAge New York survey results are skewed in favor of EHR adoption because LeadingAge New York members that have adopted EHRs were more likely to respond to the survey. These members tend to have designated health IT staff and a stronger interest in issues related to EHR adoption and HIE than members in general.

Even though the respondent cohort may have been skewed in favor of EHR adopters, the group's rate of health information exchange was disappointing. The low rate of engagement with RHIOs (31 percent of all respondents) was particularly noteworthy. The State's RHIOs serve as regional hubs that facilitate the secure exchange of clinical information among multiple providers in a region and ultimately statewide. By connecting with a RHIO, a provider can avoid the cumbersome and costly process of setting up unique connections with each of its health care partners. Moreover, connecting with a RHIO is a key deliverable of many of the State's DSRIP projects. Yet, respondents' use of RHIOs to exchange information was lower than rates of HIE with health care providers.

Given high hospitalization rates experienced by LTPAC patients and residents, HIE between LTPAC providers and hospitals will clearly be an important component of DSRIP projects and other innovative care and payment models, such as ACOs and bundled payment arrangements. Yet, only about half of the respondents view or exchange information with a hospital. And, almost half of those engaged in in HIE with a hospital merely view information in hospital records – they do not receive information electronically from, or transmit it to, a hospital. Few respondents report the use of electronic transfer documents or alerts, even though these are considered critical components of care coordination. In fact, several DSRIP projects require the use of electronic alerts, and the federal meaningful use requirements include the electronic exchange of transition of care summaries.

While the ability of an LTPAC provider to view patient information in a hospital record is clearly helpful in coordinating coordinating care transitions, it falls short of the HIE envisioned by the State and federal governments. Because viewing requires the treating provider to log into another system and look for relevant clinical data, it is not easily integrated into workflow and may delay access to important information. Moreover, information viewed is not easily incorporated into the treating provider's

[18] 2012 National Study of Long-Term Care Providers: Tables on Use of Electronic Health Records and Health Information Exchange among Adult Day Services Centers and Residential Care Communities, Table 1, available at http://www.cdc.gov/nchs/data/nsltcp/EHRUse_Exchange.pdf. Residential care communities in New York State were omitted from the survey results due to unreliability of the data.

record system. The scant use of electronic transfer documents and electronic alerts further complicates care coordination efforts.

Adopting an EHR and engaging in HIE can be expensive propositions for providers. According to the survey, the cost of purchasing an EHR for an LTPAC provider typically exceeds $100,000 and may exceed $500,000. The expense associated with HIE depends on the type of HIE desired, the provider's EHR, and its unique needs. HIE entails building secure connections, which include hardware and software, to transmit and receive information. LTPAC EHR products often require the development of customized software to allow HIE. As interest grows in HIE with LTPAC providers, and as RHIOs align their standards, RHIOs, vendors and providers may be able to generate some economies of scale that will bring down HIE development costs and support expansion of HIE. In addition to the initial costs of purchasing an EHR and building the interface needed for HIE, annual expenditures for maintenance and upgrades must also be budgeted. Both EHRs and HIE require upgrades to keep pace with changing technology and clinical needs. For many respondents, the initial cost of purchasing an EHR and building the connections, together with the annual cost of maintaining and upgrading this infrastructure is not insignificant and may be unaffordable without additional support.

Conclusion

LTPAC providers are poised to play a key role in the New York's efforts to reduce avoidable hospitalizations and advance the Triple Aim of better health and better care at a lower overall cost. Widespread adoption of EHRs and engagement in health information exchange among LTPAC provider are essential to the State's success in achieving these goals. While progress is being made on both fronts, there is still a great deal of work to be done, especially with respect to health information exchange.

LTPAC providers face significant financial barriers to EHR adoption and health information exchange.[19] With ever shrinking margins, and growing demands on limited resources, LTPAC providers are struggling to self-fund these activities. To date, public funding of EHR adoption and HIE has been focused on hospitals, clinics, and physician practices. An investment of public dollars in EHRs and HIE for the LTPAC sector would no doubt yield healthy returns in the form of progress toward the State's population health and health care goals.

[19] Colene Byrne, PhD & Michelle Dougherty, MA. "Long Term and Post-Acute Care Providers Engaged in Health Information Exchange," Report to the U.S. Dept. of Health & Human Services, 2013 at 30, available at http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml. Abramson, supra note 17 at 57.

Appendix A

LeadingAge New York Health IT Survey

*1. Contact Information:

Name:

Organization Name:

City:

Zip code:

Phone Number:

Email Address:

*2. Job Function that most closely describes your role:

- ◯ CEO
- ◯ Administrator
- ◯ Chief Operating Officer/Director of Operations
- ◯ Chief Financial Officer
- ◯ Director of Finance
- ◯ Chief Information Officer/Director of Information Technology
- ◯ Other (please specify below)

Other

*3. Please indicate below the status of Electronic Medical Record (EMR)/Electronic Health Record (EHR) implementation in your organization. (Note: for purposes of this survey the terms "EMR" and "EHR" are used interchangeably.):

- ◯ Fully or partially implemented and operational
- ◯ Selected, with signed vendor contract, but not operational/in use yet
- ◯ Plan to select and implement in the future
- ◯ Do not have current plans to implement

***4. Please identify the business/service line(s) for which you have fully or partially implemented an EMR/EHR (check all that apply):**

- [ ] Nursing Home
- [ ] Home Care
- [ ] Assisted Living
- [ ] Adult Day Health Care
- [ ] Managed Long Term Care
- [ ] Other (please specify below)

Other

***5. Please identify the EMR/EHR vendor for each business line:**

Nursing Home:	
Home Care:	
Assisted Living:	
Adult Day Health Care:	
Managed Long Term Care:	
Other (please specify):	

***6. If your organization has implemented one or more EMRs/EHRs partially or fully, please provide the approximate cost associated with purchasing the EMR/EHR(s) (if your answer relates to multiple EHRs/EMRs, please aggregate the costs):**

- ◯ Less than $50,000
- ◯ $50,001-$100,000
- ◯ $100,001-$500,000
- ◯ More than $500,000
- ◯ Don't know

***7. If your organization has implemented one or more EMRs/EHRs partially or fully, please provide the approximate amount you spend, or expect to spend, annually on EHR/EMR maintenance and upgrades:**

- ◯ Less than $50,000
- ◯ $50,000-$100,000
- ◯ $100,001-$500,000
- ◯ More than $500,000
- ◯ Don't know

Electronic Exchange

The next series of questions pertains to the electronic exchange of information.

***8. If you view, send or receive health information electronically (not including fax) for any business/service line(s), with whom do you exchange information (check all that apply):**

	View information	Send information	Receive information	Do not exchange information
Regional Health Information Organization (RHIO)	☐	☐	☐	☐
Hospitals	☐	☐	☐	☐
Pharmacies	☐	☐	☐	☐
Laboratories	☐	☐	☐	☐
Other Long Term Care/Post-Acute Care providers	☐	☐	☐	☐
Other (please specify below)	☐	☐	☐	☐

Other:

***9. Do you receive electronic alerts when a patient or resident visits an emergency room, is admitted to a hospital, or is treated by another provider?**

- ◯ Yes
- ◯ No
- ◯ Don't know

***10. Do you receive an electronic transfer document when a patient transitions from another setting to your care?**

- ◯ Yes
- ◯ No
- ◯ Don't know

***11. Do you generate and transmit an electronic transfer document when a patient transitions among settings?**

- ◯ Yes
- ◯ No
- ◯ Don't know

***12. If your organization views, sends or receives information electronically with a Regional Health Information Organization (RHIO), please indicate which RHIO (check all that apply):**

- ☐ Bronx RHIO
- ☐ Brooklyn Health Information Exchange (BHIX)
- ☐ e-Health Network of Long Island
- ☐ HealtheConnections
- ☐ HEALTHeLINK
- ☐ Health Information Xchange of New York (HIXNY)
- ☐ Healthix (merger of LIPIX and NYCLIX)
- ☐ Interboro RHIO
- ☐ Rochester RHIO
- ☐ Southern Tier Health Link (STHL)
- ☐ Taconic Health Information Network and Community (THINC)
- ☐ We don't interact with a RHIO
- ☐ Don't know

***13. If your organization views, sends, or receives information electronically, please indicate the approximate initial cost of creating this functionality (e.g., expenses associated with the development of the interface, but not including RHIO subscription or usage fees, etc.):**

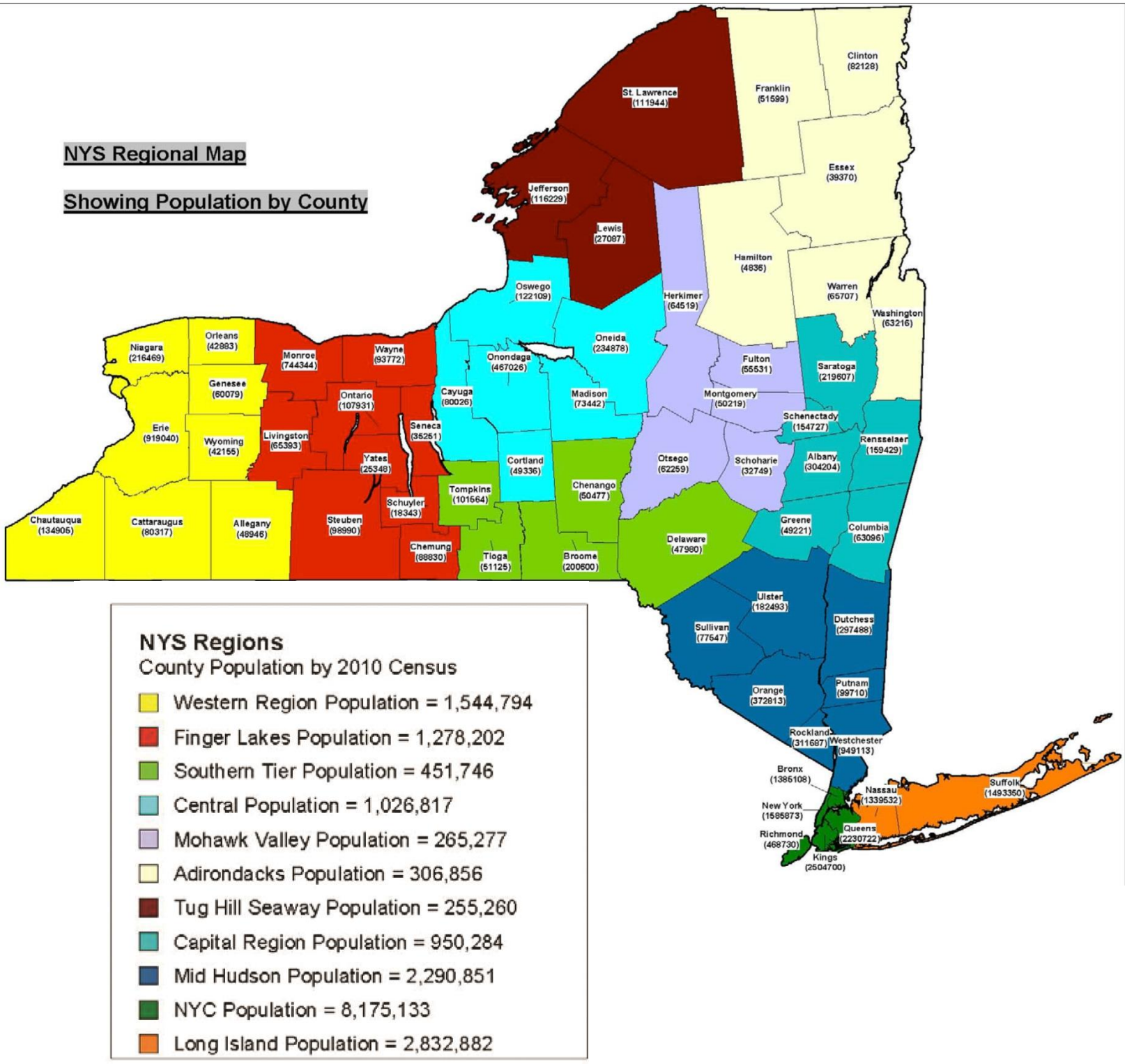
- ◯ No cost
- ◯ Less than $1,000
- ◯ $1001-$10,000
- ◯ $10,001-$20,000
- ◯ $20,001-$50,000
- ◯ More than $50,000
- ◯ Don't know

***14. If your organization views, sends, or receives information electronically, please indicate the approximate annual cost of maintaining this functionality (not including RHIO subscription or usage fees):**

- ◯ No cost
- ◯ Less than $1,000
- ◯ $1,001-$10,000
- ◯ $10,001-$20,000
- ◯ $20,001-$50,000
- ◯ More than $50,000

15. Please provide us with any additional information concerning your organization's experience with health IT and health information exchange you feel would be valuable for us to know.

Appendix B



Source: NYS Dept. of Health, http://www.health.ny.gov/facilities/public_health_and_health_planning_council/docs/con_redesign_report_figure_1.pdf, accessed on Mar. 19, 2015.

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LeadingAge New York represents not for profit, mission-driven and public continuing care providers, including nursing homes, senior housing, adult care facilities, continuing care retirement communities, assisted living, home care agencies, hospice programs and community service providers, and managed long term care plans. LeadingAge New York's members collectively employ 150,000 individuals serving more than 500,000 New Yorkers annually.