

Impact and Perceived Value of Clinician Training on Health Information Exchange Adoption

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INTRODUCTION

As Health Information Exchange (HIE) is integrated into different healthcare settings, many factors facilitate clinician and end-user adoption. The New York Clinical Information Exchange (NYCLIX) has implemented HIE across multiple provider organizations. As more clinicians are trained to use HIE, the training methods are being re-evaluated.

OBJECTIVES

- ⇒ To determine HIE user training requirements and anticipate HIE usage for different clinical specialties, including emergency medicine (EM).
- ⇒ To improve training and promote end-user adoption.

METHOD

A structured paper-based survey with 10 questions was created, reviewed for face validity and administered immediately following three NYCLIX lecture-based training sessions. Clinician participants included:

- ❖ Emergency medicine (EM) residents
- ❖ Internal medicine (IM) residents
- ❖ HIV clinicians (RNs, NPs, PAs and attendings)

Training included material on system access and use, privacy and security, and NYCLIX data sources and data elements.

LIMITATIONS

Different instructors with varying degrees of content familiarity were used during the training sessions, which could have affected responses on perceived training session length and preference over computer-based training versus instructor-led training.

Table 1

NYCLIX Awareness, Anticipated Usage and Training Session Evaluation

| Provider type | Total (67) | Prior awareness of NYCLIX? | Confidence to use NYCLIX after training session? | | Anticipated NYCLIX usage? | | Want a brief summary card? | |
|---------------|------------|----------------------------|--|------------------------------|---------------------------|----------------------------|----------------------------|------------|
| | | | Very or somewhat prepared | Neither / unsure or doubtful | Often (>once/daily shift) | Seldom (<once/daily shift) | Yes | No opinion |
| EM resident | 28 | 96% | 83% | 7% | 54% | 46% | 70% | 30% |
| IM resident | 30 | 20% | 93% | 17% | 38% | 62% | 70% | 30% |
| HIV clinician | 9 | 44% | 89% | 11% | 22% | 78% | 89% | 11% |
| Weighted avg | | 55% | 88% | 12% | 42% | 58% | 73% | 27% |
| 95% C.I. | | 8.0% | 6.6% | 3.8% | 6.4% | 4.6% | 4.8% | 5.0% |

Table 2

Training Data Retention

| Provider type | Total (55) | Number of correct responses when asked to name three NYCLIX member sites | | | | Number of correct responses: two most common data fields | | |
|---------------|------------|--|------|------|------|--|------|------|
| | | 3 | 2 | 1 | 0 | 2 | 1 | 0 |
| EM resident | 24 | 58% | 33% | 8% | 0% | 90% | 10% | 0% |
| IM resident | 22 | 45% | 14% | 32% | 9% | 56% | 36% | 8% |
| HIV clinician | 9 | 67% | 11% | 11% | 11% | 67% | 11% | 22% |
| Weighted avg | | 55% | 22% | 18% | 5% | 70% | 22% | 7% |
| 95% C.I. | | 3.7% | 5.3% | 5.2% | 3.0% | 5.1% | 6.4% | 3.0% |

RESULTS

Clinicians' Anticipated Usage of NYCLIX
When asked about anticipated NYCLIX usage, the following said they would use it "often" (>once/daily shift) as opposed to "seldom" (<once/daily shift):

- EM residents (54%)
- IM residents (38%)
- HIV clinicians (22%)

No respondents indicated they would "never" use NYCLIX

Training Session Evaluation

When asked if the training provided proper preparation for NYCLIX use:

- 88% felt "somewhat or very confident"
- 12% felt "neutral, doubtful or very doubtful"

When asked if Computer-Based Training (CBT) would be preferred over the current practice of instructor-led presentations:

- 20% "agreed"
- 42% had "no opinion"
- 38% "disagreed"

Training Data Retention

When asked about post-training retention of the NYCLIX data sources (member institutions) and patient data elements (labs, radiology reports, etc.):

- 55% correctly selected three data sources from a list of 16 that included nine wrong answers
- 70% correctly identified two of three data elements that are always present (labs, diagnoses, and radiology reports) from a list that included seven wrong answers

Due to the volume of information conveyed and lag time between training and NYCLIX use, participants were asked if a short summary card with key NYCLIX training points would be useful:

- 73% answered "yes" and 27% answered "no"

CONCLUSION

EM Residents expressed the most confidence in understanding the system and expected the most frequent usage. Responses indicated, however, that many EM, IM and HIV clinicians were not clear on the data sources and elements in NYCLIX. Given the response distribution for CBT and presentation-led training, NYCLIX will move to facilitate both options.