Immunization Information System End-Users' Perceptions of Benefits and Barriers Regarding Electronic Data Submission

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BACKGROUND

- A 2008 survey attempted to assess end-users' experiences with Philadelphia's Immunization Registry (KIDS)
- Philadelphia providers must report all immunizations administered to children 0-18 years of age to the registry under city regulation
  - 64% report immunizations manually (paper logs and charts)
  - 36% report electronically (from billing, EMR, etc.)

OBJECTIVES

General:
- Formally evaluate registry end use among immunization providers
- Identify and prioritize areas for potential registry improvements and customer service enhancements

Manual Reporters:
- Determine barriers/enablers to electronic data submission
- Secondary: develop strategies to motivate manual reporters to take steps to convert to electronic reporting, if possible, using lessons learned from e-reporters

E-Reporters:
- Investigate other needs for training/support with data reporting
- Determine satisfaction with current reporting method and identify areas for improvement

Survey Logic Model
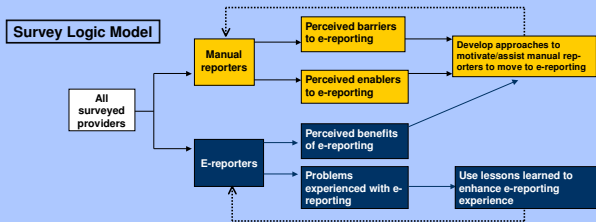
METHODS

- Developed questions focused on patient demographics, registry use, data reporting
- Draft survey piloted at select sites
- Respondent pool developed from known contacts from Vaccines for Children (VFC) program and registry
- Distributed via email, fax, and/or mail to 323 pre-identified sites providing immunizations to patients <19 years (310 final number of valid sites)
- Reminders to non-respondents after 1 and 2 months
- Respondents at a site encouraged to collaborate
- Could respond via SurveyMonkey, fax, or mail
- Approved by City of Philadelphia IRB

RESULTS

Respondent Characteristics:
- 143 respondents (46% response rate)
- 22% see primarily adolescent pediatric population
- 36% report electronically
- 80% are registry users
- More than half of providers see patient populations with >60% VFC-eligible
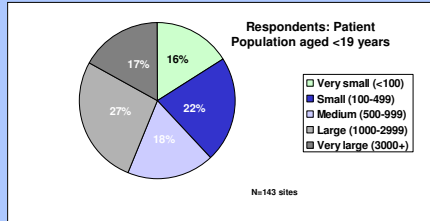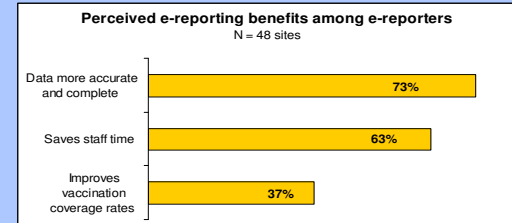
MANUAL REPORTERS
Typical profile:
- Smaller patient population
- More likely to see primarily adolescents
- Clinician or other health care provider more likely to handle reporting
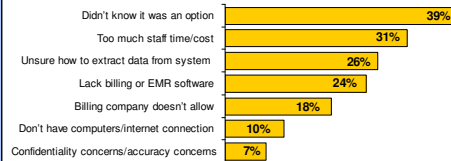
ELECTRONIC REPORTERS
Typical profile:
- Larger patient population
- Younger patient population
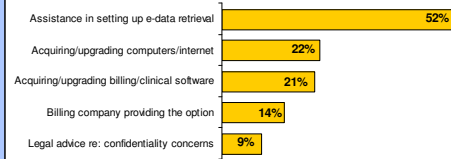- Billing company more likely to handle reporting

Respondents: Patient Population aged <19 years
- Very small (<100): 16%
- Small (100-499): 22%
- Medium (500-999): 18%
- Large (1000-2999): 27%
- Very large (3000+): 17%
N=143 sites

Perceived e-reporting benefits among e-reporters
N = 48 sites
- Data more accurate and complete: 73%
- Saves staff time: 63%
- Improves vaccination coverage rates: 37%

Perceived barriers to e-reporting among manual reporters
N=86 sites
- Didn't know it was an option: 39%
- Too much staff time/cost: 31%
- Unsure how to extract data from system: 26%
- Lack billing or EMR software: 24%
- Billing company doesn't allow: 18%
- Don't have computers/internet connection: 10%
- Confidentiality concerns/accuracy concerns: 7%

Perceived enablers to move manual reporters to e-reporting
N=66 sites
- Assistance in setting up e-data retrieval: 52%
- Acquiring/upgrading computers/internet: 22%
- Acquiring/upgrading billing/clinical software: 21%
- Billing company providing the option: 14%
- Legal advice re: confidentiality concerns: 9%

CONCLUSIONS

❖ Top enablers/barriers to e-reporting related to provider awareness, not tech obstacles
  - 40% of providers with billing software or EMR do not e-report

❖ Majority of providers small and not 'networked,' but many manual reporters already making changes that can facilitate e-reporting
  - 28% of manual reporters plan to acquire internet/computers and/or billing software in next 2 years

❖ Now using results to help providers improve reporting within their technological capabilities (manual reporters are low-hanging fruit)
  - Step in when providers obtaining or upgrading new technology
    - May not understand e-reporting capabilities with new software or EMR adoption
    - Survey identified common billing/clinical software between practices
  - Continued challenges:
    - Provider EMRs still the exception in Philadelphia
    - Many providers have no functional electronic system to store, extract data
    - Registry staff must work with myriad software vendors to exchange data

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