



Participating in Immunization Information Systems

**TURNING BARRIERS
INTO OPPORTUNITIES**

Survey and Best Practice Report

AIRA

AMERICAN
IMMUNIZATION
REGISTRY
ASSOCIATION

IMMUNIZATION INFORMATION SYSTEMS FOR A NEW ERA

AIRA MISSION

The American Immunization Registry Association (AIRA) is a membership organization to promote the development and implementation of immunization registries as important tools in preventing and controlling vaccine preventable diseases. The Association provides a forum through which registry programs, interested organizations and individuals, and communities combine efforts and share knowledge that promote registry activities as a resource for immunization information systems (IIS) and immunization programs.

CDC DISCLAIMER

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PROVIDER PARTICIPATION REPORT

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Turning Barriers into Opportunities

Survey and Best Practice Report

BACKGROUND

Immunization information systems (IIS), also known as immunization registries, serve as powerful tools in protecting the public from vaccine preventable diseases. The primary functions of an IIS are consolidation of vaccination records from multiple providers, issuing reminder and recall notices, and assessing immunization rates. All these functions work together to increase the vaccination coverage of a specific geographic area, yet IIS projects must still work hard to recruit and retain private provider participation.

A national objective of the Healthy People 2010 plan is to increase to 95 percent the proportion of children less than six years of age participating in an immunization information system. In order to meet this objective, a vast majority of providers need to sign on and commit themselves to contributing to and utilizing the data from their regional or state IIS. However, whether mandated to report or not, providers face certain perceived and real challenges to their participation.

INTRODUCTION

The American Immunization Registry Association (AIRA) partnered with the Centers for Disease Control and Prevention (CDC) to achieve the goals of the CDC National Immunization Program's (NIP) *Immunization Registry Healthy People 2010 Strategic Plan*. Part of the Healthy People strategy is to target providers and "promote the use of Immunization Information Systems (IIS) as a standard practice in the delivery of health services." In February 2003, AIRA convened a Provider Participation Committee in support of their commitment to realizing this goal.

The work of the Provider Participation Committee focuses on gathering data and collecting best practices and successful strategies for increasing the recruitment and retention of providers as participants in their regional or state IIS. The information gathered through the activities of this committee help to inform the CDC/NIP's Health Care Provider Workgroup (HCPWG), which is charged with developing a national strategy for increasing provider participation in immunization information systems. The information and best practices are also shared widely with IIS projects.

A key activity for 2004-2005 of the AIRA Provider Participation Committee was to develop a survey directed to immunization registry staff and immunization program staff. The goal of this survey was to identify IIS projects that had successfully overcome any of the known significant barriers to private provider participation in immunization registries. This activity was successfully completed and follow-up efforts led to a series of documented best practices and successful strategies.

The purpose of this document is to share the results of that survey and the details of the best practices and successful strategies so that IIS projects can apply the lessons learned to their own strategies for increasing the rate of provider participation in their regional or state immunization information system.

METHOD

The *Barriers to Provider Participation Survey* process was implemented in two phases. Phase I was designed to confirm previously collected data related to existing barriers to provider participation in IIS and to identify IIS projects that had developed successful strategies to overcome these barriers. The Phase I portion of the survey was an online/interactive questionnaire administered through the AIRA web site. Phase II was designed to capture best practice and successful strategy models of those IIS projects that identified themselves as having developed and implemented strategies in response to these barriers and who could demonstrate an increase in provider participation as a result. Best practice/successful strategy models were collected via email. After a two-week response period, email and telephone follow-ups were conducted. Reminders were posted on the AIRA web site and included in the SnapShots newsletter. A template tool designed to capture the key elements and outcomes that might be replicated by other IIS projects was utilized to document each best practice.

Phase I—Survey Format and Target Audience

The AIRA Provider Participation Committee developed a list of 32 (16 technical and 16 non-technical) previously identified challenges to provider participation in IIS. In the fall of 2004, this list was presented to IIS managers, vendors, and immunization program managers in all 50 states, 20 regional registries around the country, and Puerto Rico, Washington, DC, and Palau, via an online survey on the AIRA web site. The survey was available online for one month and represented Phase I of the process in gathering best practices and successful strategies for overcoming barriers to provider participation in IIS.

See Appendix A for the survey questions, including the complete list of the technical and non-technical barriers.

The survey respondents were asked to rate each of the 32 barriers on its significance within their program. Rating choices were:

- *Highly significant*
- *Somewhat significant*
- *Not very significant*
- *Not encountered*

If the respondent answered that a barrier was highly, somewhat, or not very significant, they were presented with

a follow-up question: *Have you successfully addressed this barrier?* At the end of the survey, the respondents were asked if there were additional barriers they had encountered that were not listed in the survey and if they would be willing to be contacted by AIRA to give detailed information on their successful strategies.

Phase I—Results

There were 55 survey respondents from 26 states. The results of the survey showed that while all 32 barriers listed had been encountered, some of them clearly had more impact than others. The most frequently encountered barriers were identified as those for which 50 percent or more of the survey respondents rated that barrier as *highly* or *somewhat significant*. This narrowed the list down to the following:

1. *Cost and/or time of dual data entry (74.55%).*
2. *Providers are just too busy to consider one more new procedure (72.72%).*
3. *Cost and/or time of entering and retrieving data from the registry (70.91%).*
4. *Perceived difficulty in integrating new procedures into their existing business practice and work flow (60%).*
5. *Cost and/or time of training staff to participate in registry (58.18%).*
6. *Interfacing with other systems (58.18%).*
7. *Resistance to change in their office environment (56.36%).*
8. *Vendors for such systems as EMR and billing systems are sometimes difficult to work with or too expensive to create data downloads (52.73%).*
9. *Concerns about privacy, confidentiality and HIPAA (50.91%).*

The list was reviewed by the members of the Provider Participation Committee. Based on this review, two additional barriers were added to the list:

10. *Coordination required between clinical, administrative and information systems departments (47.28%). [This barrier was mentioned several times in the comments field of the survey.]*
11. *Provider does not see any value to their practice of the new information they can get from the registry (23.64%). [This barrier was of particular interest to the committee as it relates to the issues of data use and marketing the benefits of using registries to providers.]*

Phase II—Solicitation of Best Practices

Respondents that indicated they had successfully addressed any of the most commonly encountered barriers (see Phase I list 1-11 above) and expressed a willingness to share additional information on their strategies were sent a template to aid them in documenting their strategy. This template would ensure that all the documents submitted followed the same format. The template was broken down into the following sections:

- *Project description*
- *Description of specific barrier(s) targeted by the strategy*
- *Objectives of the strategy*
- *Approach*
- *Challenges*
- *Results*
- *Recommendations*
- *Conclusion*
- *Additional notes*

Phase II—Results

The call to survey respondents for best practices resulted in 18 completed templates. Added to these were three documents describing provider recruitment strategies submitted to AIRA's Provider Participation Committee over the past two years. All of these documents were evaluated by the committee against a previously established definition of a "best practice." This definition is:

*A **best practice** is a process, technique, or innovative use of resources (technology, equipment, personnel, and data) that has resulted in outstanding and measurable improvement in the operation or performance of an immunization registry.*

*This **best practice** will have demonstrated success by significantly and measurably improving such factors as cost, data quality, provider participation, coverage rates, integration with other health care systems, ease of use, compliance with standards, or functionality.*

*A **best practice** should be able to be documented to allow other registries to adapt this practice and realize success in their own environment.*

Upon evaluation, the committee determined that not all of the "best practices" submitted met the set of criteria in the definition. A second category was added for the strategies that did not meet the bar for being measurable and

replicable but were successful in a particular program. These are called *successful strategies* and are defined as "any intervention that led to success in provider recruitment and participation." A third category was added for one submission that described an unsuccessful strategy or "lessons learned." Finally, a fourth category was created to include submissions that might be successful strategies or best practices but that did not include enough information to make the determination. Follow-up contacts to get more information were unsuccessful.

Four members of the committee assumed responsibility for reviewing the submissions and evaluating them against the best practice definition. In doing so, it became apparent that there was considerable overlap among some of the barriers: many respondents had checked off several barriers as being addressed by their strategy. The classification of barriers was collapsed from eleven to seven.

1. *Cost and/or time of data entry and retrieval.*
2. *Practices are too busy to consider a new procedure, resist change, and anticipate difficulty integrating registry use into business processes.*
3. *Cost and/or time to train staff to participate in registry, including clinic staff turnover.*
4. *Concerns about privacy, confidentiality, and HIPAA*
5. *Provider does not see any value to their practice of the new information they can get from the registry.*
6. *Issues relating to interfacing with other systems, including difficulty working with vendors and cost to providers of creating data downloads.*
7. *Coordination required between clinical, administrative and information systems departments*

Using the revised classification of barriers, the submitted templates resulted in the following:

- *Ten (10) submissions qualified as "best practices."*
- *Seven (7) submissions were classified as "successful strategies."*
- *One (1) submission was classified as a "lesson learned."*
- *Three (3) were classified as potentially successful but needing more information.*
- *There was at least one best practice for each of the barriers, except for #7: "coordination required between clinical, administrative and information systems departments."*
- *Most of the submissions addressed multiple barriers.*

SUMMARY OF BEST PRACTICES AND SUCCESSFUL STRATEGIES BY BARRIER

Barrier #1: Cost and/or time of data entry and retrieval

- Include assessment of private practice needs in requirements analysis before development of registry and periodically thereafter.
- Use focus groups representing target participants to gather crucial information about attitudes and thoughts related to immunization registries.
- Design an easy-to-use, web-based system with the added value components that practitioners want.
- Provide alternatives to manual data entry, such as the ability to accept batch data and EMR interfaces.

Barrier #2: Practices are too busy to consider a new procedure and anticipate difficulty integrating registry use into business processes

- Build relationship with key person in practice, communicate consistently and regularly to identify the practice's needs and how the registry can help.
- Work with key person in practice to develop process improvements and office procedures that integrate the registry and allow its use to be a time-savings activity.
- Cultivate trust and partnership with health care community to understand their needs and concerns, building relationships with professional associations, such as AAP, and recruiting influential practices early.
- Develop a communication plan, that includes newsletters and other tools that feature providers who have successfully integrated the on-line registry into their work flow.
- Conduct user group meetings that are interactive and encourage sharing information among practices about strategies to integrate the registry.

Barrier #3: Cost and/or time to train staff to participate in registry, including clinic staff turnover

- Provide variety of venues and options for training: on-site/in-person, group/regional trainings, video training on the web or CDs, Webex, on-line manuals, etc.
- Plan for staff turnover in the practices—be ready to provide training to new staff.
- Have CD-ROM or on-line video that educates staff about value of using the registry.

- Provide toll-free *Help Desk* service to assist with specific questions and provide phone training as needed.
- Design training in modules, i.e., view-only, basic, advanced, to fit the needs and time-availability of staff.

Barrier #4: Concerns about privacy, confidentiality, and HIPAA

- Design a parent notification system to inform parents about the registry and their child's inclusion (depending on state law).
- Analyze the HIPAA Privacy Rule in relation to the registry's HIPAA status, having explanatory handouts available to practices.
- Include references to HIPAA and other state and federal laws in registry's provider information sharing agreements.

Barrier #5: Provider does not see any value to their practice

- Ensure stakeholder and user involvement in developing the technical requirements as well as the marketing approach and messages.
- Use focus groups representing target participants to gather crucial information about attitudes and thoughts related to immunization registries.
- Promote registry as a data tool that helps practices save time by reducing number of reports to submit to state, retrieve information quickly, run reminder-recall, etc.

Barrier #6: Issues relating to interfacing with other systems, including working with vendors and cost to providers

- Work with billing/PMS/EMR vendors on behalf of a group of clinics to negotiate for development of export or interface and to get discounted rates.
- Provide funding to cover vendor charges to practices.
- Provide registry staff liaison as point person with vendors and providers.
- Ensure a supportive IT staff backing the registry program, with the skills to deal with the technical side of importing and exporting data.

CONCLUSIONS AND RECOMMENDATIONS

Key findings from this survey include the following:

A number of challenges were encountered. It was difficult to get registry staff to write up examples of their strategies. From conference presentations and conference call conversations, committee members knew of successful strategies developed by many registries. Even with personal follow-up requesting submission of a specific approach, many people did not respond. For those that did respond, several did not present the description in a way that was easy to understand or omitted key details, especially outcome measures. Summary of challenges:

- *It is difficult to get people to document their methods and strategies.*
- *Need to find other ways to solicit examples of best practices, especially for those barriers without identified best practices, such as “Coordination required between clinical, administrative and information systems departments.”*
- *Evaluation is lacking for many of the strategies being used.*

Other key findings:

- *Most respondents encountered one or more of the known barriers to provider participation as presented in the survey.*
- *Barriers related to cost, data entry and retrieval, and data use are consistent across survey respondents.*
- *Many registries have developed successful strategies for addressing the barriers, and there are certain shared features of the ones determined to be “Best Practices.”*
- *The most important shared feature is communication and involvement of the private provider community from system development through on-going deployment of the IIS.*

Where do we go from here?

It was clear to members of the AIRA Provider Participation committee that the extent to which the barriers to provider participation continue to impact coverage rates for IIS will ultimately determine how effective IIS will be in reaching

the 2010 healthy people objective for immunization. The committee recommends the following strategies as a way to begin to address this issue:

- *Cost research and evaluation studies should be conducted that will specifically focus on the benefits of IIS to the provider and his/her practice.*
- *A plan for IIS interoperability with provider EMRs and/or practice management systems should be developed and implemented.*
- *A 2010 Healthy People Count Down plan of action that brings together key stakeholder groups should be considered.*
- *States with high provider participation rates should be enrolled as mentors and posted as a resource for other IIS projects on the AIRA, ECBT and CDC web sites.*
- *Resource tools and guidance documents that assist IIS in developing project evaluation and performance measures for provider participation related interventions and mechanisms for documenting success should be developed.*

The following projects submitted Best Practice reports:

- California Automated Immunization Registry (CAIR)
- Minnesota–Hennepin County ImmuLink
- New Jersey Immunization Information System (NJIS)
- New York City Citywide Immunization Registry (NYCCIR)
- New York State Immunization Information System (NYSIIS)
- Oregon Immunization ALERT
- Rhode Island KIDSNET
- Scientific Technologies Corporation (STC)—
(multiple state registries)
- Washington CHILD Profile Immunization Registry

*Increasing Provider
Participation in Immunization
Information Systems*

Best Practices

MINNESOTA—HENNEPIN COUNTY IMMULINK

Immunization Registry Profile

Project name: ImmuLink
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BARRIER: Issues related to interfacing with other systems (EMR, PMS, billing, etc.)

PROJECT DESCRIPTION

ImmuLink is a secure immunization information service launched in 1995 by the Hennepin County Community Health Department. In 2002, ImmuLink data and software was integrated with the new Minnesota Immunization Information Connection (MIIC)—a network of regional registries. Immunization data is electronically sent from private and public healthcare providers and consolidated into a statewide database. The ImmuLink region encompasses three counties in the Twin Cities metro area, including the cities of Minneapolis and St Paul. Registry participation is voluntary. There are more than 400 sites accessing the registry including public and private medical providers, schools, childcare facilities and community agencies.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

In the Twin Cities Metro area, clinics have stated that they do not have the staff or time to directly enter immunization information into a registry in addition to their practice management software. This means that in order to participate in the registry, the clinic or clinic system needs to send their data in batch files to the registry electronically. Some clinics/systems have technology staff that can do programming to create the ability to send files. Others are either unable to extract the data from their software, or do not have on-site staff to do any programming. They need to rely on a consultant or on the practice management software vendor's programmers to create the ability for them to send the files. This means additional programming costs and often, monthly maintenance fees. This has precluded many sites from participating in the registry.

OBJECTIVES OF STRATEGY

Our main goal was to address the financial obstacle of a large group of clinics who had previously been unable to enroll in the registry. We also wanted to remove some communication barriers that existed between the vendor and the clinic, the clinic and the registry, and the vendor and the registry. By working together, we could obtain and work with the same information.

APPROACH

We brought together a group of representatives from clinics that used the same practice management software to strategize ways to work with their practice management software vendor. There were some questions about price quotes and expectations that needed clarification. We devised a letter for each clinic to send to their vendor, explaining our cost concerns and clarifying some points of discussion. We then met with the vendor to talk specifically about what was needed and how we could work together to meet the needs of their customers, who were essentially our customers also. We actually requested the cost of the programming be lowered as it was considered unaffordable by the clinics (which meant they would not buy into it anyway) and because it serves a significant public health need of the community. Vaccinations are not revenue-generating activities for clinics, and the cost for programming could not be justified by an offset in new income. It was mutually beneficial if we could come to an agreement on how to proceed.

The Minnesota Department of Health (MDH) also reallocated some funding that clinics/systems could apply for if they met certain criteria—for instance, their patient population had to include a high proportion of children on a State or Federal Medicaid program. MDH set the funding level slightly below this practice management software company's price quote for a couple of reasons. We wanted some financial obligation from the clinic to ensure accountability and ongoing commitment, and because we knew other software companies had quoted lower costs to their customers (though we only reimbursed actual costs if lower than the reimbursement level established). They could not receive their reimbursement until they had complied with all enrollment requirements.

CHALLENGES

Providing public grants for private organizations was controversial to some parties, but we felt that if we focused on clinics that meet certain criteria, we could limit grants to clinics that provide healthcare to our most vulnerable citizens, who thereby benefit most from an immunization registry. This was a one-time funding source, and finding the funding for similar grants in the future may be a challenge.

We also had to remain as diplomatic as possible to protect relationships among all entities involved. Many clinics had to get upper management support prior to participating in the vendor workgroup and some were advised by their management to not send letters to the vendor.

RESULTS

- *Out of four systems that initially participated in the discussions with vendors, three have signed on, with one still in the enrollment process.*
- *An additional system that did not attend the meeting enrolled.*
- *Out of eight additional systems sent the information about the incentive grant, one has applied and two others are in progress.*
- *Currently four systems are using the export, comprising 49 clinic sites.*
- *The vendor did lower their price as a result of this process.*
- *Success with this practice management software vendor also gives us an example to share with other software vendors. It is a very competitive industry and we were able to convince them of the marketability of the programming.*

RECOMMENDATIONS

Many of the practice management vendors are national companies. Creating partnerships with other registries and bringing our requests to the companies as a united front not only shows that this is not a small niche business deal, but is essentially a nationwide business proposal. Creating consistency in data requirements will help.

CONCLUSION

The strategy did not bring on all of the sites we had intended. The ongoing maintenance costs are still enough to preclude at least one clinic system from participating. This solution only addresses some of the multiple obstacles some clinics face.

We plan to continue to encourage these clinic systems to take advantage of this opportunity. Our next step is to take this plan to other vendors in our quest to bring on additional health care systems.

NEW JERSEY IMMUNIZATION INFORMATION SYSTEM

Immunization Registry Profile

Project name: New Jersey Immunization Information System
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BARRIER: Perceived difficulty in integrating new procedures into their existing business practice and work flow

IMMUNIZATION REGISTRY PROFILE

The New Jersey Immunization Information System (NJIIS) is the official immunization system for the state of New Jersey. It was created in 1997 and contains immunization information for children born in the state of New Jersey and residing in the state whose parent's have given consent to store their immunization information. The objective of the Central New Jersey consortium is to recruit and train providers in the following counties: Hunterdon, Mercer, Middlesex, Somerset and the Plainfield portion of Union county. As of December 31, 2004, NJIIS had 300 active providers, 800,000 patient records and 5,000,000 doses of vaccine recorded.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

The barrier targeted by this best practice is the perceived difficulty in integrating new procedures into providers' existing business practice and work flow. This barrier was pervasive because it could possibly bring data entry to a complete halt if not addressed. This influenced provider participation because there was inconsistent data entry into NJIIS due to lack of office procedures.

OBJECTIVES OF STRATEGY

My goal was to provide practices with a feasible way to incorporate NJIIS into their office procedures to ensure timely data entry. I wanted my providers to use NJIIS daily as a tool to save time and energy in tracking patient immunizations. This strategy presented my providers with a procedure that kept their patients immunizations up to date, allowed for easy retrieval of immunization records and allowed for paperless submission of VFC forms if

they used an interface between NJIIS and VFC. My goal was to have all of my providers actively using office procedures and work flow to maintain NJIIS.

APPROACH

My approach was to demonstrate the potential time saving in a structured office process/ work flow of entering immunization records and retrievals. At the time of training, the provider work flow and office procedures were discussed; the provider is asked to explain what occurs from the time a patient arrives to the time they leave. The following were some of the questions asked: Is the patient file pulled the day before or the day of the visit? Do you use a patient encounter form for billing? Once these questions are answered and I get a feel for how the practice operates it is then suggested that we determine together a way to infuse NJIIS into their office procedures and work flow.

CHALLENGES

The challenges arise when the provider falls into one or more of the following categories:

- *Provider has no work flow or office procedures in place.*
- *Provider has antiquated office procedures.*
- *Provider has complicated office procedures.*
- *Provider has a resistance to change.*

The challenge first arises when determining the best practice for that particular provider. There could be a template for best practices but I find that the template must be updated and conformed to each provider. It is when you sit down with the staff and try to flesh out the actual office procedure/work flow that you conclude that there isn't one. The first three challenges are not insurmountable; it just takes a little more time (office visits) and patience to take them from challenge to acceptance.

The biggest challenge is resistance to change; some providers want to use NJIIS but are unwilling to do their part to make it run efficiently. Overcoming this challenge is quite exhausting and leads back to the site manager/office manager /doctor in the practice. There must be a commitment and total buy in from the decision maker of the practice to enforce the new procedure that encompasses the use of NJIIS.

RESULTS

As a result of my strategy eighteen (18) of my twenty-three (23) providers recruited and trained in 2004 are presently active and have incorporated a new office procedure/work flow to fully utilize NJIIS. That is at 78% success rate and I am sure with continued contact, i.e. training follow up, site visits and audits, the remaining providers will be persuaded to institute a office procedure/work flow.

RECOMMENDATIONS

I believe my strategy of guiding a provider through creation and recreation of office procedures/work flow in order to implement NJIIS can be adopted and adapted by any registry. The importance of conveying process improvement as a selling point for a registry is essential to creating buy in so as to facilitate an active, complete and accurate registry. My recommendation includes building a strong initial relationship with the decision maker in the practice prior to training. The decision maker must commit to an update of their general business practices in order to accommodate the use of a registry.

CONCLUSION

I have learned that building relationships with providers is essential to growing a registry. Your concern for their practice, how they do things and how the work gets done is very important to them. It allows the provider to be an active participant in this new system and not just as user but as an architect. The provider will determine where the registry fits in their work flow and they will be responsible for changing procedures when necessary.

I am still practicing this strategy and intend to improve it as I continue to recruit and train providers. I will spend more time conveying the process improvement strategy to the decision maker before training is scheduled to ensure active participation. I would definitely recommend this strategy to others to increase provider participation.

NEW JERSEY IMMUNIZATION INFORMATION SYSTEM

Immunization Registry Profile

Project name: New Jersey Immunization Information System

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BARRIER: Providers are just too busy to consider one more new procedure

PROJECT DESCRIPTION

The NJIIS registry is web-based and is in use in all the 21 counties of New Jersey. South Jersey encompasses the seven most southern counties. The registry has been in existence in its web-based format since May 2002. In the year 2004, I marketed the program to 300 targeted Vaccine for Children (VFC) public/private providers. A fifteen percent (15 %) provider recruitment goal was set for this first year, 2004. This targeted provider population is not mandated to use the state's registry to report data. Currently, about 78% of those trained in southern NJ are submitting data electronically.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

Providers are very busy and my observations proved this. However, I marketed the immunization registry modules as units that can help reform the busy person into one that will have more time to do other office functions. Explaining that VFC functions in time will be easier and less time-consuming if the provider is utilizing the web-based registry, was one communication approach to obtain an appointment to demonstrate the registry. The 20-minute demonstration has never been completed in 20 minutes—it typically takes 60 minutes because of the many “important” interruptions the office manager experiences. If the provider wants to enroll in the use of the registry, much follow-up is required to help the provider carry this out. If the provider states s/he is too busy to meet and does not believe the demonstration can happen “right now,” a follow-up query is made to hopefully meet at a future date.

Further inquiries about this barrier resulted in these observations: It appears that a large percent of “older” practices do not know how to incorporate web-based computer technology into their conventional office methods. Providers state it is “safer to keep the practice the way it is and not upset the already ‘crazed’ appletcart.” Many of the older, smaller practices are decorated with walls and walls of patient charts; the atmosphere is very chaotic and noisy. Staff appears frustrated and overworked. There are virtually no neat work surfaces. These practices may first require training in streamlining workflow and policy/procedure creation to improve patient/worker relationships, improve mood and decrease chaos. Many practices do not have and do not want computers involved in their practice, due to poor knowledge, untrained staff and/or lack of time. Employee turnover is common in many chaotic practices, which increases others' workloads. Office Managers just cannot handle another “voluntary” function to incorporate in everyday practice.

OBJECTIVES OF STRATEGY

I set a specific goal of recruiting 15% of my target population in one year by improving relationships with providers. I utilized the usual outreach methods. But, appealing to the provider's real needs (such as reducing immunization paperwork, and ending the appointment chaos before September's school starts) served as the foundation for building a relationship with a key office person and enrolling that practice in the registry. Communication with a key person, such as the office manager, identifying a real need and positioning the immunization registry as a tool helped establish the partnership and improve the relationship. The improved relationship method opened more provider doors than the conventional outreach method. I also created a newsletter called ImmuNEWS which summarized registry enrollment procedures and benefits and provided communication to the providers after their enrollment. I applied an acronym to this communication strategy and called it the L.I.S.T.E.N. approach. LEARN. IDENTIFY. SOLICIT. TRAIN. EMPHASIZE, NOW.

APPROACH

This is the approach I use to build relationships and recruit providers: I try to make several telephone calls at least four days per week to set up an appointment or to follow up on a provider who was trained. I developed an easy-to-remember tool to help market and enroll providers in New Jersey's web-based immunization registry. The LISTEN tool includes: LEARN your product, IDENTIFY provider benefits, SOLICIT with multiple appeals, TRAIN by presenting choices, EMPHASIZE benefits; provide incentives, and NOW reassess needs. Consistent and frequent communication—I also developed a newsletter called ImmuNEWS—can assist you with keeping the providers as active registry users. Once you get that relationship with a provider, do not let it go.

CHALLENGES

My challenges in implementing this strategy were:

1. *My commitment to keep the LISTEN approach a valuable tool to use with every provider contact. If the follow-up required a visit, it was time-consuming to drive up to two hours to help out a provider.*
2. *Persuading pediatric providers to voluntarily enroll and remain active in the state's immunization registry.*

RESULTS

If providers were not successfully recruited on the initial outreach attempt, the LISTEN approach was repeated. After a three-month period, registry recruitment results using the LISTEN approach were compared to the conventional telephone/letter outreach method. Out of 300 pediatric providers, the first 150 were solicited the conventional way. Only one provider was recruited. The remaining 150 pediatric providers were solicited three months later, this time utilizing the LISTEN approach; 19 additional providers were recruited. Six months later, all 300 providers were contacted again utilizing the LISTEN approach; 42 additional providers were recruited. The success of the LISTEN approach in recruiting providers demonstrates the importance of being aware of provider needs and being willing to assist them in overcoming their barriers to participation. Use of the LISTEN tool resulted in stronger partnerships and doubled enrollment in one year.

RECOMMENDATIONS

Registry recruiters are applying many of these same approaches in recruiting providers. The LISTEN approach is an easy-to-remember tool that when utilized with every provider will assist the recruiters in delving deeper into provider needs and concerns. Use of the LISTEN tool can result in stronger partnerships. Stronger partnerships will increase and maintain enrollment.

CONCLUSION

Lesson learned: This tool can be easily applied to any outreach effort.

It takes a lot of effort to build relationships. It takes even more effort and time to maintain these relationships. Relationships, however, are what business is all about. I would recommend this strategy for increasing provider participation.

NEW YORK STATE IMMUNIZATION INFORMATION SYSTEM (NYSIIS)—HEALTHYSHOT

Immunization Registry Profile

Project name: New York State Immunization Information System (NYSIIS)—HealthyShot

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BARRIER: Resistance to change in office environment

PROJECT DESCRIPTION

Since 1998, Partners In Health Systems has managed and maintained four of the five regional registries throughout New York State. Developed software application utilized to connect to NYSIIS.

- *Currently serves 43 counties in Upstate New York*
- *In operation since 1995*
- *Provider reporting and child participation not mandated*
- *405 private sites installed*
 - *254 private sites sending data: 63%*
- *143 private sites pending installation*
- *38 public sites installed*
 - *37 public sites sending data: 97%*
- *237 schools and daycares participating*
- *HealthyShot is the name of the software used to connect to NYSIIS.*

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

Throughout New York State we encountered many of our providers showing resistance to change in their office environment. They were having a difficult time conceptualizing implementation of the registry in their office; therefore, it was difficult to gain commitment to participate. Why are providers showing resistance to change in their office environment? Factors can include: staff turnover, lack of staff, duplicate data entry due to an EMR or billing system unwilling to create an interface, too expensive to create an interface, intimidated by technology, too busy with patient care, unsure of how it

will work in the office, lack of communication within practice, lack of commitment among staff or lack of perceived value of the registry.

OBJECTIVES OF STRATEGY

One of our main goals is to develop and maintain relationships with key players within the different regions to help build an underlying framework of trust across the community. Each region is overseen by a project coordinator who is responsible for becoming familiar with the territory and determining the stakeholders within each community.

Examples of Key Players: American Academy of Pediatrics (AAP), Managed Care Organizations, Local Health Departments, Provider Offices, Medical Society, and School Nurse Association

Once the relationships are developed with key players, they must be maintained to continue building the level of trust that is needed to successfully implement an immunization registry. Over time, providers within the community recognize these relationships and the commitment to their community. This sets the stage for multiple levels of interaction which helps reinforce the idea that the immunization registry can ultimately work within their offices. The credibility gained in this manner gives providers the confidence to allow the immunization registry team to help them deploy the program within their offices to become a fully functional and operational immunization registry participant.

APPROACH

Currently, each of the four regions within New York State utilizes aspects of the four stages of communication in implementing the immunization registry in medical offices. Each stage requires different activities in the building of relationships and trust. The following are activities to be completed within each stage that we have identified as key factors when successfully building trust and confidence:

Knowledge Gathering — By working closely with local County Health Departments on implementing the immunization registry within their immunization clinics, the registry team is able to get a more intimate feel of the county as a whole, how it works and who are the influ-

ential players in all areas. Once the registry becomes operational within the County Health Department office, we ask for their assistance in creating a list of public and private provider offices to target within their community for recruitment. By beginning this activity in the Health Department, we ensure that there is a local public health presence allowing them to share their thoughts and opinions with us so we can learn from their experiences in the community. We discuss and review the list quarterly with the Health Department to determine which offices should be targeted next and decide which offices are influential within the community.

Recruitment — Recruit influential public and private provider offices. The target group the first year is generally high profile pediatric practices. We work on developing and maintaining relationships in this group to build trust and confidence with the registry. The primary means of communication is contacting the offices directly either through postcards, targeted mailings, which address specific issues such as school entry, phone calls or personal visits with materials.

Peer to Peer — As recruitment efforts help build and expand the offices that we have built relationships with, these offices are usually willing to share with their colleagues how well the registry works within their offices and that it is truly a beneficial program. The trust built with those initial offices is invaluable and will in turn result in more offices feeling confident in the registry. The confidence built from the relationships will help the office make their decision to join. The registry team can facilitate this sharing through newsletters featuring specific case studies or having someone speak at a user meeting.

Community Building — Continuously learn about the provider community through community contacts as well as partner with them to help share the information about the registry. It is important for the Project Coordinator to seek out and build relationships with groups such as other programs within public health, the local chapter of the American Academy of Pediatrics or Family Practice, Managed Care Organizations, Medical Society and School Nurse Association. Recognize that our partners' relationships with the provider community are key in helping the registry team build the credibility in order to implement a successful immunization registry.

CHALLENGES

The significant challenge that we have encountered in implementing our strategy is the resistance from County Health Departments and the provider community to participate in the registry. Through the utilization of all of the above mentioned stages, we have been able to try a new tactic when one is creating too much resistance. Utilizing one of the four stages and allowing room for flexibility can help to open up communication.

RESULTS

Below are four examples of outcomes and how our strategy has worked across New York State with helping to decrease resistance to change in the office environment.

An example of an outcome from the Community Building stage is found in the **Finger Lakes Area Immunization Registry (FLAIR)**. The Project Coordinator has developed a strong private-public relationship with the local AAP chapter. As a result, trust has been built with the private provider offices as they see the commitment on both sides to help make the implementation of the registry a positive one. They feel confident that the registry is a valuable tool. Because of this relationship, we have been invited to present at annual AAP meetings, attend health fairs and collectively publish articles on collaborative efforts between the registry and the AAP.

The **Central New York Immunization Registry (CNYIR)** is a good example of the Knowledge Gathering Stage. The Project Coordinator has a strong relationship with the Onondaga County Health Department. The CNYIR has a large saturation rate within the public and private medical community due to this relationship and trust. The County Health Department has played a key role in helping to identify key players and communicate the benefits to the community, help design regional appropriate public relations material as well as recommend the appropriate outlets used to spread the material about the registry. Now that CNYIR is well saturated within the medical community, the school systems are now being recruited through word of mouth. We currently have 210 schools participating in the CNYIR.

The **Downstate Region** is focused on the Recruitment stage. The Project Coordinator has worked on developing strong relationships with the County Health Departments

this past year. This has produced a list of contacts within the practices that are ready to hear about the registry. The evidence of this is the volume of demonstrations conducted on a weekly basis in the practices throughout the region. The result is that many influential pediatric offices have agreed to participate in the registry. Now we are finding medical offices are also beginning to share information about the use of the registry with other offices.

In the **Western New York Region** we can further illustrate the Peer to Peer stage. In this region due to discussions of the registry within consortium meetings, among the clinics associated with managed care plans or larger hospital information systems the Project Coordinator has been contacted by several medical offices to join the registry. In this region, 90% of the practices we have worked with so far have contacted us before we had a chance to approach them. The relationships developed in this region have quickly developed into a trust that has decreased the resistance to change in the office environment.

RECOMMENDATIONS

Other registries should be able to adopt this practice quite easily by actively pursuing all four approaches to relationship building. As noted, the focus is to begin building relationships prior to the start of recruitment efforts. However, building relationships can be done at any point in time and will only strengthen recruitment efforts. The key is having someone who has the appropriate skill sets and the commitment of time to build and maintain relationships that result in the creation of trust in the provider community. How do these relationships build trust? The provider community will trust in the registry team if they are allowed to work with them in their offices. The more the registry team is able to work closely with the provider community the more likely we will learn their needs and in turn are able to meet those needs. Relationship building and maintenance takes commitment, face-to-face contact and community building through meetings and discussions with the provider and the community.

CONCLUSION

A model has been built that has been successfully used in the deployment of regional registries in both new and old territories throughout New York State. Relationships and trust have been established through clear and continuous communication with the various entities in the medical community. Registry team support has been successful in helping decrease the resistance of change in the medical office environment through the use of all four stages of developing relationships.

NEW YORK STATE IMMUNIZATION INFORMATION SYSTEM (NYSIIS)—HEALTHYSHOT

Immunization Registry Profile

Project name: New York State Immunization Information System (NYSIIS)—HealthyShot
Submitted by: Amanda Smith, Amanda Patti
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BARRIERS:

- *Perceived difficulty in integrating new procedures into their existing business practice and work flow.*
- *Provider does not see any value to their practice of the new information they can get from the registry.*

PROJECT DESCRIPTION

Since 1998, Partners In Health Systems has managed and maintained four of the five regional registries throughout New York State. Developed software application utilized to connect to NYSIIS.

- *Currently serves 43 counties in Upstate New York*
- *In operation since 1995*
- *Reporting and participation are not mandated*
- *405 private sites installed*
—254 private sites sending data: 63%
- *143 private sites pending installation*
- *38 public sites installed*
—37 public sites sending data: 97%
- *237 schools and daycares schools participating*
- *HealthyShot is the name of the software used to connect to NYSIIS.*

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

In some cases it is hard for the provider office to see just how beneficial the registry can be when it is integrated into their daily routine. Since all members of the office staff are stretched to the max with their normal duties it is hard to help them realize how valuable the registry is for their practice.

OBJECTIVES OF STRATEGY

Create an educational meeting environment that allows for interaction, learning, and sharing in order to show participants the value and benefits of the registry as a tool within their office. We wanted to increase the participants' exposure to the features of the registry.

APPROACH

On a quarterly basis, we organize and conduct regional user meetings. These meetings have evolved from simple presentations of application updates to interactive and fun sessions that include updates by the state and local health departments, current activities in each discipline of the registry staff, and two coinciding breakout sessions. The programmatic breakout gives the users a chance to interact and share ideas about certain registry related topics or to familiarize themselves with the application through fun activities. The technical breakout involves hands on activities where users learn more about the application features. Overall we wanted to give the participants a chance to network with their peers as well as with the registry staff. This interaction gives participants the opportunity to ask questions, share their experiences and discuss how the registry has been integrated into their office.

CHALLENGES

Since each meeting is held at a central location within each region, one of the challenges that we have faced is that it can be difficult for the provider offices in the outlying areas to attend. As we want to give all of our participants a chance to partake in the user meetings, we have developed Traveling Road Shows which occur every other year. These road shows are based on past user meeting materials so that these outlying participants are able to learn the information and features that we present at our quarterly meetings.

RESULTS

In determining how successful our format and content were for our user meetings, we asked attendees at our user meetings to fill out a survey for our evaluation purposes. Out of the 34 surveys returned, that included both first time user attendees and regular attendees, 97% of the users thought that the format of the meetings met

their needs and 100% of the users felt that the content met their needs. Many of the users commented on how these meetings helped them to network with other providers and learn how everyone else used the registry in their offices. One user commented on what she liked best about the format saying, “It keeps you more alert and helps to exchange ideas with other practices and gives a ‘hands on’ approach for technical aspects of the program.”

In addition, we have seen increased provider participation as a result of making our quarterly user meetings more interactive and educational. We have learned that the user meetings provide an ideal atmosphere to discuss recent issues pertaining to immunizations and how the registry can assist offices during these times. In using this format, we have collaborated with all facets of the medical community, as well as providing users with an interactive environment that builds a sense of unity and illustrates the value that registries hold. This strategy is successful because we have been able to offer our participants an environment where they can explore all that the registry has to offer while interacting with their peers to share and discuss their registry experiences.

RECOMMENDATIONS

This practice could very easily be adopted/adapted by other registries regardless of whether or not user meetings are currently being conducted. All you need is a little creativity in order to spice up the meeting content and make it fun and interactive.

Registries that currently organize user meetings can adapt to our technique either on a trial or permanent basis by simply redesigning the structure of the meeting by including some interactive sessions. We have asked meeting attendees to fill out a survey which includes questions pertaining to the user meeting structure so that we can periodically evaluate how the interactive sessions are meeting their needs.

Some of our interactive sessions included:

- *Registry Jeopardy*—an actual Jeopardy game created in PowerPoint; *Shots and Records*—a board game similar to Chutes and Ladders
- *Training Sessions*—users complete different scenarios regarding the features of the registry on laptops
- *Scavenger Hunt*—built right into the software so when

user completes certain functions they receive a certificate

- *Registry Inquirer*—users were presented with a few successful consent gaining processes, then they were tasked to document their own consent gaining process and shared it with a group of their peers
- *Name Your Campaign*—since the registry team always designed the various campaigns that take place throughout the year, we wanted to give our users a chance to propose a campaign that they wanted to see implemented.

Basically all that is needed in order for another registry to adapt to our user meeting technique is a little creativity and ingenuity to make the interactive sessions fun and engaging for the participants.

CONCLUSION

The user meetings educate all members of the registry community on what is going on outside their office and how working together builds on one another’s knowledge of the registry and the value it brings to their patients and themselves. We continue to conduct the user meetings in a fun and interactive manner each quarter and still receive compliments by the users regarding the structure and atmosphere of the meetings.

NEW YORK CITY CITYWIDE IMMUNIZATION REGISTRY (NYCCIR)

Immunization Registry Profile

Project name: NYC-DoHMH-CIR

Submitted by: Amy Metroka

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BARRIERS:

- *Cost and/or time of entering data to or retrieving data from registry*
- *Providers are just too busy to consider one more new procedure*
- *Perceived difficulty in integrating new procedures into their existing business practice and work flow*
- *Cost and/or time to train staff to participate in registry, including issue of clinic staff turnover*
- *Resistance to change in office environment*
- *Concerns about privacy, confidentiality and HIPAA*
- *Provider does not see any value to their practice of the new information they can get from the registry*

PROJECT DESCRIPTION

The New York City—Citywide Immunization Registry (CIR) is a population-based database that was established in 1997. The NYC Health Code mandates reporting of all immunizations administered to children ages 0 through 7 years. Currently, the database contains 2.4 million patients and 19.5 million immunizations. The annual birth cohort is approximately 125,000. NYC children are enrolled in the CIR from birth records loaded weekly. Over 1,200 facilities and offices vaccinate children. Over 70% of public and private providers regularly report and an estimated 70 to 80 percent of current immunizations are reported. CIR offers to providers a variety of convenient methods of reporting: paper, electronically, and/or online as of May 2002.

The CIR officially began a quarterly newsletter in 1999.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

The following are barriers perceived by providers that Registry staff has come across time and time again anecdotally:

1. *Cost and/or time of entering data to or retrieving data*

from the Registry

2. *Providers are just too busy to consider one or more new procedures*
3. *Perceived difficulty in integrating new procedures into their existing business practice and workflow*
4. *Cost and/or time to train staff to participate in registry, including issue of clinic staff turnover*
5. *Resistance to change in office environment*
6. *Concerns about privacy, confidentiality and HIPAA*
7. *Provider does not see any value to their practice of the new information they can get from the registry*

OBJECTIVES OF STRATEGY

The CIR began an official newsletter in 1999 to regularly keep the Registry in the minds of providers, address multiple barriers, such as ones listed above, and inform providers of immunization news and events related to the Registry, such as news on HIPAA laws. It is a single page, double-sided publication. The newsletter is part of a larger strategy to increase provider awareness and participation. A “Provider of the Quarter” is featured in each issue of the newsletter. Part of our strategy to improve participation is to increase access to and use of the CIR via the Online Registry, so we feature providers who have successfully used the application. Other providers can relate to the featured provider and the stories that the members of the practice tell. Hopefully others will see that if the featured practice could overcome barriers, find the Online Registry easy, convenient, and helpful to use, then they can too.

APPROACH

Our newsletter is printed quarterly. The CIR team meets with the Immunization Program team quarterly to decide on topics for the newsletter. Costs for printing are approximately \$5000 annually.

The CIR uses the same consultant we have been using for all our marketing materials to handle the design and layout of each newsletter. Each newsletter is designed to look very similar to the last, so that providers can easily recognize it. Various messages/reminders are repeated and cycled through the issues.

CHALLENGES

No significant challenges, except getting staff excited about folding and stuffing 3,000 envelopes each quarter. Also, following up on address changes and working with DoH printing department.

RESULTS

One measure we can share is the increase in Online Registry access that followed the announcement of the CIR going from dial-up access to Internet access. A newsletter went out in September 2002. Three months prior to the newsletter, we had only a total of 17 sites requesting Online Registry access. Three months following the newsletter, we had 130 sites requesting Online Registry access. Three months prior to the newsletter, we had about 3,100 immunizations reported via the Online application; three months following the newsletter, there were over 6,700 immunizations, an increase of 216%, reported via the Online application. The increase cannot be solely attributed to the newsletter, but the newsletter is our major marketing tool.

Featured providers love to post the CIR newsletter in their office for all to see.

RECOMMENDATIONS

A simple newsletter, produced with desktop publishing can easily be adopted. Collaborate with your Immunization Program to get help developing articles of interest. The CIR feels that developing a logo that is easily recognizable helps with marketing, such that providers are able to readily recognize the Registry and know what it is all about. Registry issues can be repetitive, but repetition is necessary.

- Providers have little free time, so keep the newsletter short. The quarterly frequency is not overwhelming for the provider.
- Providers like to see themselves and their practice featured. Photos are nice.
- Providers are only interested in what benefits them and their practice.

CONCLUSION

A newsletter is a relatively low cost, simple and easy marketing strategy for any program.

ADDITIONAL NOTES

Sending out newsletters regularly also helps to a small extent with keeping contact address information up to date by informing us of practices that have moved or closed.

Quotes from the various practices featured in the past that will have other providers/practices thinking about the benefits of the registry to them and hopefully help overcome barriers to participation in the CIR:

"The Registry is great because it is quicker than reporting on paper forms. It is nice to have children's records so readily available." -- Cathy Fata, Riverdale Peds, Spring 2004.

"We are able to have another source of back up data available right away....We all have a common interest to immunize NYC's children and this tool helps."—Nissar Shaikh, Spring 2003.

Noted favorite feature: "View Records" screen which shows recommendations of immunizations due.

"The Web site is very clear and neat. It enables you to see vaccines given and it is very helpful during audits."—Lenox Hill Community Medical Center, Fall 2003.

During one issue, we had providers, Deniz Cereb and Amelita Cereb provide helpful hints to other providers.

SUPPORTING DOCUMENTATION

Samples of the newsletter can be found on the CIR website: <http://www.nyc.gov/html/doh/html/cir/a10.html>

RHODE ISLAND KIDSNET

Immunization Registry Profile

Project name: KIDSNET
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BARRIERS:

- *Cost and/or time of entering data to or retrieving data from registry*
- *Perceived difficulty in integrating new procedures into their existing business practice and work flow*

PROJECT DESCRIPTION

KIDSNET, Rhode Island's integrated database for children's preventive health services was implemented in January 1997. KIDSNET maintains and shares data that includes immunizations, lead screenings, newborn hearing assessments, family outreach visits, newborn metabolic screening, WIC and EI program information and more. KIDSNET obtains data on children born in RI, residing in RI or receiving primary care in RI. Provider participation in KIDSNET, at this time, is voluntary. There are approx. 170 practices statewide serving children born since January 1997 and 120 of those practices are participating with KIDSNET. Practices participate by submitting immunization data to KIDSNET on a routine basis.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

- *Cost and/or time of entering data to or retrieving data from registry*
- *Perceived difficulty integrating registry into business practices*
- *Provider doesn't see any value to their practice*

KIDSNET initially offered providers three options for data submission: practice data entry, electronic file transfer, and paper submission that is referred to as the "barcode process." Data submission, whether via barcoding or direct data entry, is a task initially viewed by practices as too time consuming, too costly, with return value not obvious.

OBJECTIVES OF STRATEGY

The objective is to overcome provider resistance to the registry by showing them the ease with which bar coding can be incorporated into their work flow, and the value that KIDSNET presents as a data tool.

APPROACH

In talking and meeting with providers, we present the benefits of KIDSNET as outweighing practice time spent on data submission. KIDSNET allows practices to retrieve information quickly, saving practice time by reducing the number of school nurse and Head Start coordinator phone calls validating child records. In addition, practice reports can be self generated via web access. KIDSNET mails reports to those practices without web access. We currently promote a lead report that identifies those children in the practice not screened for lead poisoning by a certain age. Soon we will offer a similar report that identifies children who are behind on their immunizations. Quality assurance reports are also run to provide practices with periodic assessment on the timeliness and accuracy of data submitted to KIDSNET.

Participation in barcode submission minimizes the amount of monthly and annual reporting required by the Immunization Program for state supplied vaccine tracking. Practices hesitant to commit to the barcode process are strongly encouraged to speak with office managers from neighboring participating practices. Endorsements from participating practices are powerful recruitment tools.

Support to practices is managed by KIDSNET Provider Relations Representatives whose job it is to build and maintain strong relationships with the practices and act as messengers between practices and Family Health Division Programs.

In 2004, KIDSNET became Web-enabled, offering practices a much more user-friendly access to data. It seemed the word had gotten out and now some practices contacted KIDSNET for access and participation before KIDSNET had the chance to recruit them.

CHALLENGES

The barcode process does cost some practice staff time but tends to be a minor barrier for most practices once

they get past the resistance stage of commitment. Non-participating practices that cite staff time as a reason not to participate are encouraged to speak with office managers from participating practices.

Electronic file transfer works well when the practice has maintenance control. Example: when a new CPT code needs to be added to the file, the practice can make needed changes from the office rather than having to rely on the billing vendor to do so. The downside of electronic file transfer is costs attached to the process that neither the practice nor the RI Department of Health, Family Health Division (HEALTH), might be prepared to cover.

Staff resources at HEALTH are limited so the enrollment process moves slower than desired. Remaining non-participating practices are not as quick to sign up. We are putting more emphasis on selling the electronic file transfer process to further minimize staff time. We are also identifying those practices that are converting to electronic medical records and exploring ways to collect data through the EMR. The biggest challenge here appears to be the cost factor for creating data submission transfer files. Who pays the cost?

RESULTS

Statewide participation in KIDSNET in June 2004 was at 56%; by June 2005, participation rose to 68%. To date, practices enrolled in KIDSNET serve close to 80% of the children enrolled in KIDSNET. We hope to achieve 90% in 2005. This can happen if we expand on electronic transfer activity.

RECOMMENDATIONS

Practices are willing to participate with KIDSNET when they are presented with easy data access and easy data submission options at minimal cost. In addition, it is important to give something back to providers—in this case, we found that providing quality assurance reports, and the ability to reduce other state reporting requirements for vaccine tracking, was very helpful. Finally, given the trend towards the EMR, registries may want to focus on electronic data submission. It is difficult to introduce paper barcode data submission to the practice that has gone paperless.

SCIENTIFIC TECHNOLOGIES CORPORATION (STC) — multiple state registries

Immunization Registry Profile

Project name: Scientific Technologies Corporation (STC)

Submitted by: Stacey Goodall, STC

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BARRIERS:

- *Cost and/or time of dual data entry*
- *Cost and/or time of entering data to or retrieving data from registry*
- *Providers are just too busy to consider one more new procedure*
- *Perceived difficulty in integrating new procedures into their existing business practice and work flow*
- *Resistance to change in office environment*
- *Provider does not see any value to their practice of the new information they can get from the registry*

PROJECT DESCRIPTION

Scientific Technologies Corporation (STC) has been actively involved with the development and implementation of statewide immunization registries across the United States since 1993. These efforts have ranged from short term consulting on issues related to registry marketing, provider retention, recruitment campaigns, vendor export development and coalition building to developing and implementing web-based, statewide immunization registries. STC's statewide registry deployments include Arizona, Idaho, Indiana, Louisiana, Maine, Maryland, Washington, West Virginia and Wyoming. One tool in the successful marketing and deployment of registries is the up-front and on-going use of focus groups to gain acceptance of the registry.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

Private providers not seeing any value to their practice of participating in the registry.

OBJECTIVES OF STRATEGY

To eliminate as many surprises as possible in the development and deployment of immunization registries by gathering crucial information about the attitudes and thoughts of key stakeholders related to registries, and by incorporating the needs of private providers into the registry application.

APPROACH

This approach is led by a team comprised of a moderator and an observer. Homogeneous focus groups are assembled, with participants representing the exact population being targeted by the project—such as private provider groups, public providers, or managed care sectors. Focus groups should be repeated throughout the geographic area while maintaining the same participant characteristics in each meeting. The type of data collected in the first few meetings best determines the appropriate number of focus groups. An interview guide is developed by STC with input from the customer and guidance from CDC's National Immunization Program. Notes from the meeting are carefully transcribed. Responses are sorted by lead questions. Trends in responses are noted and reviewed within the framework of the group's dynamics.

CHALLENGES

Effective facilitation is critical to the successful outcome of focus groups. It is imperative that all participants have equal opportunity to express their thoughts and that comments are explored further as appropriate to the discussion. It is also important that the facilitator remains unbiased and manages the group dynamics for a successful meeting outcome. In compiling focus group results, it is important to present the data qualitatively versus trying to quantify participant responses.

RESULTS

STC has used focus groups to solicit registry support, determine barriers and identify stakeholder attitudes toward registry implementation. Information collected by STC for registry projects has provided direction essential

to the development of successful marketing and deployment strategies. In some cases, STC was able to discover areas of concern and red flags that had gone unidentified by the local project.

RECOMMENDATIONS

This practice could be easily adopted by other registries. Focus groups are compatible with tight budgets because they require less time and money than other research methods. Feedback is almost immediate. Focus groups identify differences of opinion and attitudes within geographic areas that may otherwise appear homogeneous. Project dollars are more effectively spent because the targeted audience outlines what will make the difference and what will or will not work.

CONCLUSION

Focus group methodology has specific application for health departments implementing immunization and registry projects. With an experienced team, data can be collected, analyzed and summarized in a short amount of time. Results are significant to many project members, not just a few, because focus group language is not complicated. Project dollars are better spent because the targeted audience has defined the marketing details for the project.

SUPPORTING DOCUMENTATION

- “Effective Use of Focus Groups with Immunization Registry Implementation”, by Nancy Heineke, Public Health Consultant, STC, October 2002.
- http://www.stchome.com/White_Papers/whp_focus_groups2.pdf

SCIENTIFIC TECHNOLOGIES CORPORATION (STC) — multiple state registries

Immunization Registry Profile

Project name: Scientific Technologies Corporation (STC)
 Submitted by: Stacey Goodall, STC
 Email: Stacey_Goodall@stchome.com
 Phone: 602.241.1502

BARRIERS:

- *Cost and/or time of dual data entry*
- *Cost and/or time of entering data to or retrieving data from registry*
- *Providers are just too busy to consider one more new procedure*
- *Perceived difficulty in integrating new procedures into their existing business practice and work flow*
- *Resistance to change in office environment*
- *Provider does not see any value to their practice of the new information they can get from the registry*

PROJECT DESCRIPTION

Scientific Technologies Corporation (STC) has been actively involved with the development and implementation of statewide immunization registries across the United States since 1993. These efforts have ranged from short term consulting on issues related to registry marketing, provider retention, recruitment campaigns, vendor export development and coalition building to developing and implementing web-based, statewide immunization registries. STC's statewide registry deployments include Arizona, Idaho, Indiana, Louisiana, Maine, Maryland, Washington, West Virginia and Wyoming. One tool in the successful marketing and maintenance of registries is the on-going use of User Group Meetings, bringing registry staff and users together to discuss registry issues.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

Practices are often too busy to consider a new procedure and anticipate difficulty integrating registry use into business processes. This is a pervasive barrier. Once providers have enrolled in a registry, maintaining their interest and ensuring the system is useful to the provider is essential.

OBJECTIVES OF STRATEGY

To ensure customer satisfaction by combining sustained public relations, customer support, customer input and consistent communication through a single on-going activity—User Group Meetings.

APPROACH

STC's experience confirms the best possible method for on-going two-way communication between project management and registry users is User Group Meetings. User Groups are regularly scheduled interactive meetings of registry users facilitated by staff from the registry project. The purpose of these meetings is to create a network of communication between user sites as well as with the registry staff.

Ideally, each user site should commit to regular attendance. The person conducting the meeting should be familiar with the system and the users. The agenda should reflect the meeting's overall purpose: to provide information, to collect information, to bolster dedication and to improve function and features of the existing system. Essential to organizing an effective agenda is knowing the pulse of the user at any given time—particularly before a meeting. Surveying users before a meeting helps the facilitator develop an agenda that includes something for everyone.

CHALLENGES

One challenge in facilitating meetings is the extent to which a topic is explored. The facilitator must distinguish between pursuing the topics brought up by users with the group as a whole or addressing the issues individually after the meeting.

RESULTS

Customer satisfaction is essential to the ongoing success of a registry. Studies suggest customer satisfaction is closely tied to the perception that the customer was heard, understood and considered. Customer satisfaction describes mutual two-way communication between the registry project management and the registry user, together in an effort to present the best possible product. User groups present a mechanism for assuring this is achieved.

Registry User Group Meetings have been successfully implemented in STC client states Indiana, Arizona and Idaho. STC also conducts an annual User Group Meeting, which includes key registry staff from all of the STC client states and projects.

RECOMMENDATIONS

This practice is easily adaptable by any registry. The formula for successful User Group Meetings is a mix of good facilitation, customizing the agenda to the users, and user participation and commitment.

CONCLUSION

When planned and facilitated appropriately, User Groups provide an opportunity to promote continued use of the system, solve common user problems, listen to user needs, and collect feedback for future upgrades. Members of the User Group promote the registry indirectly through enhanced customer satisfaction resulting from mutual two-way communication.

SUPPORTING DOCUMENTATION

- “Registry Public Relations through User Group Meetings”, by Nancy Heineke, Public Health Consultant, STC, August 2002:
- http://www.stchome.com/White_Papers/WHP031A.pdf

WASHINGTON CHILD PROFILE IMMUNIZATION REGISTRY

Immunization Registry Profile

Project name: CHILD Profile Immunization Registry
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BARRIERS:

- *Cost and/or time of dual data entry*
- *Cost and/or time of entering data to or retrieving data from registry*

PROJECT DESCRIPTION

CHILD Profile is Washington State's Immunization Registry and Health Promotion System. It has been in existence since 1993, when it started as a two-county project. Since 1998, the registry has been recruiting providers, both public and private, in every county in Washington. State. The initial system was a text-based, dial-up system. A new advanced web-based application was installed in December 2003. Training of all participating providers in the new system was completed in September 2004. As of September 2005, 91% of all public provider sites (179 out of 197) and 53% of all private provider sites (491 out of 931) were participating in the registry. The registry contains over 4 million patient records and more than 20 million immunizations for individuals of all ages, with 70% of children under age six having two or more immunizations recorded.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

Entering immunization data into the registry was perceived as duplicative activity by many providers—this was a pervasive and huge barrier.

OBJECTIVES OF STRATEGY

Our overall goal was to increase provider participation. We set annual provider enrollment goals for four years, with the ultimate goal of reaching 95% participation by the end of 2006 by modifying the registry to better meet private practice needs.

APPROACH

Our approach centered on modifying/building a registry system to better meet provider needs through an analysis of provider and other stakeholder needs, then followed through by selecting the web-based product that best met those needs.

- Conducted a thorough requirements analysis in 2003 as we prepared to upgrade our registry to web-based. Hired an outside consultant to conduct the analysis. Solicited lots of stakeholder and provider input that guided us in the choice of registry products, based on features they wanted. Key leaders in the medical community were brought into the process, including some who had expressed concerns about the registry.
- Listened especially hard to those things that providers said would add value to their practice (reports such as vaccine accountability and inventory, reminder-recall, school immunization certificate, and others) and that would save the provider time.
- Made our system completely web-based for ease of access.
- Selected a registry product that minimizes number of key strokes and allows for each user to choose default values for many of the fields.
- Accepted billing, practice management, and EMR data, providing a flexible export format for vendors and providers to use.
- Designated one registry staff person as point of contact for vendors.

CHALLENGES

It takes time, money and personnel to implement these strategies. And a lot of patience. The biggest challenge for implementing the new web-based system was an internal one—migrating over 15 million immunization records was a much bigger feat than originally anticipated. Working with EMR/billing system vendors continues to be a challenge.

RESULTS

By the end of 2003, before implementation of the new system but after increasing communications and involvement of private providers in the planning process, we met our goal to increase the percentage of private

providers enrolled from 12% to 23%. With roll-out of the new registry system in Spring 2004, we reached our 2004 goal of reaching 44% of private providers by the end of the year. A little more than halfway through 2005, 53% of private providers are on board.

RECOMMENDATIONS

The process of conducting a requirements analysis was quite time-consuming and did require some dollars, especially since we hired consultants to help with this. It was definitely a worthwhile expense, and I highly encourage the use of expert consultants to help with these tasks. They provide an outside, objective point of view. However, knowledgeable staff could also conduct these analyses. Even if you have a great up-to-date system, it is important to conduct a requirements analysis periodically to determine the changing needs of your internal and external stakeholder needs.

CONCLUSION

Strategy is still in effect. We will update our marketing plan periodically and conduct a formal requirements analysis every few years, with informal provider feedback sought on an on-going basis.

SUPPORTING DOCUMENTATION

Sample requirements analysis, key messages, etc.

*Increasing Provider
Participation in Immunization
Information Systems*

Successful Strategies

CALIFORNIA AUTOMATED IMMUNIZATION REGISTRY (CAIR)

Immunization Registry Profile

Project name: California Automated Immunization Registry (CAIR): A Guided Tour
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BARRIERS:

- *Cost and/or time of entering data to or retrieving data from registry*
- *Providers are just too busy to consider one more new procedure*
- *Cost and/or time to train staff to participate in registry, including issue of clinic staff turnover*

PROJECT DESCRIPTION

California's Statewide Immunization Information System (SIIS) comprises nine regionally-based registries covering the state. Registries have been phased into implementation over the past 10 years. All are currently operational and actively recruiting providers to enroll. The CAIR software is used by six of the nine regional registries in California. CAIR: A Guided Tour is a succinct 10-minute software demo that shows highlights of the registry software's core functionalities. It uses an animated process to click through key features (e.g., finding a patient, adding a new immunization, printing reports) supplemented with additional text balloons to point out information and provide further explanation. The demo includes eight modules and can be viewed in its entirety or by specific module. It is accessible online at www.ca-siis.org or is available on CD-ROM. The creation of the CAIR demo built on models from two other California regional registries that developed similar demo tools, based on their region-specific registry software applications.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

Demystifying immunization registries for potential users as well as for health plans and others has been recognized as a need. While written information relates the

benefits of registries to provider offices, there is nothing like seeing what it actually looks like. In addition, since resources are too limited to conduct individualized in-person demos with all interested, an automated demo puts the registry within easy reach of those who want to get a sense of how a registry actually works.

OBJECTIVES OF STRATEGY

The CAIR demo serves a dual purpose. It allows providers to run the demo on their own computer, at their convenience and get a "guided tour." Secondly, it serves as a presentation and marketing vehicle for registry staff to present at meetings, exhibits, or on marketing visits to provider offices. The strategy is to give potential users and medical office decision-makers enough information to show them that using the registry is quick, easy and straightforward. The demo was launched in 2005. It is anticipated that as distribution grows, it will generate increased interest in the provider community, among those who see it, to join the registry.

APPROACH

The demo was conceived with collaboration from members of California's statewide Provider Relations Committee. A workgroup from the committee was formed with representatives from the regional registries. Workgroup members provided input on which features and functions to include and the best sequencing. Screen shots and scripted text were outlined into a story board. The demo was programmed using the application RoboDemo (now re-released as Macromedia Captivate) by a vendor and supplemented by an in-house technical expert. The workgroup provided review and comment to help refine the final product. Regional registries were offered both copies on CD-ROM and detailed instructions for posting the demo to their own websites. The steps taken for programming were thoroughly documented so in the future other staff could learn what had been done and, if warranted, make enhancements. The cost to the vendor for programming was \$5,000. Due to personnel changes during the project, it took about 12 months to complete the final product.

CHALLENGES

The challenges came mainly from coordinating between many different people involved. Being especially clear to the programmer was key to getting exactly what we wanted. Also, being specific about the tasks involved will help in getting a realistic estimate for programming hours is needed to budget appropriately. Getting feedback from a committee occasionally meant sifting through conflicting suggestions. Also, designing artwork and instructions for the CD-ROM cover was a separate effort that required additional time and thought, as well as official approval through the State. Resolving a few minor technical details was needed. For example, a separate application was needed to launch the demo automatically when a user loads it. Ultimately, all these issues were resolved.

RESULTS

The result is a product that both registry staff recruiters and providers have lauded. The demo is brief, but flexible. A registry staff member using it as a presentation tool can pause, skip around, and go back, as needed to provide additional explanation. Potential registry customers get a guided tour that shows off the highlights of the registry and self-starting animations so they can't get "lost" previewing an unfamiliar application. Potential users get a visual presentation of what information goes into the registry, the ease of data entry, and examples of output including a complete patient history, printing the official immunization record card, generating lists of patients not up-to-date, etc. Moreover, they can stop, repeat, or move ahead, as desired. Since its release, reports from the field, including stakeholders in California's Medicaid managed care collaborative partnership, have been overwhelmingly positive.

RECOMMENDATIONS

The RoboDemo software was relatively easy for an IT technician to learn and program. It could easily be adapted to demo other registry software applications by customizing screen shots and accompanying text. A version with a voice-over has been proposed and could be an upgrade to California's existing model.

CONCLUSION

Having a close rapport with the technical programmers is key. Programmers must be able to be responsive throughout the development and testing phases to make sure the final product is refined according to specifications, as well as later input gleaned from field testing by the review team. Keeping it under 15 minutes was a goal so that the demo did not get bogged down in too much detail better left for real, hands-on training.

SUPPORTING DOCUMENTATION

A copy of the demo can be viewed online at: <http://www.ca-siis.org/Demo/default.htm>. An online model of the San Diego Regional Immunization Registry's demo can be viewed at: http://www.immunization-sd.org/sdir/support_user-manual.html. California's VaxTrack region (San Bernardino and Riverside counties) uses an animated "PowerPoint-type" presentation for registry staff. Their presenter guidelines may also be instructive as a model. These are at: http://www.ca-siis.org/siis04-04/crandall2_0404.doc.

NEW JERSEY IMMUNIZATION INFORMATION SYSTEM

Immunization Registry Profile

Project name: New Jersey Immunization Information System (NJIS)
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BARRIER: Cost and/or time of entering data to or retrieving data from registry

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

Many busy practices report lack of time and staffing to input immunization data. They also see duplication of records, since many fill out an immunization paper record in the examination room and then need to walk to a computer station to input the data. This was reported by every single provider at the initial visit to describe and introduce NJIS.

OBJECTIVES OF STRATEGY

My specific goal was to enroll a minimum of four large providers to begin using NJIS each quarter and to keep current providers using the registry.

APPROACH

Specific strategies to get physicians to start using the system was to offer incentives. My incentives included one of the following: bonus money to cover cost of internet service for six months, basic Dell computer for inputting data, printer to help with printing follow up reports.

CHALLENGES

The challenges included: disbelief that they would receive a “gift”; decline in data entry after initial bonus; and continued support required by many of the providers to have them keep using the system. I also found when many providers from the same office were trained, there was confusion regarding primary responsibility for data entry.

RESULTS

The incentives made it easier to meet with the immunization providers and made them more likely to enroll in NJIS. I found that in order to keep them using the system, I needed to call and remind many of the practitioners of their promise to keep enrolling patients. I would also train new office managers as they started working in the office. Overall, incentives are a good way of introducing the system.

RECOMMENDATIONS

This strategy can be easily adapted to other systems, it just requires money for the incentives and follow up by staff. It did not reduce paperwork because most practices did not want computers in the exam rooms because of worry about theft, internet availability etc. Most practices have the computers in areas not accessible to patients, which I feel decreases the practitioners ability to fully utilize the system.

CONCLUSION

Yes, I would recommend this practice to others. I would give them incentives based on number of patients added to the registry. I would also recommend 1-3 people at each physician practice to be responsible for data entry.

NEW YORK STATE IMMUNIZATION INFORMATION SYSTEM (NYSIIS) and WASHINGTON CHILD PROFILE IMMUNIZATION REGISTRY

Immunization Registry Profile

Project name: New York State Immunization Information System (NYSIIS), Washington CHILD Profile Immunization Registry

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BARRIER: *Concerns about privacy, confidentiality and HIPAA*

PROJECT DESCRIPTION

The New York State Immunization Information System (NYSIIS) is a voluntary, consent-based registry that consists of two separate software applications serving five regions of New York State, which excludes New York City. To date, there are 81,000 children between birth and six years enrolled with two or more shots recorded. Management and maintenance of the registry in the 57 counties of New York State is through two vendors: Partners in Health Systems and the Upper Hudson Primary Care Consortium. Because of the voluntary nature of the project, recruitment and education are key tasks of the vendors.

The CHILD Profile Immunization Registry of Washington is a voluntary, opt-out registry which covers all of the State of Washington. The project began in 1993, and in December 2003 a new web-based application was introduced. To date, there are 197 public sites, which represent an 86% saturation rate. There are also 931 total private sites enrolled, which accounts for 44% of private practices.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

As the compliance date for the Privacy Rule of the Health Insurance Portability and Accountability Act (HIPAA) was approaching in 2003, there was a great deal of hesitancy from the provider community to join the registry. Because of the complexities of HIPAA, recruiters for both registries reported that providers were unsure of the role it would play in their participation with the registry. As much as the recruiters discussed the role of HIPAA with registries, it was apparent that providers wanted assurance from their Department of Health (DOH) that participating did not conflict with HIPAA.

OBJECTIVES OF STRATEGY

At the time the Privacy Rule went into effect, the main objective of both registries was to maintain the current level of provider participation and to continue increasing enrollment. Because of the uncertainty of the Rule's impact on registry participation, both registries concentrated their efforts on minimizing provider apprehension and mitigating any potential decrease in provider participation.

APPROACH

In New York State, the decision was made that an information campaign would be the best approach to address the concerns of the provider community. In the months leading up to the April 2003 compliance date, NYSIIS addressed the issue from all possible fronts. Presentations specific to the Privacy Rule and its impact on the registry were done at quarterly user meetings by Department of Health staff. Articles were included in newsletters to participating providers with contact names and telephone numbers at the DOH. Also, a "one-pager" was developed to address the concerns raised by the provider community. The one-pager also provides websites where providers can locate references relevant to their concerns. This one-pager continues to be used as part of the marketing packet.

Similarly, in Washington State, the HIPAA Privacy Rule was reviewed by the Department of Health and its legal counsel, and a statement developed that explained why sharing data with the registry (a non-covered entity) was allowed under HIPAA. Articles were posted in registry

newsletters and on the registry's website. Marketing presentations were amended to address HIPAA concerns. As in New York, a one-page document was developed and continues to be included in the marketing packets.

Both registries worked closely with their DOH HIPAA compliance officers, as well as the CDC to ensure the validity of any and all information provided. The cost to produce one-pagers is minimal, but the information contained was important to convey to the provider community.

CHALLENGES

There were not any significant challenges which required our attention during this process.

RESULTS

Both the New York and Washington registries reported no significant variation in provider participation in the early months of 2003. Initially, both projects fielded many phone calls from those in the provider community with concerns regarding the Privacy Rule. As more information was made available that was specific to their registry, phone calls from providers tapered off.

RECOMMENDATIONS

Concerns about privacy, confidentiality and HIPAA will always be an issue for registries. Providers want to be completely assured that the registry they are providing confidential information to, is taking every step to ensure the safety of their patients' personal information.

The method of addressing this concern, an information campaign, can be easily adapted by other registries for any issue they are confronting.

CONCLUSION

Providers look to their registry team for assurances that the application is in compliance with the latest rulings regarding privacy and confidentiality. As with any issue that could potentially be a concern of their provider base, it is best for projects to take a proactive approach. User meetings are an excellent way for the team to hear the concerns first hand. Having something in writing that

reaches all participants is a great way to get your message across and mitigate these concerns.

SUPPORTING DOCUMENTATION

Sample handouts from New York State and from Washington State

OREGON IMMUNIZATION ALERT

Immunization Registry Profile

Project name	Oregon Immunization ALERT
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BARRIERS:

- **Cost and/or time to train staff to participate in registry, including issue of clinic staff turnover**
- **Provider does not see any value to their practice of the new information they can get from the registry**

PROJECT DESCRIPTION

ALERT is a statewide Immunization registry that tracks immunizations for children age 0-18 statewide. The registry began collecting data in 1996. We launched the ALERT Customer Service line in 1999, and began to supply immunization records to our users by fax and mail at that time. At the end of 2000, we launched the ALERT web site (www.immalert.org), providing immunization records online to our authorized users 24 hours a day. At this point, ALERT is tracking approximately 27 million immunizations for approximately 1.3 million children. We have almost 4000 authorized users representing schools, clinics, and childcare centers that access records via the Web. Approximately 400 clinics submit data to ALERT. Participation is mandatory for the public sector, where we have 100% participation. Private sector participation is voluntary, and our participation rate in the private sector is approximately 86%. The majority of shots in Oregon are given in the private sector.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

The costs of training and turnover were and are significant among Oregon providers, particularly for private providers who submit data on barcode/paper forms. A 2002 qualitative research study of inconsistent participants ranked time for data submission (66%), training (48%), and turnover (35%) as the three largest barriers to ALERT participation. Anecdotally, we know from the

quality of data submitted and from ever-changing clinic contacts that clinic knowledge about ALERT is not always shared between incoming and outgoing staff.

OBJECTIVES OF STRATEGY

We had a multi-pronged approach to addressing training and turnover in clinics:

- *Strategy 1: Ensure all health educators (our first line of defense in clinic training) have timely access to ALERT participation data*
- *Strategy 2: Support health educators with training when needed*
- *Strategy 3: Reach out to inconsistent users/non-submitters*
- *Strategy 4: Focus on ALERT materials development*

APPROACH

ALERT developed a short video that describes the benefits of immunization registries. This video was a recommendation of the ALERT Advisory Board, based on results of a provider survey. The 12-minute video, released in 2004, has been well received by clinics and partners. It primarily answers “why” the registry is important, particularly important when there is staff turnover. Pediatricians and school staff went “on camera” in the video to tell their own stories about how the registry has changed their practice, saved them time, and saved them money. ALERT worked with a state agency (Transportation) that had experience with video production and editing. The cost to develop the video was about \$18,000.

CHALLENGES

Part of the strategy is to personally visit each clinic and not do a mass mailing of the video/DVD without any context. It has been difficult to accomplish this within a short timeframe.

RESULTS

ALERT has distributed about 125 copies of the DVD to clinics. Although we have not yet completed a formal project evaluation, examples of the private clinic response include:

- *“Very informative, like the idea of a quick overview for new employees”*
- *“THANKS and appreciation to ALERT from the clinical staff. This program has saved us LOTS of time.”*
- *“What a great tool for new staff. I had no idea schools could access the web, I am so glad to know that now. The video is short and to the point. We will include it in our new employee orientation. What cute kids!”*

RECOMMENDATIONS

This recommendation is relatively easy to replicate.

CONCLUSION

A short DVD or web-enabled video is an essential marketing approach for any registry.

Recommendations for approach: have your providers be the “stars” of the video along with lots of babies and toddlers; share the clinic and/or school perspectives; keep it short. Oregon Registry and Immunization Program staff used their own kids in the production in both clinic settings and playing outside. This, in turn, made us all great salespeople for the final show.

The focus should be on the benefits of a registry, and not as a training or “how to” tool. It should answer the question: Why is this system important to my practice (or health plan) and to my community?

RHODE ISLAND KIDSNET

Immunization Registry Profile

Project name: KIDSNET (Rhode Island)
Submitted by: Sue Duggan-Ball
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BARRIER: Cost and/or time to train staff to participate in registry, including issue of clinic staff turnover

PROJECT DESCRIPTION

KIDSNET, Rhode Island's integrated database for children's preventive health services was implemented in January 1997. KIDSNET maintains and shares data that includes immunizations, lead screenings, newborn hearing assessments, family outreach visits, newborn metabolic screening, WIC and EI program information and more. KIDSNET obtains data on children born in RI, residing in RI or receiving primary care in RI. Provider participation in KIDSNET, at this time, is voluntary. There are approx. 170 practices statewide serving children born since January 1997 and 120 of those practices are participating with KIDSNET. Practices participate by submitting immunization data to KIDSNET on a routine basis.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY:

Staff turnover can become a chronic barrier to providers wanting to participate in the registry. One practice had mass turnover two years ago. Scheduling clinic time for training can be a challenge in a busy practice.

OBJECTIVES OF STRATEGY

Our objectives are two-fold: To decrease the number of data submission errors made by practices and to retain practice participation.

APPROACH

KIDSNET offers technical trainings on web access and data submission as needed at each provider or user office. Our trainers go to the practice or agency to do the training. Each new practice and agency receives a formal training as part of orientation to KIDSNET.

Provider Relations representatives cover the practices by regions. Given our size, we have 2 regions, north and south. Each representative will visit each of her practices at least three times per year. One visit may be to team with the AFIX/VFC team for data assessment, another visit may be to introduce new HEALTH (RI Department of Health, Family Health Division) materials and a third may be to just stop in to see how KIDSNET is working for the practice. Often, the representative identifies the need for additional training while visiting a practice. Practice staff members are busy and may not stop to call us for help when needed.

Retraining is provided as needed due to staff turnover or the need for refresher classes. We also encourage numerous staff members within a practice to be KIDSNET knowledgeable. If that one person who knows KIDSNET leaves the practice, KIDSNET participation stops. We strongly encourage staff to be proficient in utilizing the KIDSNET web application so that they may get full benefit from it.

Since most training occurs during business hours, KIDSNET trainers may need to schedule back-to-back trainings; the trainer will work with one group of staff while a second group continues to answer phones and care for patients.

KIDSNET has a Help Desk line available 8:00am to 4:30pm weekdays, providing technical and general user support; messages can be left at any time. Our goal is to respond to callers immediately or make return calls by the start of the next business day. Fifty percent of calls made are for technical assistance. Help Desk calls are documented for quality assurance and for tracking trends.

CHALLENGES

One out of every four or five training sessions may have to be scrapped once the representative arrives at the practice. The representative may arrive to find that staff is out sick and the training has to be rescheduled, or the practice is experiencing an unusually busy day of appointments and cannot fit the training in.

RESULTS

KIDSNET believes (but doesn't have quantitative results to prove) that time and cost spent to continually support provider participation is directly related to provider retention. In the past five years, we have had three practices stop participating in KIDSNET due to lack of office staff. Two of those three practices have returned, at least in part due to extra support given by KIDSNET staff to "restart" participation. KIDSNET extra support might include helping the practice work KIDSNET into the daily workflow of the practice, or making ongoing office visits for one-on-one trainings and retraining.

RECOMMENDATIONS

Training has to be an ongoing commitment for both registries and practices. Anticipating and addressing the training needs of practices helps to retain practices. This approach also builds a trusting and productive partnership with each practice.

RHODE ISLAND KIDSNET

Immunization Registry Profile

Project name: KIDSNET (Rhode Island)
Submitted by: Sue Duggan-Ball
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Phone: 401-222-1580

BARRIER: Concerns about privacy, confidentiality and HIPAA

PROJECT DESCRIPTION

KIDSNET, Rhode Island's integrated database for children's preventive health services was implemented in January 1997. KIDSNET maintains and shares data that includes immunizations, lead screenings, newborn hearing assessments, family outreach visits, newborn metabolic screening, WIC and EI program information and more. KIDSNET obtains data on children born in RI, residing in RI or receiving primary care in RI. Provider participation in KIDSNET, at this time, is voluntary. There are approx. 170 practices statewide serving children born since January 1997 and 120 of those practices are participating with KIDSNET. Practices participate by submitting immunization data to KIDSNET on a routine basis.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY:

Concerns about Privacy, Confidentiality and HIPAA.

Some practices are reluctant to participate based on their belief that sharing immunization data without parental consent might violate parental rights and jeopardize the provider/patient relationship. At times, participating practices may encounter an angry parent who has just learned that the practice has been submitting data on their child to KIDSNET without their knowledge.

OBJECTIVES OF STRATEGY:

A KIDSNET goal is to have parents know about KIDSNET before the child is born.

APPROACH

RI Department of Health, Family Health Division (HEALTH), designed a three-stage Newborn Notification process for parents in 2005. The notification informs parents of HEALTH services that occur at birth: newborn metabolic screening, newborn hearing assessment,

KIDSNET enrollment, birth defects registry documentation and Family Outreach Program opportunities. This notification is sent to parents by different methods. Stage 1 is given in the OB-GYN office, Stage 2 is given to parents at the birthing hospital, and Stage 3 is mailed to the family three weeks after birth.

Before the new Notification process, parents learned about KIDSNET after the child was born. Notifications included mailings to parents and a Family Fact Card given by the pediatric providers after birth. Parents would call the KIDSNET Help Desk to ask why they were not informed sooner and to question HEALTH's authority to enroll their child without their consent. Hearing about KIDSNET after the fact can make a parent anxious.

As part of the new approach, Provider Relations staff is contacting all 50+ OB-GYN practices in RI. Ten minute visits are being scheduled to introduce the Notification to each office in hopes that the practices will share this information with the expectant mother/parents at the intake visit. Practices are given a one-year supply of Notifications and told whom to contact if they run out. Provider Relations staff will automatically restock the practices next year. When HEALTH takes the responsibility for replacing educational materials, practices are willing to dispense the materials.

CHALLENGES

The only challenge we had was scheduling time to make the practice visits. Fortunately, many of the OB-GYN practices already knew Provider Relations staff through WIC outreach visits and did not hesitate to book a visit. Though it is a challenge to coordinate all of these visits, it is a great opportunity for HEALTH to build stronger relationships with primary care providers within the state.

RESULTS

As of August, 2005 most practices have been contacted and many are already distributing the Notifications. Only one practice declined to dispense notifications but we plan to revisit.

Going forward, notifications will be mailed to the OB-GYN practices on an annual basis. Provider Relation visits will be made as needed.

RECOMMENDATIONS

Asking providers to help with parent notification is a successful strategy that other registries should consider.

SCIENTIFIC TECHNOLOGIES CORPORATION (STC)—multiple state registries

Immunization Registry Profile

Project name: Scientific Technologies Corporation (STC)
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BARRIERS:

- *Perceived difficulty in integrating new procedures into their existing business practice and work flow*
- *Provider does not see any value to their practice of the new information they can get from the registry*
- *Vendors for such systems as EMR and billing are sometimes difficult to work with or too expensive to create data downloads*

PROJECT DESCRIPTION

Scientific Technologies Corporation (STC) has been actively involved with the development and implementation of statewide immunization registries across the United States since 1993. These efforts have ranged from short term consulting on issues related to registry marketing, provider retention, recruitment campaigns, vendor export development and coalition building to developing and implementing web-based, statewide immunization registries. STC's statewide registry deployments include Arizona, Idaho, Indiana, Louisiana, Maine, Maryland, Washington, West Virginia and Wyoming. In a White Paper titled "Provider Recruitment: An Example of Strategies Used in West Virginia", STC documents strategies that were successful in transforming disconnected private providers across the state of West Virginia into a seamless information-sharing team.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

A number of issues served as barriers to the successful recruitment of the provider community to the registry. Some barriers included geography and difficult travel between provider sites, limited personal communication between state program and provider offices, and minimal response to initial recruitment attempts by mail.

OBJECTIVES OF STRATEGY

The goal was to increase registry participation through successfully recruiting providers on a large-scale (statewide) basis using a systematic but tailored approach, ultimately resulting in the participation of as many providers as possible through either direct data entry or development of exports from existing patient management systems (PMS) to the registry.

APPROACH

The overall strategy was to develop and implement a uniform approach to recruiting providers while accommodating particular characteristics of providers within and throughout the state. It is essential that communication mechanisms are comprehensive and include the particulars of each targeted area. Collecting as much information as possible before beginning any other steps helps create a message that clearly announces the project's purpose and logistics.

The most important aspect of the approach was listening to the target audience, and having a registry that was willing to make adjustments as new information was discovered. Steps to getting started include:

- *Identifying key stakeholders and using surveys, focus groups, key informant interviews and presentations at professional meetings to elicit feedback.*
- *Creating and delivering an integrated communication message for both stakeholders and the community.*
- *Beginning the "official" recruitment period with mass mailings to attract "early responders."*
- *Going beyond mass mailings—following up with personalized contact with potential users.*
- *Making contact with the PMS vendors—establishing relationships with the vendors to get export files written early on.*
- *Bringing providers and vendors together—preparing the provider office for what to expect and keeping in contact with them while the vendors are working on the export.*
- *Going after the hard recruits with phone calls and site visits.*

CHALLENGES

Mass mailing campaigns were not productive for actual recruitment. In West Virginia, it was discovered that personal contact cultivated better results than mass mailings. Multiple contacts by mail and in person were often required to attract providers to the registry. Contact directly with the office manager also seemed to produce better results than contact with the providers themselves. PMS vendors often required fees to develop export files to the registry and some vendors would call providers directly and receive mixed messages on the importance of the registry and export file development leading the vendors to discontinue pursuit of export file production.

RESULTS

Through the collection of stakeholder input, targeted marketing messages and materials, and systematic introduction of the registry through kick off meetings, presentations at professional meetings, mass mailings and personal visits, the lessons learned and approach utilized by STC for provider recruitment has been successful in West Virginia and all of the STC client states.

RECOMMENDATIONS

This approach does take staffing and resources. To spend the time necessary to understand your target audience and to tailor your approach to their needs can seem burdensome, but is essential to success.

CONCLUSION

Familiarity with stakeholders and initiating provider contact cannot be overestimated. By investigating the target audience, surprises that could lead to catastrophe down the road are avoided.

SUPPORTING DOCUMENTATION

- “Provider Recruitment: An Example of Strategies Used in West Virginia,” by Nancy Heineke, Public Health Consultant, STC.
- http://www.stchome.com/media_whitepapers.html

LESSONS LEARNED

NEW JERSEY IMMUNIZATION INFORMATION SYSTEM

Immunization Registry Profile

Project name: New Jersey Immunization Information System (NJIS)
Submitted by: Adrienne D Millican, Gateway Northwest Maternal & Child Network, Newark, NJ
Email: adrienne.millican.carter@att.net
Phone: 973-243-7280

BARRIER: Resistance to change in office environment

PROJECT DESCRIPTION

The NJIS (New Jersey Immunization Information System) registry is web-based and is divided into three modules. The first involves data entry of child's demographic information along with vaccines and lab information. It uses the national CDC schedule for verification of vaccine need and validity. The second involves the means to generate outreach using the data in module one if needed and late shots. The third is an inventory maintenance module, which is updated based on vaccines given in module one.

The NJIS registry covers the state of New Jersey, has been in existence for more than eight years, and is an opt-in system that was legislatively changed to an opt-out participation via the passage of the Statewide Immunization Registry Act in August 2004. More than 400 sites use the NJIS throughout New Jersey with more than 800,000 records currently in the system accessible to enrolled providers.

DESCRIPTION OF PROVIDER PARTICIPATION BARRIER TARGETED BY THIS STRATEGY

Resistance to change is always the first and foremost barrier when recruiting for the registry or for any new office procedure introduced into an existing practice. The staff and physician's first instinct is to question why they should change what has been working well for them when it's not required.

Some are hesitant to work on the computer, especially older staff, and feel that they are already gathering the same information in some way, shape or form and so using the registry would be wasting valuable time. They are even to busy to view the demo CD or to have a recruiter visit the site. This attitude has a major impact on provider participation. So

much so, that even if they are willing to receive training, they don't use the registry afterwards.

OBJECTIVES OF STRATEGY

The primary goal was to at least get in the door in order to show that the benefits offered by the registry greatly outweighed their reasons for resistance. I had no participation target number in mind, just to reach out to every provider in my catchment area. My Consortium's area was part of a larger state-wide initiative and focused on Newark and the greater Newark metropolitan area.

APPROACH

The strategy involved monthly follow-up. Once the provider was trained, monthly follow-up was conducted to assess their use of the registry, answer any questions, and provide any assistance to ensure their continued use. Once the site realized that they would be monitored, it either motivated them to continue or they admitted they could not effectively use the registry and still maintain their other duties.

CHALLENGES

Initial contact was made by phone but was not always successful (messages left, calls not returned, wrong person or number reached). I then followed up with mass mailings, which did generate inquiry calls, some of which resulted in visits, training, and usage of the registry.

RESULTS

The total outcome was not as successful as needed to fully get "buy-in" from all providers in the catchment area. Less than 50% of providers trained in 2004 are active users today.

RECOMMENDATIONS

This practice could be adopted by other registers, and successfully so, but only if participation in the registry is mandated.

CONCLUSION

The barrier of aversion to change has not been overcome and probably won't be. But perhaps if the use of the registry could be introduced to state pediatric physicians' groups, and nursing associations, and identified by these groups as a successful tool in bolstering childhood immunizations, the local practices would be more willing to "buy-in" to the project. If that was done, and the registry was mandated, then yes, this strategy could serve as a national model for increasing provider participation.

APPENDIX A – Phase I Survey Questions

The following factors have been identified as operational, programmatic, or business barriers to provider participation. For each factor, please note the following:

I. To what degree is or was this barrier a significant factor at your registry?

- *Highly significant*
- *Somewhat significant*
- *Not very significant*
- *Not encountered*

II. If this barrier has been encountered, have you successfully overcome it?

1. *Cost and/or time of training staff to participate in registry.*
2. *Cost and/or time of entering and retrieving data from registry.*
3. *Cost and/or time of dual entry.*
4. *Cost and/or time of additional reporting requirements.*
5. *Providers are just too busy to consider one more new procedure.*
6. *Perception that immunization registries only serve the needs of public health, not the provider.*
7. *Provider has had bad experiences with immunization registries or other public health systems in the past.*
8. *Provider does not see any value to their practice of the new information they can get from the registry.*
9. *Belief that immunization rates are already high enough in their practice.*
10. *Concerns about privacy, confidentiality and HIPAA.*
11. *Resistance to change in their office environment.*
12. *Perceived difficulty in integrating new procedures into their existing business practice and work flow.*
13. *There is not enough data in the registry to make it useful.*
14. *There is a lack of features and reports that meet the providers' needs.*
15. *There are not enough references from peers.*
16. *Providers do not see any revenue opportunities.*

The following factors have been identified as technical barriers to provider participation. For each factor, please note the following:

I. To what degree is or was this barrier a significant factor at your registry?

- *Highly significant*
- *Somewhat significant*
- *Not very significant*
- *Not encountered*

II. If this barrier has been encountered, have you successfully overcome it?

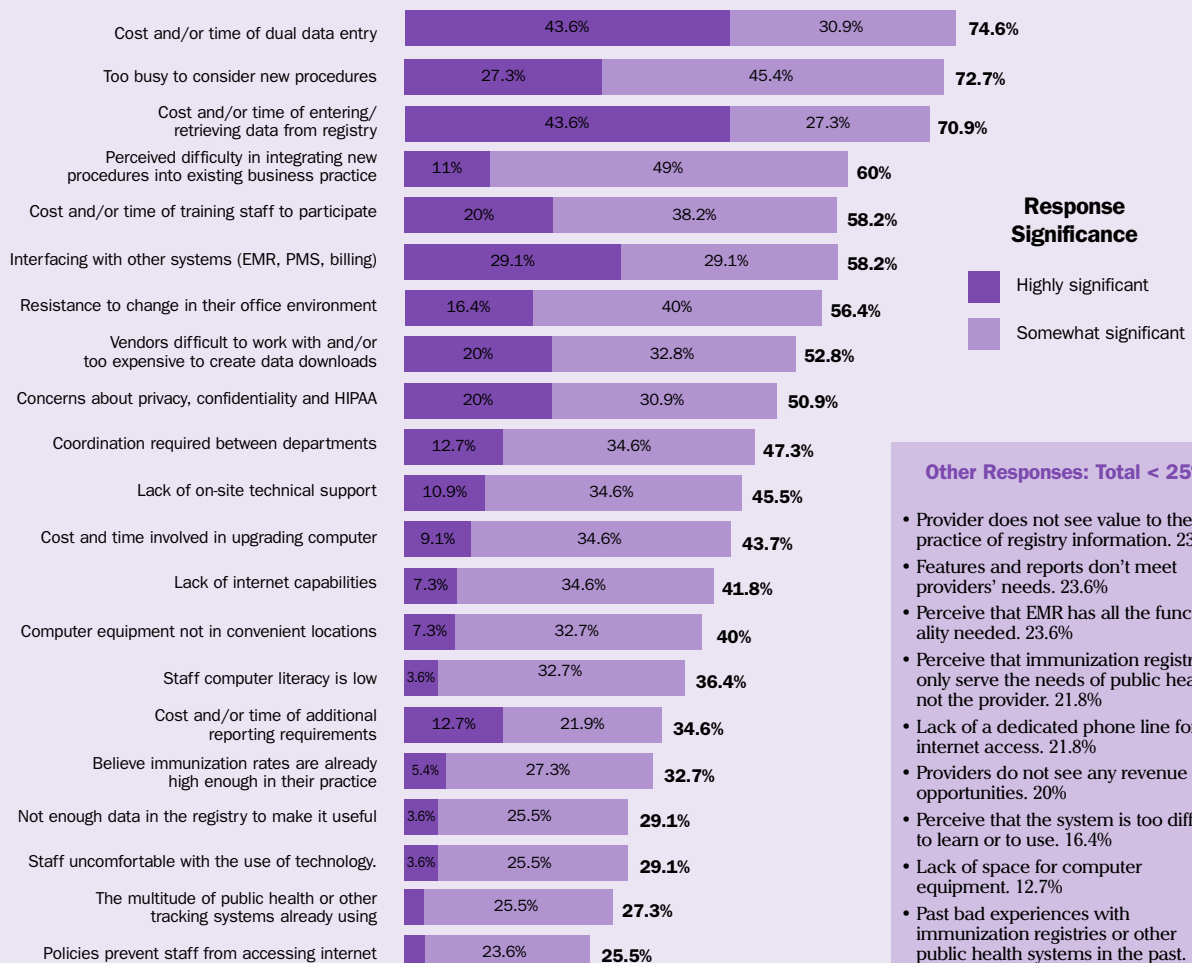
1. *The multitude of public health or other tracking systems they are being asked to use.*
2. *Cost and time involved in purchasing and/or upgrading computer equipment and software.*
3. *Lack of space for additional computer equipment.*
4. *Lack of computer equipment in convenient locations.*
5. *Lack of Internet capabilities.*
6. *Policies that prevent staff from accessing Internet.*
7. *Lack of a dedicated phone line for Internet access; phone used for other services.*
8. *Coordination required between clinical, administration and information systems departments.*
9. *Vendors for such systems as EMR (electronic medical record) and billing systems are sometimes difficult to work with or too expensive to create data downloads.*
10. *Interfacing with other systems (EMR, PMS, billing).*
11. *Perception that the EMR system has all the functionality they need.*
12. *Concern that registries infringe on their billing system.*
13. *Lack of on-site technical support.*
14. *Perception that the system is too difficult to learn or to use.*
15. *Staff computer literacy is low.*
16. *Staff fear or are uncomfortable with the use of technology.*

APPENDIX B

Chart: Barriers to Provider Participation

Significance Rating of All Barriers

Percent of Respondents Rating Each Barrier

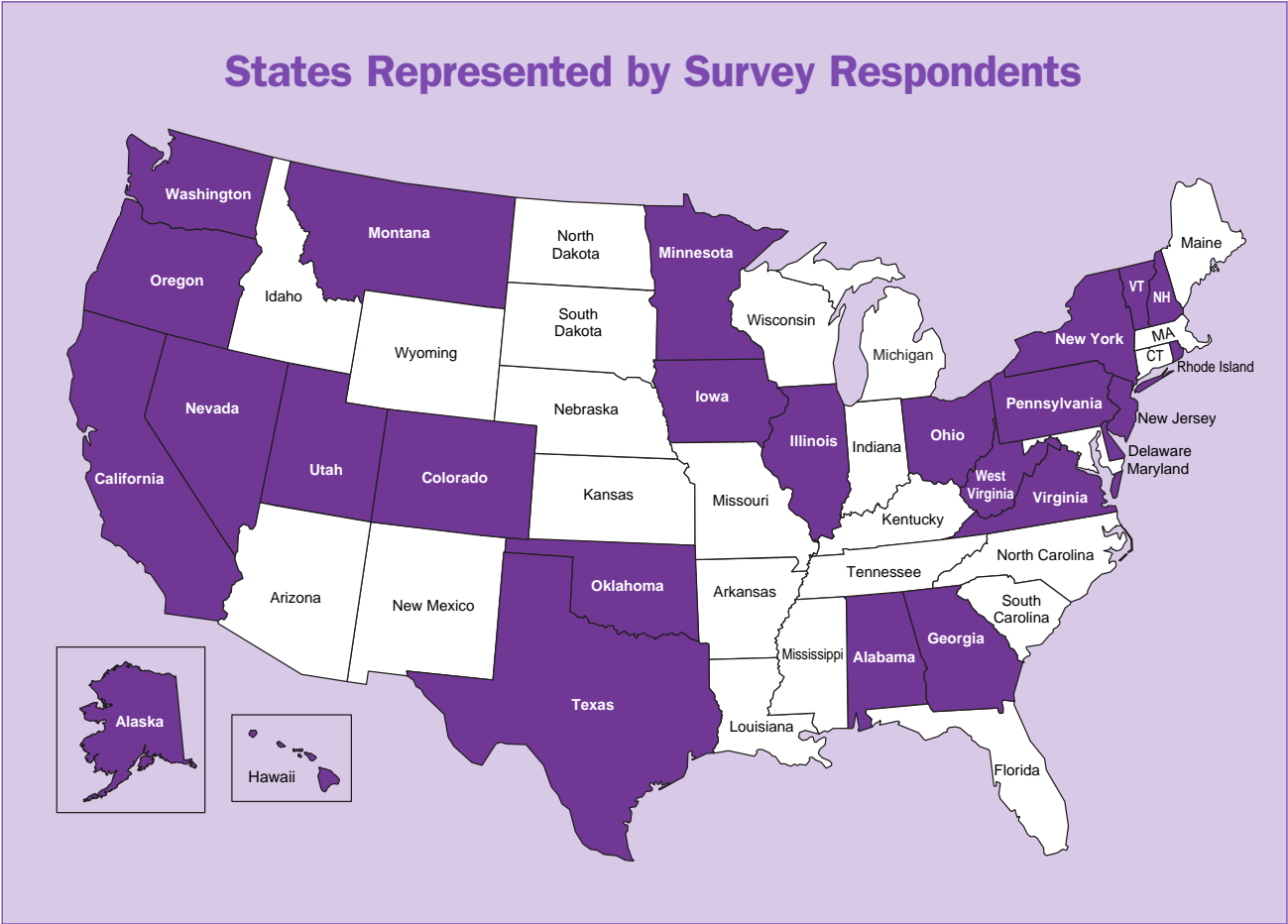


Other Responses: Total < 25%

- Provider does not see value to their practice of registry information. 23.6%
- Features and reports don't meet providers' needs. 23.6%
- Perceive that EMR has all the functionality needed. 23.6%
- Perceive that immunization registries only serve the needs of public health, not the provider. 21.8%
- Lack of a dedicated phone line for internet access. 21.8%
- Providers do not see any revenue opportunities. 20%
- Perceive that the system is too difficult to learn or to use. 16.4%
- Lack of space for computer equipment. 12.7%
- Past bad experiences with immunization registries or other public health systems in the past. 10.9%
- Concern that registries infringe on their billing system. 9.1%
- There are not enough references from peers. 9.1%

APPENDIX C

Map: Geographic Location of Respondents



ORGANIZATIONS

Alameda County Public Health Department (CA)
Arizona State Department of Health Services,
Immunization Program
California Department of Health Services,
Immunization Branch
CHILD Profile Immunization Registry (WA)
Colorado Immunization Information System
EDS – (Wisconsin Immunization Registry)
Hawaii Department of Health, Immunization Branch
Idaho Immunization Program
Illinois Department of Public Health
ImmuLink Immunization Registry, Hennepin County
(MN)
Indiana State Department of Health
Kansas Department of Health
Michigan Department of Community Health
Michigan Public Health Institute
Minnesota Department of Health
Missouri Department of Health
New Jersey Department of Health
New York City, Citywide Immunization Registry
New York State Department of Health
North Carolina Immunization Branch
Oregon Department of Health Services
San Diego Regional Immunization Registry
Santa Clara County Public Health Department
Texas Children's Hospital
Vermont Immunization Registry

AFFILIATES

Community Health Information Collaborative (MN)
Marshfield Clinic (WI)
Public Health Informatics Institute (GA)

BUSINESSES

Bay Systems, Inc. (FL)
QS Technologies (SC)
Software Partners LLC (CA)

AIRA SPONSORS



*American Immunization Registry Association (AIRA)
C/o Citywide Immunization Registry
NYC Department of Health and Mental Hygiene
125 Worth Street, CN 64R
New York, NY 10013*

212-676-2325
www.immregistries.org