

**Strategic Plan 2010 for the
Minnesota Immunization Information Connection**



**A statewide network of regional
immunization information services**

October 2005

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Unless otherwise indicated, all baseline measures are as of July 1, 2005.

Vision

The vision for immunization information systems in Minnesota was first articulated in 1993.

To establish an effective, comprehensive & sustainable immunization information system in Minnesota that:

- *rapidly and securely shares accurate and complete information among providers;*
- *protects the privacy of individuals;*
- *recognizes the partnership roles of patients, providers, health plans, schools, and public health;*
- *uses appropriate levels of technology.*

Overall Goals

1. To increase and sustain high immunization coverage rates by consolidating immunization histories and providing clinic- and population-based assessment reports.
2. To improve immunization practice by providing expert decision support and identifying common practice issues.
3. To improve vaccine accountability by reducing unnecessary or inappropriate doses, supporting accurate vaccine inventory practices, and supporting MnVFC vaccine ordering and annual reporting.

Priority Populations

1. The priority target population for MIIC is children in need of the primary series of vaccinations; that is, ages 0 through 4 years of age.
2. The secondary priority population is children entering kindergarten and adolescents entering 7th grade; that is, those in need of booster shots.
3. The third priority population is adults ≥ 65 years, for Td, influenza, and PPV-23 vaccines.
4. The fourth priority target population and vaccine is HBV for high-risk adults ≥ 16 years of age.
5. The final group is health care workers for HBV, MMR, and influenza, as well as for vaccines related to emergency preparedness and response.

Proposed Strategies

The proposed strategies listed after most of the objectives were identified by participants at the October 2005 MIIC Summit. The participants represented health care, public health, health plans, schools and others from around the state, all convened to turn the MIIC Strategic Plan into a Partner Work Plan.

Unless otherwise indicated, all baseline measures are as of July 1, 2005.

1. Provider Participation

Principle

The effectiveness of MIIC in reducing vaccine preventable diseases through elevated and sustained immunization coverage rates can only be achieved through near universal participation of Minnesota immunization providers. Conversely, providers can rely on MIIC to help improve their coverage rates and improve the quality of immunization practice.

Objective 1.1

By 12/31/2005, 100% of public immunization providers will be submitting immunization data to MIIC.

Evaluation: Number of public immunization providers (defined as agencies/organizations that give immunizations and are governed by an elected or appointed publicly-accountable body) reporting as a percentage of the 94 public providers.

Baseline: 98% participating.

Proposed strategies:

- Officially define what entities are considered public. Clarify allowable access for public staff and train accordingly.
- Identify funding so that schools can enter historical data into MIIC. (Note: This would currently require parental consent for each student.)
- Engage the Department of Education.
- Revise the federal FERPA law to enable school sharing of immunization data with MIIC without parental consent.

Objective 1.2

By 12/31/2007, at least 85% of private immunization providers will be submitting immunization data to MIIC.

Objective 1.2.1

By 12/31/2010, at least 95% of private immunization providers will be submitting immunization data to MIIC.

Evaluation: The number of private immunization providers that have reported in the past 3 months as a percentage of all immunization providers, based on MDH's MnVFC provider list and other sources.

Baseline: 61%

Proposed strategies:

- Better convey the cost offsets of participating in MIIC, focusing on clinic managers as the audience.
- Better convey the time offsets of MIIC, focusing on nursing managers.
- Obtain a grant to hire college students to enter legacy data into MIIC.
- Support clinics in setting up their workflow for "just in time" data entry.
- Identify ways for smaller practices to obtain computers and internet access at nursing stations.
- Set standards for minimum participation in MIIC.
- Contract with other public and private entities with standards.
- Revisit funding and data responsibility.
- Address the frequent disconnect between managers/administration, technology, and clinical staff.
- Use public education through the media as a way to increase provider participation. Create a demand.
- Provide staff education on how to get the most out of MIIC, especially in sites not using it fully.
- Publicize the list of participating providers on MIIC and the MDH MIIC website.

Unless otherwise indicated, all baseline measures are as of July 1, 2005.

- Create a "Gold Card MIIC Member" program.

Objective 1.3

By 12/31/2007, at least 80% of Minnesota's children 0 through 5 years of age will have at least 2 immunizations recorded in MIIC.

Objective 1.3.1

By 21/31/2010, at least 95% of Minnesota's children 0 through 5 years of age will have at least 2 immunizations recorded in MIIC.

Evaluation: The number of Minnesota resident children 0 through 5 years of age with ≥ 2 shots as a percentage of all resident children, based on birth records.

Baseline: 53%

Proposed strategies:

- Get access to the immunization registries of our border states.
- Target child care providers and Head Start, community action programs, and ECFE.
- Define which, if any, of these agencies can enter historical information.
- Get MIIC information included in DHS mailing to these agencies.

Objective 1.4

By 12/31/2007, at least 95% of non-historical (current) immunization data will be submitted data within 30 days of the shots being given.

4.1 Follow-up will occur with any organization that has not submitted in more than 3 months.

Evaluation: Quarterly assessments of the percentage of non-historical shots within 14 days, 30 days, 45 days, 60 days, 90 days and more than 90 days.

Baseline on non-historical shots given between May 8 and August 8, 2005:

Days	No. of records	% of Records
0-14	6362	73%
15-30	1354	16%
31-45	521	6%
46-60	308	4%
61-90	172	2%
>90	1	0%
Total	8718	100%

} 89%

Providers submitting through direct data entry average 96% within 30 days, and those submitting through batch loads average 76%.

Proposed strategies:

- Submitting batch data once a month is not frequently enough.
- Do a study of extra/ unnecessary shots and determine if clinics that report less often have more of these.
- Provide timeliness and other reports to providers.
- Enforce the timeliness policy in the MIIC user agreement.
- Use competition as a way to encourage improved timeliness. i.e. a list of query results of timeliness in which the names of the other clinics are hidden (Clinic A, Clinic B, etc) except for the name of the clinic receiving the query. This way they see how they stack up against the competition, but don't violate the privacy of the other clinics.

Unless otherwise indicated, all baseline measures are as of July 1, 2005.

Objective 1.5

By 12/31/2007, at least 50% of hospitals will be enrolled in MIIC, and used by any combination of nursery, emergency department, pediatric or other units, and/or employee health.

Evaluation: The percentage of hospitals enrolled based on the list of hospitals provided by MHHP.

Objective 1.6

By 12/31/2006, MIIC users will have access to data from the immunization information systems (IIS's) of border states, either directly or through MIIC in either batch or real time exchanges.

Evaluation: The routine exchange of immunization data between the Dakotas, Iowa and Wisconsin, on either a batch or real-time basis.

Baseline: No routine exchange occurring.

Proposed strategies:

- Get access to the immunization registries of our border states.

Objective 1.7

By 12/31/2007, the number of long term care (LTC) facilities using MIIC will increase to at least 16, or 4% of total LTC sites.

Evaluation: A semi-annual report of user organizations will measure growth over time in the number of LTC facilities using MIIC. The denominator for LTC sites is determined by the MDH Provider and Facility Compliance Division.

Baseline: Eight LTC facilities enrolled, representing 2% of total sites.

Proposed strategies:

- Inform directors and staff on how MIIC can save time and help meet CMS requirements.
- Include assisted living and adult foster care.
- Promote looking up histories during flu shot clinics.
- Occupational health marketing tool.
- Try to get MIIC information into licensing information they receive from DHS.

Objective 1.8 (proposed at the October 2005 MIIC Summit)

By 12/31/2007, increase the number of public and private elementary and secondary schools using MIIC to 100%

Functionality/Enhancement Requirements

1. Real-time HL7 query/exchange capability with the Wisconsin Immunization Registry and other IISs.

Policy Requirements

1. Legislative or legal authorization to exchange immunization data with other states through IISs.
2. Engaging the Minnesota Chapters of the AAP and AAFP, as well as MMA, MNA, SNOM, and NAPNAP, to assist in recruiting the final non-participating clinic sites.

Unless otherwise indicated, all baseline measures are as of July 1, 2005.

2. Intervention

Principle

MIIC data will be acted upon to make consistent improvements in immunization coverage levels and in the quality of immunization practice.

Objective 2.1

By 4/1/2006, a pan-regional/statewide protocol will be developed for assessing immunization coverage in each region, identifying target populations and vaccines for intervention to raise both targeted and overall coverage rates.

Evaluation: A clear protocol will exist to guide regional assessment and intervention strategies.

Baseline: No statewide protocol exists at this time

Proposed strategies:

- Use CASA methodology to measure saturation and coverage (a new version of the CASA application is being released that includes assessment capabilities for children and adults). Clarify what percentage of a clinic or geographic population has to be in MIIC to get a valid coverage measurement.
- During IPI visits, highlight the CASA manual that is available and the CASA extract feature in MIIC.
- Ensure that immunization data collected in disease investigations that was not in MIIC is subsequently entered.
- Close the "data gap" in MIIC by obtaining data from large systems; e.g., working with schools to obtain consent for release of immunization information.
- Improve collection of race/ethnicity data to identify and monitor disparities.
- Be able to analyze MIIC data by zip codes, insured and uninsured.
- Monitor MIIC's statewide coverage results against the National Immunization Survey results.
- Ensure coverage assessments deal appropriately with vaccine groups like Hib, varicella, and hepatitis B, for which series completion varies by product used and patient age.
- Factor history of chicken pox and other immunities into series completion calculations and coverage assessments.

Objective 2.2

By 4/1/2006, a statewide strategy will be developed for sending notices to children who are incomplete for 4:3:1:3:3:1.

Evaluation: A reduction in the number and percent of children 20-24 months of age incomplete for 4:3:1:3:3:1, as a percentage of all records of children 20-24 months of age.

Baseline: __ and __%.

Proposed strategies:

- Create more flexibility in MIIC to define parameters for children to receive notices; e.g., SEMIIC sends early recall as "reminders;" CHIC customizes reminders from CASA.
- Enhance the MIIC function of sending notices based on the overdue date versus the due date. Make either option selectable at the user level.

Objective 2.3

The Improbable Vaccinations report will be sent to each provider at least semi-annually.

Evaluation: A reduction in improbable vaccinations as a proportion of total immunization events in MIIC, as measured quarterly.

Baseline: 0.735% of total records (all ages).

Proposed strategies:

- Continue to send information to regional registries to pass on to appropriate providers.

Unless otherwise indicated, all baseline measures are as of July 1, 2005.

- Use plain English for different vaccine antigens to decrease errors in data entry on type of vaccine.
- Enable providers to generate their own improbable vaccinations report (this is already on the enhancement “wish list” for MDH).
- Enable public health agencies to generate the improbable vaccination report for a clinic in their jurisdiction as part of Immunization Practice Improvement (IPI) visits. Incorporate MIIC into IPI visits more.
- Explore ways to more completely automate this process.

Objective 2.4

By 5/1/2007, every health plan will be using MIIC data as a supplemental data source for the HEDIS childhood immunization measurement.

Objective 2.4.1

By 12/31/2010, every health plan will be using MIIC data as the primary data source for the childhood, adolescent and adult HEDIS immunization measurement.

Evaluation: The number of health plans using MIIC for the childhood, adolescent, and adult HEDIS measurement.

Baseline: Four health plans for the childhood measurement; none for adolescent or adult.

Proposed strategies:

- Following HEDIS chart audits, enter any data into MIIC that was found in the chart but not in MIIC.
- Include an indicator in the MN Community Measurement report card (www.mnhealthcare.org) on clinics that do immunization reminders or recall.

Objective 2.5 (*proposed at the October 2005 MIIC Summit*)

Improve coordination of outreach activities for identified under-immunized children.

Proposed strategies:

- Determine effective ways to have public and private providers coordinate outreach to under-immunized individuals through mechanisms such as the IAP Advisory Committees (from the mid-1990's) or existing collaboratives focusing on immunization improvement. The convener will depend upon local organizational dynamics. Engage key partners (public health, private clinics, school nurses, hospitals, health plans, etc.).

Functionality/Enhancement Requirements

1. Develop scripts to generate the reports and measurements defined in the Evaluation/Metrics section above.

Policy Requirements

1. A statewide protocol for assessing immunization coverage in each region, identifying target populations and vaccines for intervention to raise both targeted and overall coverage rates.

Unless otherwise indicated, all baseline measures are as of July 1, 2005.

3. Integration/Data Exchange

Principle

Maximizing use of MIIC data to improve the quality and continuity of care and the effectiveness of public health decision-making requires ongoing efforts to exchange and integrate data in appropriate and lawful ways.

Objective 3.1

MIIC will be capable of conducting real-time, 2-way HL7 exchange with EMRs, based on national standards, particularly PHIN-MS and HL7.

- 1.1 By 12/31/2006, MIIC will be routinely exchanging data in real time (1- or 2-way) with at least one EMR.
- 1.2 By 12/31/2007, MIIC will be routinely exchanging data in real time (1- or 2-way) with at least one additional EMR vendor.

Evaluation: The number of EMRs with which MIIC is exchanging data in real time, either 1- or 2-way.
Baseline: The MIIC application has the capacity but it has not been deployed.

Proposed strategies:

- Assess which EMR products are being used by whom across the state. Identify which vendor to work with next based on market penetration and/or willingness.
- Work with Stratis Health and the e-Health Advisory Committee/staff on the above bullet.
- Include MIIC data in the DOQ-IT program from Stratis Health.
- Developing the business case for EMR integration with MIIC, targeted to clinic managers and physicians.
- CCR knowledge
- Identify more physician champions who can convey the clinical and cost saving benefits of participating in MIIC.
- Present at academy and MMA meetings on clinical and cost benefits.
- Explore ways to have MIIC be part of the MMA's quality improvement initiatives.
- "Create a buzz" among provider groups around EMR-MIIC integration possibilities, including using MIIC as the base for expanding to other data exchange/integration initiatives.

Objective 3.2

By 12/31/2007, an agreement will be reached with the NEDSS program to collaborate on several projects, such as creating a single, shared authentication portal for providers, creating a master patient index for integrating public health information systems, and linking immunization history data with VPD disease surveillance and case management information systems. This work will be done within the larger context and constraints of MN-PHIN.

Evaluation: An MOU will be in place with the NEDSS project that is consistent with the direction of MN-PHIN, and work is begun on defining the requirements of key elements of the agreement.

Proposed strategies:

- Integrate public health information systems so that the data is more usable to local public health.
- Identify and resolve any legal barriers to such integration and data sharing.
- We need state participation and leadership to bring standards groups together.
- Investigate the need for—and possible approaches to developing—a Master Patient Index as a way to link records from separate information systems.

Objective 3.3

By 7/31/2007, a child health information system integration plan will be jointly crafted among the following programs: metabolic screening, newborn hearing and vision screening, lead,

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birth defects, and MIIC. The plan will address technical architecture, privacy and confidentiality, security, master client index, external user access, consolidated reports and use of GIS, and funding. This work will be done within the larger context and constraints of MN-PHIN.

Evaluation: The child health information system integration plan will be agreed to by all parties, and work begun on defining the requirements of key elements of the plan.

Proposed strategies:

- Pull Childhood Systems Leadership together to address issues of legal constraints, harmonizing privacy and security policies and procedures, and assigning staff to work on inter-operability issues.
- Investigate the need for—and possible approaches to developing—a Master Patient Index as a way to link records from separate information systems.
- Identify and resolve any legal barriers to integration and data sharing.

Functionality/Enhancement Requirements

1. Business requirements and technical specifications for two-way, real time data exchange with the EMR, using HL7 and PHIN-MS.

Policy Requirements

1. A written agreement with the NEDSS program as part of MN-PHIN that includes a long-range vision, measurable goals and objectives, and assigned staffing and finances.
2. A written agreement with the Family Health Division on integrating child health information systems as part of MN-PHIN that includes long-range vision, technical architecture, measurable goals and objectives, and assigned staffing and finances.

Unless otherwise indicated, all baseline measures are as of July 1, 2005.

4. Data Quality

Principle

Because MIIC is routinely used to make medical decisions, continual improvements to data completeness, accuracy, and reporting timeliness are vital.

Objective 4.1

On an ongoing basis, improbable vaccinations will not exceed 1% of the total immunization events submitted to MIIC in that quarter.

Evaluation: A reduction in the number and percent of improbable vaccinations as a percent of the total immunization events in MIIC.

Baseline: 4,782 improbable vaccinations, or 0.735% of total immunization events.

Proposed strategies:

- Create a section in the Got Your Shots? newsletter ("Are your charge tickets up to date?") that highlight new vaccine products and CPT codes.
- Provide basic training for coding/billing/medical records staff on vaccine groups, CPT codes and age parameters. Create a cheat sheet of vaccines for coders.
- Create a tool for help clinics identify the best/most cost-effective way for them to check MIIC before giving shots.
- Generate clinic-specific graphs showing vaccine error rates compared to the MIIC average.

Objective 4.2

The results of the monthly analysis that finds potential duplicate records will not exceed 0.1% of total records. These records will be resolved (matched and merged) within 1 week of the analysis.

Evaluation: Monthly analysis will not find more than 0.1% of records to be duplicates. All will be resolved within one week.

Baseline: 0.0003% of total records.

Proposed strategies:

- Users need to be able to run their own improbable vaccination report at any time.
- The MIIC DataMart, when built, needs to have an easy and flexible user interface for creating custom reports.

Objective 4.3

(Repeat of Provider Participation Objective #4).

By 12/31/2007, at least 95% of non-historical (current) immunization data will be submitted data within 30 days of the shots being given.

3.1 Follow-up will occur with any organization that has not submitted in more than 3 months.

Evaluation: Quarterly assessments of the percentage of non-historical shots within 14 days, 30 days, 45 days, 60 days, 90 days and more than 90 days.

Baseline on non-historical shots given between May 8 and August 8, 2005:

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Providers submitting through direct data entry average 96% within 30 days, and those submitting through batch loads average 76%.

Proposed strategies:

- Create a stronger/more visible warning on the duplicate client screen.
- Emphasize this issue more in training, highlighting the negative consequences to users.

Objective 4.4

(Repeat of Intervention Objective #3)

The Improbable Vaccinations report will be sent to each provider at least semi-annually.

- 4.1 Providers are asked to: (1) verify that the data reported is accurate, and correct it in MIIC if it is not; and (2) correct any consistent patterns of inappropriate immunization practices.

Evaluation: A reduction in improbable vaccinations as a proportion of total immunization events in MIIC, as measured quarterly.

Baseline: 0.735% of total records (all ages).

Proposed strategies:

- Emphasize the clinical need timely data submission at the enrollment meetings, when clinic, administration and IT staff are all present.
- Continue to send information to regional registries to pass on to appropriate providers.
- Use plain English for different vaccine antigens to decrease errors in data entry on type of vaccine.
- Enable providers to generate their own improbable vaccinations report (this is already on the enhancement "wish list" for MDH).
- Enable public health agencies to generate the improbable vaccination report for a clinic in their jurisdiction as part of Immunization Practice Improvement (IPI) visits. Incorporate MIIC into IPI visits more.
- Explore ways to more completely automate this process.

Objective 4.5

Newly enrolled clinics electing to send batch data from billing will either: (1) be audited against their medical records prior to loading their immunization data; or (2) have their data continually monitored for completeness and accuracy through reminder-recall or other activities which highlight potentially missing or incorrect data.

Evaluation: Chart audits must yield a score of at least 90% accuracy and 85% completeness before uploading their billing data to MIIC. Ongoing uses of MIIC will highlight potentially missing or incorrect data, which will be addressed by the data source.

Functionality/Enhancement Requirements

1. New improbable vaccinations rules added to the standard report as new vaccines are introduced.

Policy Requirements

None

Unless otherwise indicated, all baseline measures are as of July 1, 2005.