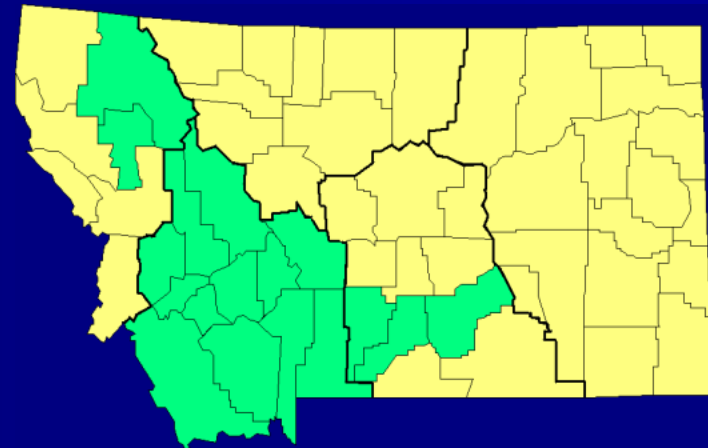


Montana Sentinel Site

Quality Assurance Project – 2007



Contact Information:

- Bekki K Wehner
 - State of Montana
 - IIS Coordinator
- (406) 444-9539
- bwehner@mt.gov
- Liz Lelacheur
 - State of Montana
 - Immunization Program
- (406) 444-0277
- elacheur@mt.gov

History

- Montana's Statewide Immunization Information System (IIS) has been in place for about 6 years.
- Immunization data is entered manually by county health departments.
- Montana is an "opt-in" state. Consent must be given before a record can be included.
- Montana's Sentinel Site consists of 17 contiguous counties with approximately 38,000 children ages 6 and under.

Project Background

- For this project, 5 of the largest counties within the sentinel site were targeted.
- Data was collected from each county health department and 3 large private clinics in their same county.
- A total of 19 clinics was assessed.*
- The project was divided into two parts. Part 1 checked for IIS record completeness and part 2 assessed the accuracy of the IIS record.

*One clinic was excluded due to limited IIS participation.

Project Background

Part 1: IIS Record Completeness

- Immunization records for children age 24-35 months, as of 04/01/2007, were exported from the IIS.
- Comprehensive Clinic Assessment Software Application (CoCASA) was used to check for missing and invalid doses.
- Missing and invalid doses were determined by assessing for 4:3:1:3:3:1 coverage.
- If the child was missing any of these doses, they would appear on the report.

4:3:1:3:3:1 = 4 doses of Diphtheria, Tetanus, and acellular Pertussis, 3 doses of polio, 1 dose of Measles, Mumps and Rubella, 3 doses of Haemophilus influenzae type b (Hib) vaccine, 3 doses of Hepatitis B vaccine, and 1 dose of Varicella

Project Background

Part 1: IIS Record Completeness

- Reports of missing and invalid doses were used to determine which patient charts to pull.
- Charts of the patients with incomplete IIS records were pulled at the primary immunization providers office and reviewed.
- The reviewer was asked to document if the chart did contain additional information that IIS did not.

Part 1: Completeness Results by County

	IIS Records Extracted	Charts with additional information	% Charts with additional information
A	984	396	40%
B	742	189	25%
C	473	238	50%
D	366	153	42%
E	2293	176	8%
	4858	1152	23%

Part 1:

IIS records up-to-date for as of 04/01/2007

	Records Extracted From IIS	Records with Missing or Invalid Doses	Percent of IIS Records Up-to-Date
A	984	726	26.2%
B	742	499	32.7%
C	473	284	39.9%
D	366	242	33.8%
E	2293	1196	47.8%
	4858	2947	39.3%

Part 1: Completeness Data Cleaning Methods

- Coverage levels were assessed to determine how missing or invalid doses would affect IIS data.
- Records were edited and updated with the chart data.
- Client records were also de-duplicated.
- In October of 2007, the sample coverage rates for the 4:3:1:3:3:1 were 54.5%, nearing the National Immunization Survey (NIS) result of 65.6% +/- 6.6%.

Part 1: Chart Review

IIS records up-to-date as of 10/25/2007

	Records Extracted From IIS	Records with Missing or Invalid Doses	Percent of IIS Records Up-to-Date
A	748	465	37.8%
B	714	340	52.3%
C	416	96	76.9%
D	380	124	67.3%
E	2261	1030	54.4%
	4519	2055	54.5%*

*National Immunization Survey (NIS) Results = 65.6%+/-6.6 for 4:3:1:3:3:1 coverage

Part 2: Accuracy Check

- During state VFC/AFIX site visits, staff pulled up to 50 records to check accuracy.
- Staff compared IIS data to chart data.
- This check was only for accuracy of IIS vaccine type and administration dates, not for missing data.

Accuracy Check

	Record Sample	Charts with different info	Percentage
A	96	12	12.5%
B	150	4	2.6%
C	145	50	34.4%
D	116	20	17.2%
E	125	3	2.4%
	632	89	14%

- County Health Departments were excluded from the accuracy check results because the IIS typically is their primary database.

Limitations

- The public health departments had limited time to complete and record changes in the IIS.
- Multiple staff, state and local, was involved with data collection.
- IIS data was pulled for children with a designated "Primary Immunization Provider". Not all records have this information.

Limitations

- Data could have been improved further if we had checked with all the clinics a child had seen.
- Data was not collected on how often the IIS had more information than the patient chart.

Lessons Learned

State perspective

- Primary Immunization Provider should be a mandatory field.
- The State has begun to encourage private providers to enter their own data.
- Montana is working on standards to begin electronic data transfer to the IIS.

Lessons Learned

State perspective

- More emphasis will be placed on using the data for quality assurance rather than just simple look-up.
- Results will be used to establish training objectives for IIS.

Lessons Learned

Local Perspective

- List of invalid and missing doses helped local public health to pinpoint problems in their practices.
- Miscommunications between public and private clinics was the cause of many incomplete IIS records. Often the private practice was unsure if they should send historical shots or just doses administered.
- The process was difficult but well worth the time spent.

Conclusion

- Montana has out grown its ability to keep up with manual data entry at the local public health level. Steps will be taken to update the IIS and IIS practices to allow the use of electronic data transfer or manual data entry at the providing clinic.

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