

Expanding IIS Assessment Capabilities:

New Adolescent Report, Re-Designed Child Report

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Assistant Manager, MIIC

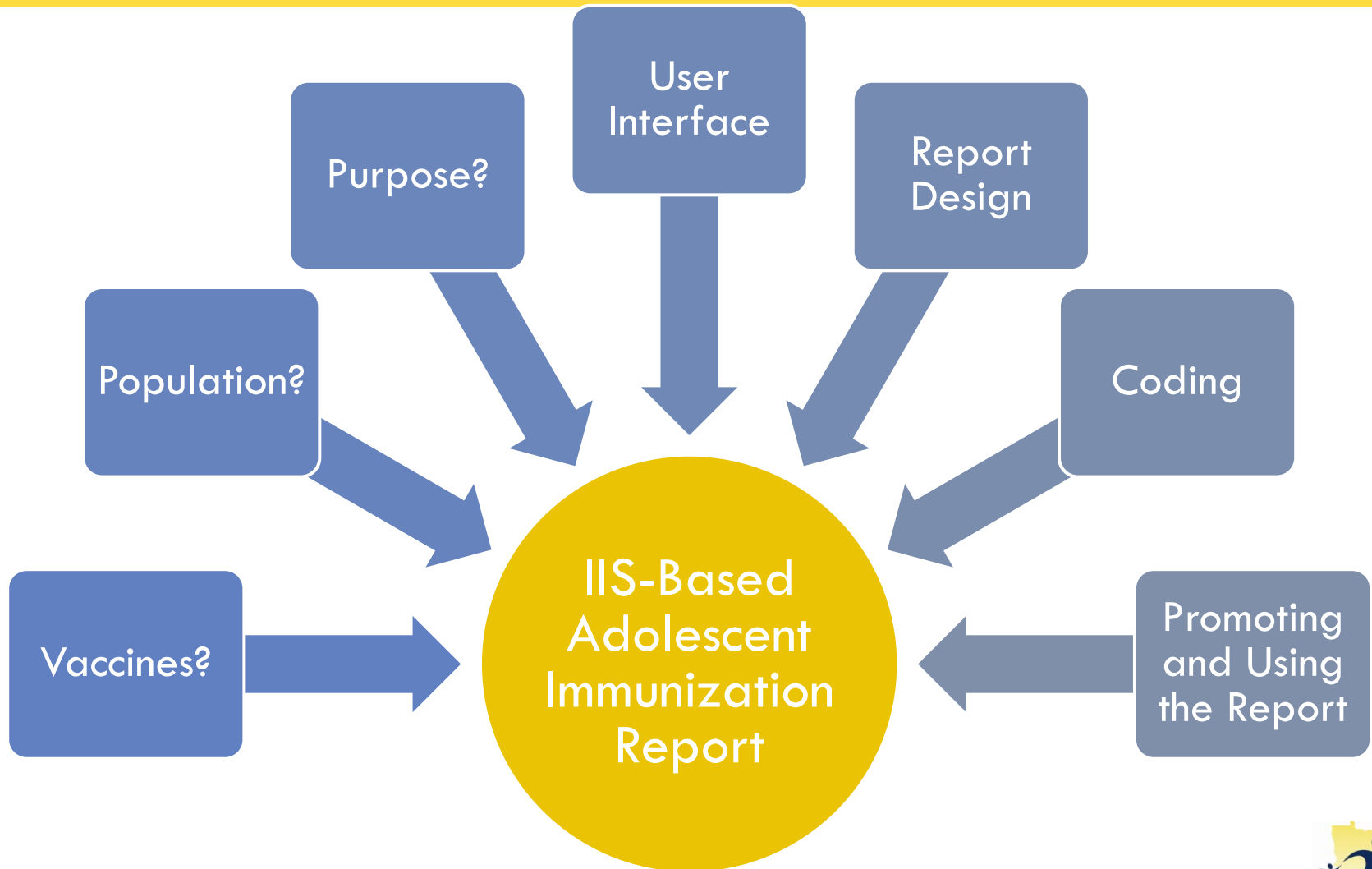


October 8, 2013

American Immunization Registry Association National Meeting

From Idea to Reality

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Topics

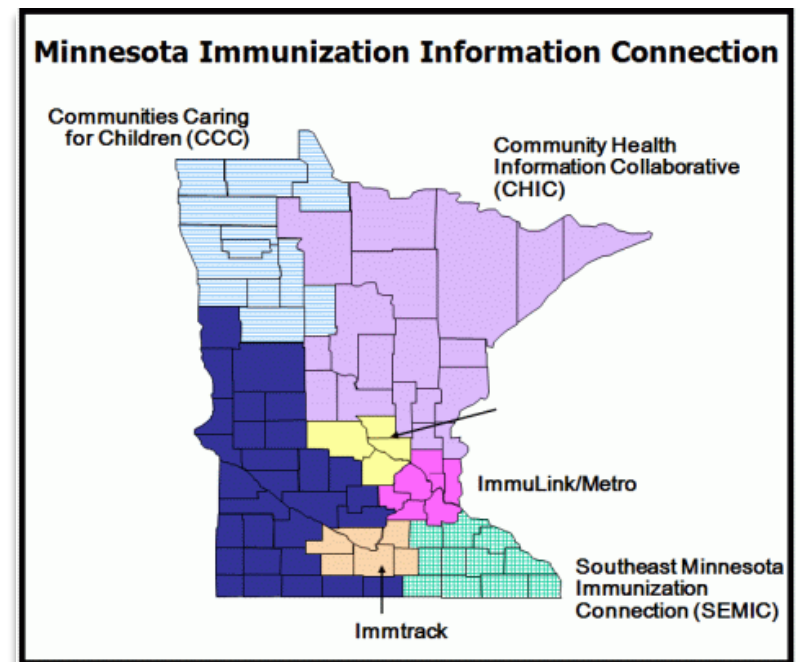
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- About MIIC
- Development Process
- Finished Product
- Lessons Learned
- What's Next

About MIIC

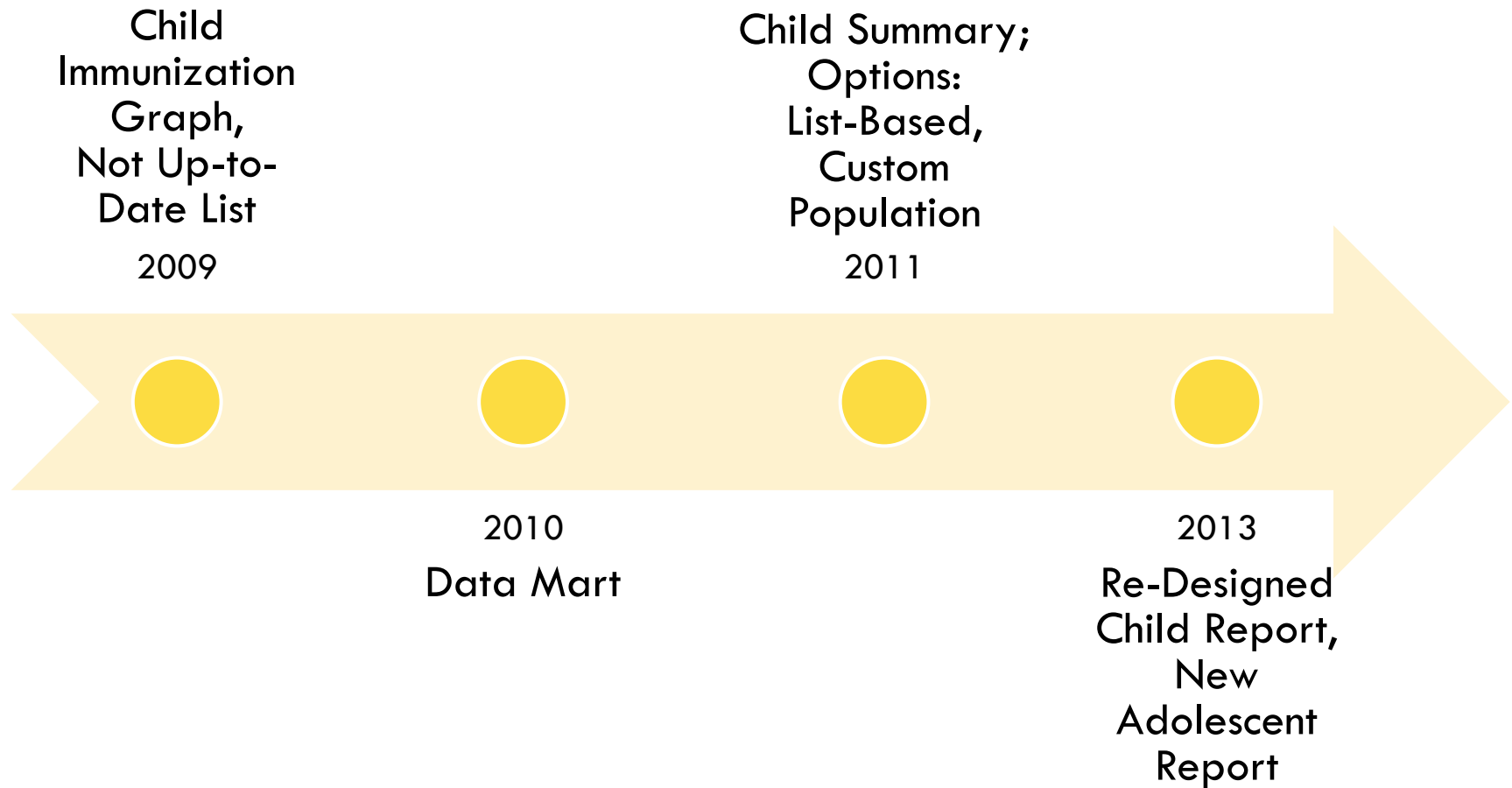
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- Statewide system operational since 2002
- 60.8 million immunizations
- 6.7 million clients across the lifespan
- 3,900 active organizations
- Over 9,400 active users
- Regional outreach and training coordinators



History of Assessment in MIIC

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Development Process

Project Team and Stakeholders

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- Project Lead
- IIS Data Quality Analyst
- Adolescent Outreach Coordinator
- AFIX Coordinator
- Epidemiologist
- Regional IIS Representatives
- Developer (vendor)

Regional IIS
Coordinators

Health Care
Providers

Immunization
Program

VFC Site Visit
Staff

MN Immunization
Program Advisory
Committee

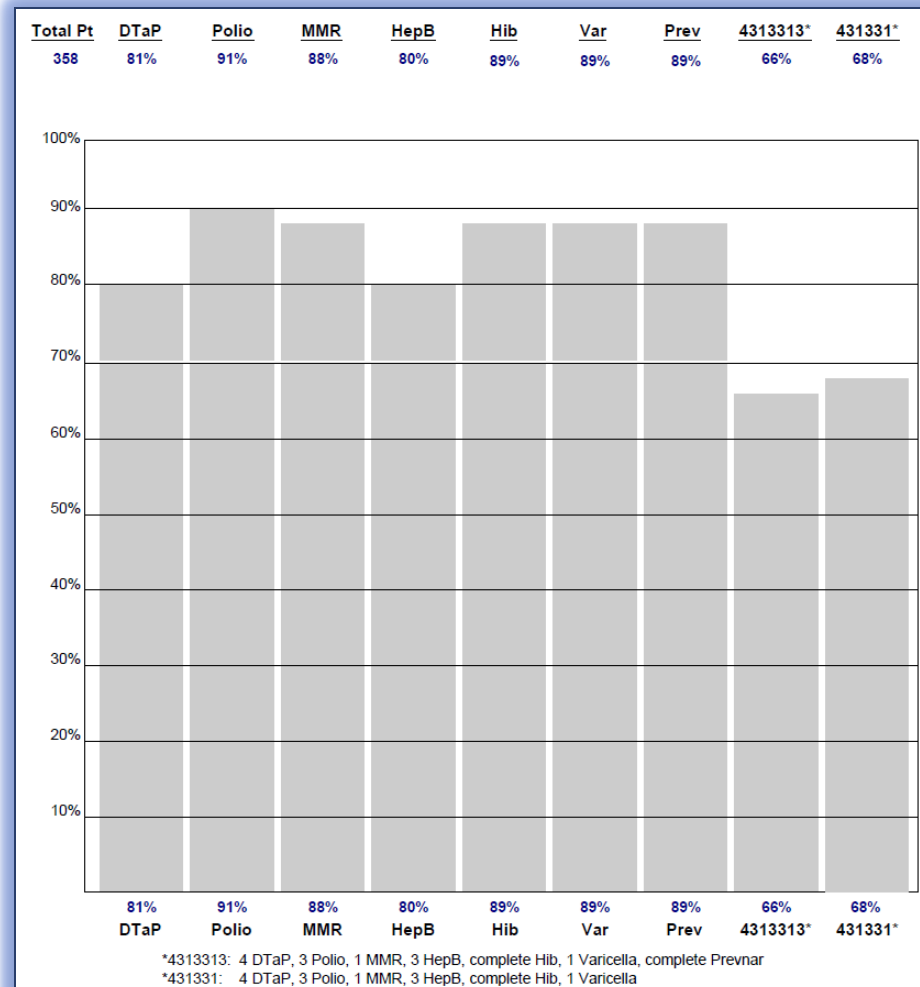
Communications
Staff

Starting Point: Child Reports in MIRC

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Up to Date at 24 Months	# of patients	% of patients assessed	
4+ DTaP	289	81%	4 or more doses of diphtheria, tetanus, and pertussis
3+ Polio	324	91%	3 or more doses of polio
1+ MMR	316	88%	1 or more doses of measles, mumps, rubella
Completed Hib	320	89%	Complete Haemophilus influenzae type b
3+ Hepatitis B	285	80%	3 or more doses of hepatitis b
1+ Varicella	317	89%	1 or more doses of varicella
Completed Pevnar	320	89%	Complete Pevnar
431331 Series	242	68%	4+ DTaP, 3+ Polio, 1+ MMR, Complete Hib, 3+ Hepatitis B, and 1+ Varicella
4313313 Series	236	66%	4+ DTaP, 3+ Polio, 1+ MMR, Complete Hib, 3+ Hepatitis B, 1+ Varicella, and Complete Pevnar

Patients Not Up to Date	# of patients	% of patients assessed	% of patients not up to date at 24 months
Not Up To Date (UTD) at 24 Months	122	34%	
Not UTD for DTaP	69	19%	57%
Not UTD for Polio	34	9%	28%
Not UTD for MMR	42	12%	34%
Not UTD for Hib	38	11%	31%
Not UTD for Hepatitis B	73	20%	60%
Not UTD for Varicella	41	11%	34%
Not UTD for Pevnar	38	11%	31%
Patients Late Up to Date	8	2%	Received full series of immunizations as of report run date but NOT by 24 months
Patients Still Overdue	114	32%	Patients still not up to date as of report run date



Other Models and References

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- CoCASA
- Other states' assessment reports
- National Immunization Survey
- Healthy People 2020
- Immunization Information System Annual Report (IISAR)
- Grant requirements
- Provider feedback reports

Key Decisions

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- Overall scope of information to display
 - Vaccines
 - Vaccine doses
 - Population: age, sex
 - Up-to-date rates by benchmark ages
 - Rate comparisons
 - Not up-to-date population
 - Missed opportunities
- Coding “up-to-date”
- Defining missed opportunities

HPV Example

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Female:

≥ 1 HPV

≥ 2 HPV

≥ 3 HPV

Series completion

Male:

≥ 1 HPV

≥ 2 HPV

≥ 3 HPV

Series completion



1st HPV

3rd HPV

Series completion

Mock-Ups

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Peaceful Meadow Clinic/C...
Report Generated 12/31/2011

≥1 Tdap
Females only
Males only

MCV4
≥1 MCV4
Females only
Males only
MCV4 booster (a)
Females only
Males only

HPV
≥1 HPV
Females only
Males only
≥3 HPV (b)
Females only
Males only
Series completion rate (c)
Females only
Males only

Childhood Catchup
≥2 MMR
≥2 varicella or disease history
≥3 hepatitis B (d)
≥4 polio
≥2 hepatitis A

Days Between HPV Doses
Doses 1-2
Doses 2-3

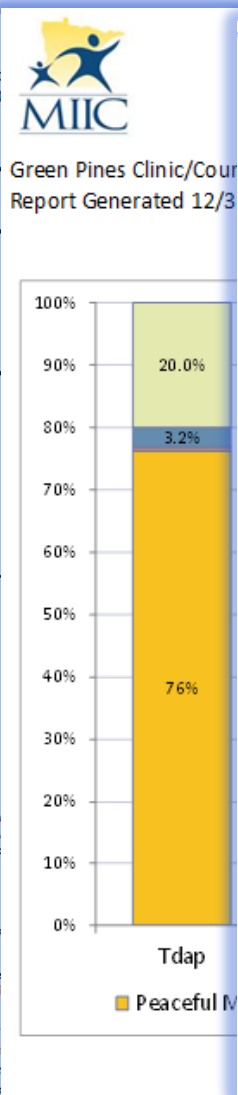
Patients Fully Up-to-Date
Assessed at the individual patient level, recent dose was given more than 4 years ago, in which case 1 dose qualifies for catchup.

Patients 1 Dose from UTD

Missed Opportunity Rate
Among visits at which 1+ vaccine was contraindicated, but was not given.

* "Medically exempt" includes those who are also includes those with history of disease.

(a) For those who received a dose of Tdap.
(b) Dose 2 is recommended 1-2 months after the first dose.
(c) Series completion rate = Among those who received a first dose of HPV vaccine, the percentage who received a second dose.
(d) 2 doses suffice if Recombivax-B was given.



Happy Valley Clinic/County, MI

Tdap
How many patients have had a dose of Tdap vaccine?
One dose of Tdap is recommended at ages 11-12, anytime later if not given at the recommended age.

Meningococcal
How many patients have had a dose of meningococcal (MCV4) vaccine?
One dose of MCV4 is recommended at ages 11-12, anytime through age 18 if not given earlier.

Meningococcal booster
How many patients who are eligible for MCV4 booster have had one?
For those who received a first dose of MCV4 at age 14, a booster dose is recommended 3 years later.

First dose HPV
How many patients have had a first dose HPV vaccine?
The first dose of HPV is recommended at ages 11-12, or anytime through age 26 if not given earlier.

Three doses HPV
How many patients have had all three doses of HPV vaccine?
The second dose is due 1-2 months after the first dose, and the third dose 6 months after the first dose. These can be given after age 26.

HPV series completion
How many of the patients who started HPV series have completed it?
Patients are considered eligible if they started the HPV series more than 6 months before the date of this report.

Missed Opportunities
A missed opportunity is a visit date on which 1+ vaccine was given, and 1+ adolescent vaccine candidate have been given (vaccine was age-indicated and contraindication was noted in MIIC), but no vaccine was given.

Your MIIC Regional Coordinator
adolescents' need for catchup on

Adolescent Vaccination Rates
Organization: Happy Valley Clinic (or County: Aitkin) (or Counties: Aitkin, Chisago, Crow Wing)
Report Generated By: Happy Valley Clinic (or Aitkin County Public Health, or MDH)
Report Generated Date: 12/31/2011
Report Type: Standard (Clients 13-17 Years) (or Custom (Clients __-__ Years)) (or Custom List)
Birth Dates: 1/1/1994 - 12/31/1998 (or fill in earliest and latest birth dates if custom list?)
Clients Included in Report: 375

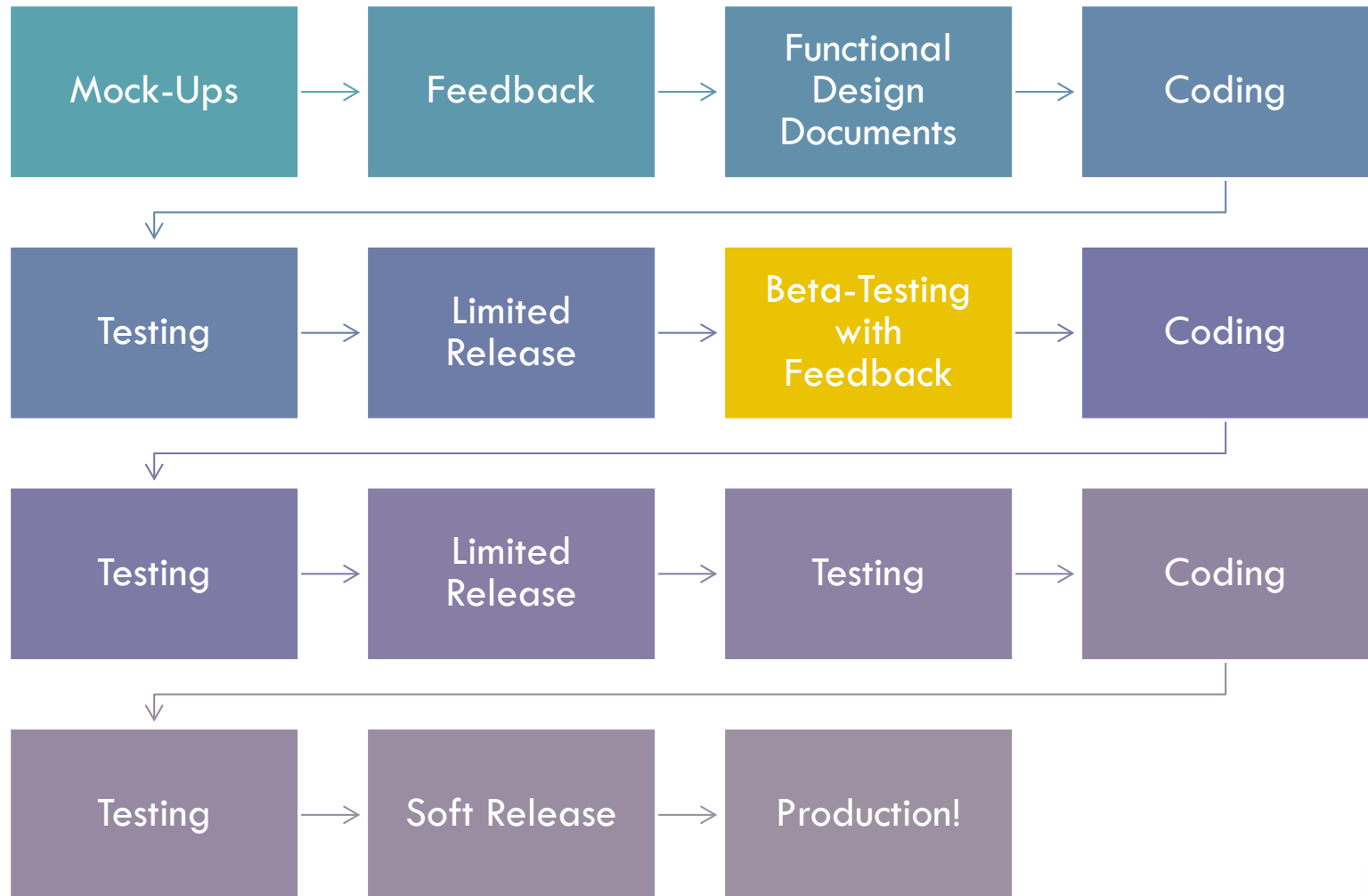
Vaccine	Happy Valley Clinic	2011 State Average	Healthy People 2020 Goal
Tdap	~78%	~85%	~85%
First Dose MCV4	~52%	~48%	~48%
MCV4 Booster	~38%	~32%	~32%
First Dose HPV	~30%	~28%	~28%
Three Doses HPV	~18%	~22%	~22%

	# Eligible	# Vaccinated	% Vaccinated
Tdap <i>One dose of Tdap is recommended at ages 11-12, or anytime later if not given at the recommended ages. However, this report counts any pertussis-containing vaccine given at age 7 or later.</i>	375	286	76%
MCV4 (Meningococcal)			
First Dose <i>One dose of MCV4 is recommended at ages 11-12, or anytime through age 18 if not given earlier.</i>	375	195	52%
Booster Dose <i>For those who received a first dose of MCV4 at age 11-14, a booster dose is recommended 3 years later.</i>	175	63	36%
HPV (Human Papillomavirus)			
First Dose <i>The first dose of HPV is recommended at ages 11-12, or anytime through age 26 if not given earlier.</i>	375	114	30%
Three Doses <i>The second dose is due 1-2 months after the first dose, and the third dose 6 months after the first dose.</i>	375	61	16%
Series Completion <i>Series completion is the percentage of patients who receive a first dose of HPV vaccine who have gone on to complete the series. Patients are considered eligible if they started the HPV series more than 6 months before the date of this report.</i>	99	61	62%



Development Process

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Finished Product

Child Immunization Summary

Adolescent Immunization Summary

User Interface

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Assessment Reports

Child Vaccinations by 24 Months

- ☐ Standard (Children 24 through 35 Months)
- ☐ Use Existing List
- ☐ Custom Population

Adolescent Vaccinations

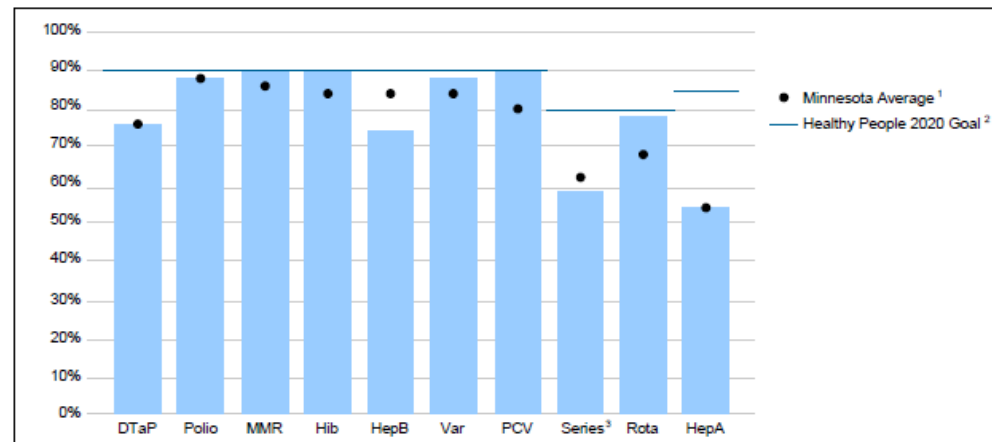
- ☐ Standard (Adolescents 13 through 17 Years)
- ☐ Use Existing List
- ☐ Custom Population

Child Immunization Summary

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Assessment of Immunization Rates by 24 Months

377 Client Records Assessed



	Up to Date #	%	MN Average¹	
DTaP	287	76%	77%	4 or more doses of diphtheria, tetanus, and pertussis vaccine
Polio	331	88%	88%	3 or more doses of poliovirus vaccine
MMR	334	89%	86%	1 or more doses of measles, mumps, and rubella vaccine
Hib	338	90%	84%	2, 3, or 4 or more doses of <i>Haemophilus influenzae</i> type b vaccine, depending on product and age at first dose
HepB	275	73%	84%	3 or more doses of hepatitis B vaccine
Var	327	87%	85%	1 or more doses of varicella vaccine
PCV	335	89%	80%	2, 3, or 4 or more doses of pneumococcal conjugate vaccine, depending on age at first dose
Series³	219	58%	63%	Receipt of all doses for antigens listed above (DTaP, polio, MMR, Hib, Hep B, Var, and PCV)
Rota	292	77%	68%	2 or 3 or more doses of rotavirus vaccine, depending on product type received
HepA	205	54%	54%	2 or more doses of hepatitis A vaccine

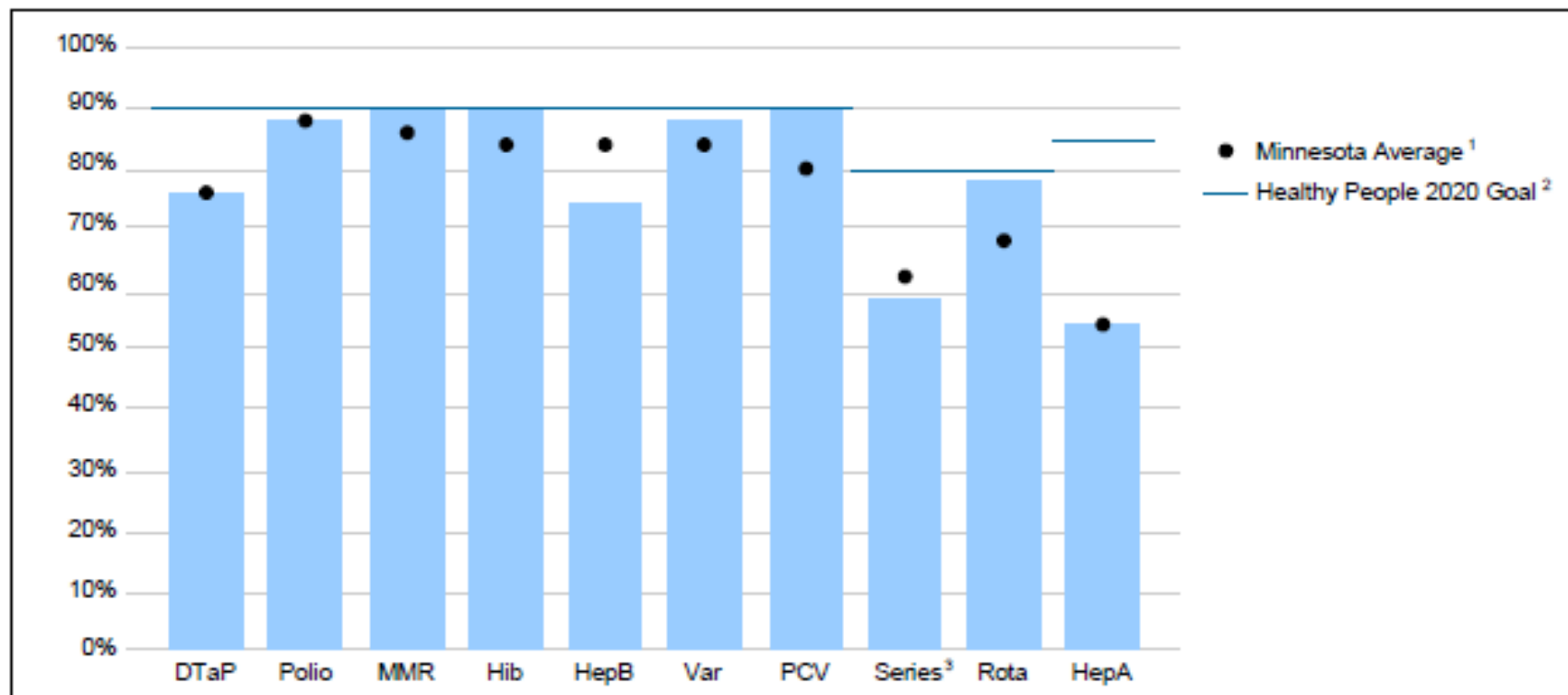
¹ Minnesota average is based on MIIC records of children 24 through 35 months up-to-date by 24 months as of July 2013.

² Healthy People 2020 is a set of science-based public health goals established by the U.S. Department of Health and Human Services.

³ Series rates are often lower than single antigen rates because this is a measure of the number/percent of children who received all doses of the included antigens. It is not an average of the single antigen rates.

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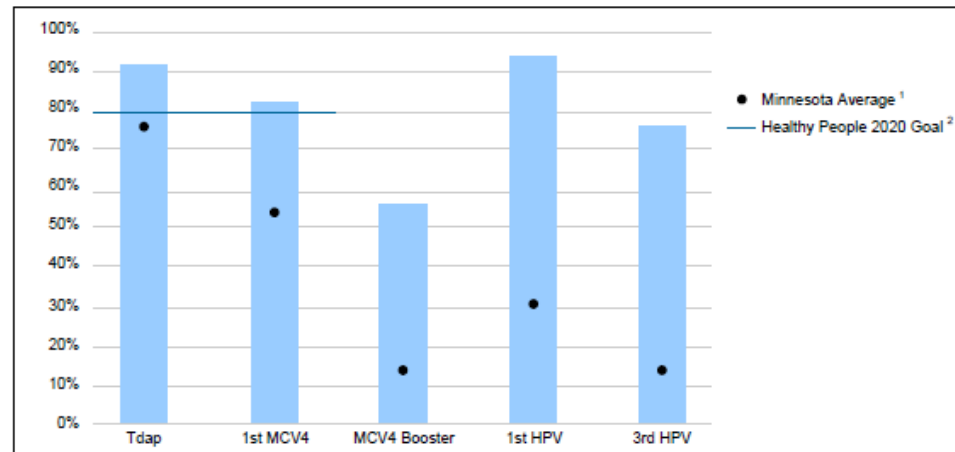
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Adolescent Immunization Summary

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Assessment of Immunization Rates 52 Client Records Assessed



¹ Minnesota average is based on MIIC records of adolescents 13 through 17 years as of July 2013.

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Routine vaccination with Tdap and the first doses of MCV4 and HPV are recommended at age 11-12 years.

Tdap	92%	$\frac{48}{52}$	received Tdap after age 7
			clients assessed

MCV4 (Meningococcal)	First Dose	81%	$\frac{42}{52}$	received at least 1 dose MCV4 after age 10 through age 18
				clients assessed
	Booster ³	55%	$\frac{11}{20}$	received MCV4 booster
				clients who received MCV4 at ages 10-15 and are now 16+ years

³ For this report, a booster dose is one that is given between the ages of 16 and 18 to a client who received a prior dose of MCV4 between ages 10 and 15.

HPV	First Dose	94%	$\frac{49}{52}$	received at least 1 dose HPV after age 9
				clients assessed
	Third Dose	75%	$\frac{39}{52}$	received all 3 doses HPV
				clients assessed

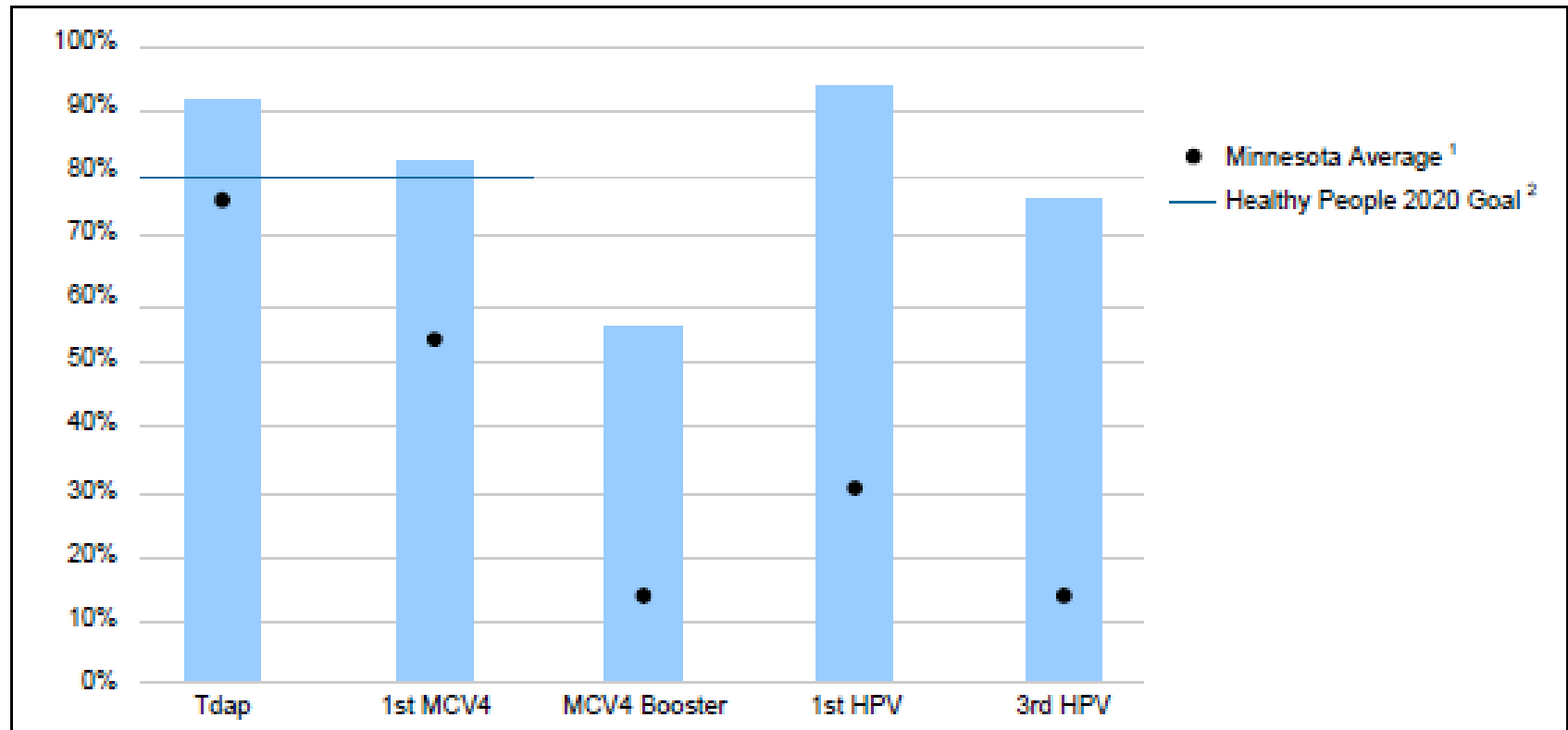
HPV Series Completion Rate

80 %

Among the 49 clients who began the HPV series at least 6 months before the date of this report, 39 have received all three doses.

Assessment of Immunization Rates

52 Client Records Assessed



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Lessons Learned

Challenges and Successes

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- Learning the Data Mart
- Learning SQL code
- Ambiguity in ACIP guidelines
- Substantial forecasting upgrade during development
- Provider involvement in the design process
- Visual appeal of reports
- Simplicity in user interface
- Buy-in from broad group of stakeholders

Takeaways

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- Limiting the scope
- Determining the purpose of the report
- Establishing dedicated staffing
- Involving a broad group of stakeholders
- Importance of documentation
- Conveying technical detail while maintaining clarity and simplicity

What's Next

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- Integrate Adolescent Report into AFIX program
- Promotion and provider training
 - Client Follow-Up reminder/recall tool
- Monitor usage
- Opportunities for formal feedback and evaluation
- Further enhancements:
 - Add missed opportunities to Summary Report
 - Add “Detailed” reports

Missed Opportunities

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- IIS can only calculate based on known data
- Making sense of a missed opportunity rate
 - Count visits, not vaccines and not clients
 - Visit within last 12 months
 - Visit to specific provider of interest
 - Visit when adolescent vaccine due

visit where additional adol. vaccine(s) due but not administered
visit where vaccine(s) administered

Thank you!

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