Working Together: Using IIS to Support Immunization Program Goals and Activities

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Background

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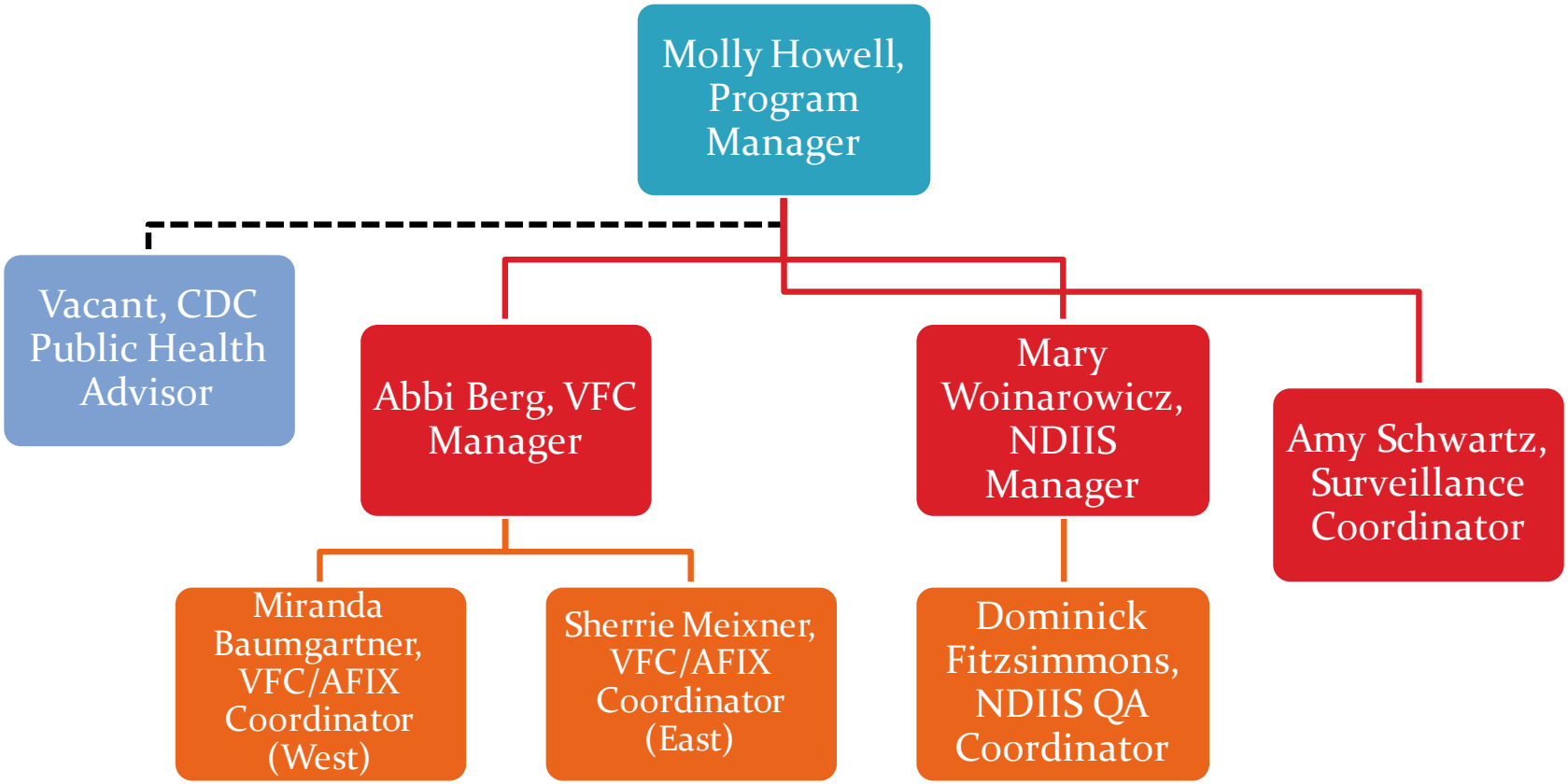
NDDoH Immunization Program



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NDDoH Immunization Program Mission

- Continue to protect the health of North Dakotans by preventing and mitigating vaccine-preventable diseases through immunization, by managing immunization resources and **immunization information systems**, and by identifying and promoting evidence-based public health best practices.

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NDIIS Background

- Established in 1988
- ND Century Code requires North Dakota providers enter all childhood (under 18 years of age) immunizations into the NDIIS.
- North Dakota is one of six CDC sentinel sites.
- 66% of immunization data for children younger than six years of age is entered into the NDIIS within one day of administration.
- 101% of children ages four months – five years have two or more doses in NDIIS.
- 85% of adults have at least one dose in the NDIIS.

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NDIIS and Program Integration

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NDIIS and Cooperative Agreement

- The NDIIS is integrated into every component of the NDDoH immunization program.
- The NDIIS is used to support Immunization Program Operations Manual (IPOM) goals and activities.
- Core component of 2013 – 2017 ND Immunization Program Strategic Plan.
  - Guide to Community Preventive Services. Increasing appropriate vaccination. Increasing appropriate vaccination: immunization information systems. www.thecommunityguide.org/vaccines/universally/imminfosystems.html

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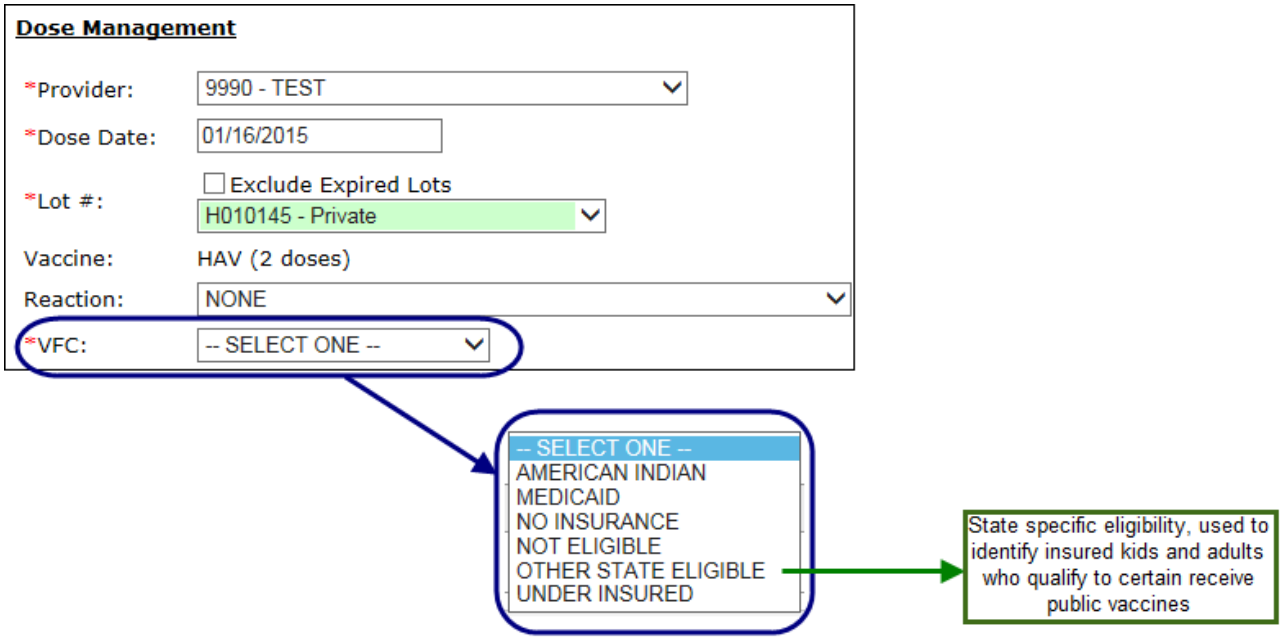
Program Stewardship and Accountability (IPOM A)

- The NDIIS tracks Vaccines For Children (VFC) Program eligibility at the dose level.



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Program Stewardship and Accountability

- Population Estimate
  - NDIIS historical data used to determine the number of underinsured children vaccinated at local public health units.
  - ND local public health units (LPHUs) delegated authority by a Federally Qualified Health Center (FQHC) to vaccinate underinsured children with VFC vaccine.

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Program Stewardship and Accountability

- CAT
  - NDIIS historical doses administered data used to populate the CDC Cost Affordability Tool.
    - Used to estimate 317 and state vaccine needs/population.
- Fund Split Template
  - NDIIS historical doses administered data used to populate CDC fund split template biannually.
    - Assigns a funding source (VFC, 317, state) to each dose of vaccine ordered by providers.

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Program Stewardship and Accountability

PROV_ID	PROVIDER_NAME	PROVIDER_TYPE	VAC_NAME	TOTALDOSES	PERCENT	VFC_STATUS	FUND_SOURCE
01081	1081 - SANFORD MED CNTR - BIS	PUBLIC HOSPITAL	DTaP-HBV-IPV (Pediarix)	7	100	VFC ELIGIBLE	VFC
01081	1081 - SANFORD MED CNTR - BIS	PUBLIC HOSPITAL	HBV Pediatric	521	66.62	NOT_OTHER ELIGIBLE	317
01081	1081 - SANFORD MED CNTR - BIS	PUBLIC HOSPITAL	HBV Pediatric	1	0.13	UNDER INSURED	VFC
01081	1081 - SANFORD MED CNTR - BIS	PUBLIC HOSPITAL	HBV Pediatric	260	33.25	VFC ELIGIBLE	VFC
01081	1081 - SANFORD MED CNTR - BIS	PUBLIC HOSPITAL	HIB (PRP-T) ACTHib	6	100	VFC ELIGIBLE	VFC
01081	1081 - SANFORD MED CNTR - BIS	PUBLIC HOSPITAL	PCV13 (PNEUMOCOCCAL)	7	100	VFC ELIGIBLE	VFC
01081	1081 - SANFORD MED CNTR - BIS	PUBLIC HOSPITAL	ROTAVIRUS (2 DOSE)	5	100	VFC ELIGIBLE	VFC

Based on fund split template, 67% of doses of Hep B pediatric ordered by this provider will be charged to 317 and 33% will be charged to VFC.

100% of PCV13 doses ordered by this provider will be charged to VFC.

NDIIS Data for Fund Split Template

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Program Stewardship and Accountability

- Vaccine Ordering
  - 100% of VFC enrolled providers use the NDIIS to order publicly funded vaccines.
  - Past doses administered and current NDIIS inventory are used to suggested an order minimum and maximum for the provider for each vaccine.
  - Publicly funded lot numbers are automatically populated in NDIIS provider inventory using the VTrckS shipping file.
- Vaccine returns
  - Providers use the NDIIS to submit vaccine returns and wastages which are uploaded to VTrckS.

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Program Stewardship and Accountability

- VFC site visits
  - On 100% of VFC site visits, coordinators compare NDIIS VFC eligibility data to 10 randomly selected patients charts.
  - NDIIS is also used to assess borrowing/returning of VFC vaccine.
  - VFC Coordinators are trained to be able to educate providers on NDIIS functionality.

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Program Stewardship and Accountability

- Error Reports
  - Monthly reports run using NDIIS doses administered data to assess provider documentation of VFC doses.
    - VFC Coordinators follow-up with providers.

Error	Small Providers	Medium Providers	Large Providers
State-supplied to Not Eligible child	>5	>10	>15
State-supplied to HBV/HAV/VAR/INFL/MMRV to adult	>5	>5	>5
Private vaccine to VFC-eligible child	>5	>10	>15
State Supplied HPV/TDAP/MCV4/MMR/PPV23 to not eligible adult	>5	>10	>15
Minimum age/interval violations	>5	>10	>15
Expiration date exceeded	>5	>5	>5
Dummy doses to VFC-eligible	>5	>10	>10
Vaccine Specific Violations	>5	>5	>5

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Vaccine Budgeting

NDIIS Doses Administered at LPHUs to Insured Children March 2013 - February 2014*			
Vaccine	Cost/Dose	Participating LPHUs DA§	Participating LPHU Cost
Chickenpox (varicella)	$78.34	1470	$115,159.80
DTaP (diphtheria, tetanus, pertussis)	$15.76	554	$8,731.04
DTaP/IPV	$38.50	702	$27,027.00
DTaP-HBV-IPV	$53.86	471	$25,368.06
DTaP-Hib-IPV	$52.43	75	$3,932.25
Hepatitis A	$16.17	3165	$51,178.05
Hepatitis B	$11.08	188	$2,083.04
Hib (4)	$9.36	276	$2,583.36
Hib (3)	$12.34	478	$5,898.52
HPV9 (Human Papillomavirus 9 Valent)^	$200.00	2690	$538,000.00
Polio (IPV)	$12.46	253	$3,152.38
Meningococcal (MCV)	$82.12	3514	$288,569.68
MMR (measles, mumps, rubella)	$19.91	610	$12,145.10
MMRV	$103.16	614	$63,340.24
Pneumococcal Conjugate 13	$112.44	755	$84,892.20
Pneumococcal (high risk)	$41.49	1	$41.49
Rotavirus (2)	$95.20	195	$18,564.00
Rotavirus (3)	$63.96	169	$10,809.24
Td	$17.69	7	$123.83
Tdap	$30.64	1654	$50,678.56
Flu Preservative-free	$17.43	1344	$23,425.92
Flumist	$18.09	3244	$58,683.96
Flu	$13.15	2665	$35,044.75
Total Vaccine Cost for One Year			$1,429,432.47
5% vaccine cost inflation (year 1)			$1,500,904.09
5% vaccine cost inflation (year 2)			$1,575,949.30
Total 2015-2017 Biennium Cost			$3,076,853.39
Less current $2.5 million in NDDoH Base			-$576,853.39

Historical NDIIS doses administered data is used to develop biennial vaccine budgets for ND Legislative requests.

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Assessing Program Performance (IPOM B)

- AFIX
  - The NDIIS is used for 100% of AFIX visits.
  - NDIIS data is currently uploaded to Co-CASA.
  - By fourth quarter 2015, NDIIS will have AFIX reports available for coordinators (MIROW).
- Honor Roll
  - Post quarterly adolescent and infant immunization rates for enrolled providers who have achieved Healthy People 2020 goals
- Website: www.ndhealth.gov/immunize
  - Post statewide quarterly immunization rates for infants, adolescents and adults

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Assessing Program Performance

- Quarterly Provider Rate Reports
  - Emailed to providers quarterly for infant, pediatric and adolescent rates

Vaccine/Vaccine Series	Current Quarter (1/1/2015-3/31/2015) Immunization Rate*	Previous Quarter (10/1/2014-12/31/2014) Immunization Rate	Current Quarter Provider Average	ND NIS Rate‡	US NIS Rate‡	Healthy People 2020 Goal
1+ Tdap	98.0%	97.9%	87.3%	92.2%	88.5%	80%
1+ MCV4	97.3%	96.4%	85.0%	88.1%	74.0%	80%
2+ Varicella¥	92.6%	88.6%	81.4%	81.3%	82.6%	90%
1:1:2 Series Ranking ‡‡	24 of 155	45 of 155				
>=1 and <3 HPV Female†	11.7%	13.3%	19.0%	60.3%	53.8%	
>=1 and <3 HPV Male†	28.2%	22.0%	18.3%	18.6%	20.8%	
3+ HPV Female	51.9%	40.0%	35.2%	40.9%	33.4%	80%
3+ HPV Male††	35.2%	25.6%	24.5%		6.8%	80%
Missed Opportunities TT	3	5	3			
2+ MCV4**	36.8%	35.1%	36.1%			

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Assessing Program Performance

- NDIIS is used to conduct quarterly recall of infants and adolescents, and annually for kindergarten/7th grade entry students.
- Recall letters detailing the child needing immunizatons and which immunizations they are due for are used for infant, adolescent and back-to-school recall.
  - Previously used postcards for adolescent recall.
- Starting June 2015, quarterly postcards will be sent to kids 11 years of age who need to start the HPV vaccine series.

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Assessing Program Performance

Dear Parent/Guardian,

The North Dakota Department of Health (NDDoH) recommends all children receive a series of vaccinations in order to stay protected against many serious illnesses. By age 2, all children should receive four doses of diphtheria, tetanus and acellular pertussis (DTaP), three doses of hepatitis B, one dose of measles, mumps and rubella (MMR), two or three doses of *haemophilus influenzae type B* (Hib), three doses of polio, one dose of varicella (chickenpox), four doses pneumococcal conjugate (PCV13) and two doses of Hepatitis A vaccines. According to the North Dakota Immunization Information System, [CHILD'S NAME] still needs one or more of their infant immunizations. The table below lists the vaccine(s) that are past due for your child. Please contact your child's doctor's office or local public health unit to make an appointment for your child to be vaccinated.

Vaccine(s) Recommended

While at your child's doctor's office or local public health unit, please also get your child immunized against influenza. Some children will need two doses of influenza vaccine to be protected if it is their first year of vaccination. Each year in the United States, approximately 20,000 children under age 5 are hospitalized because of influenza complications.

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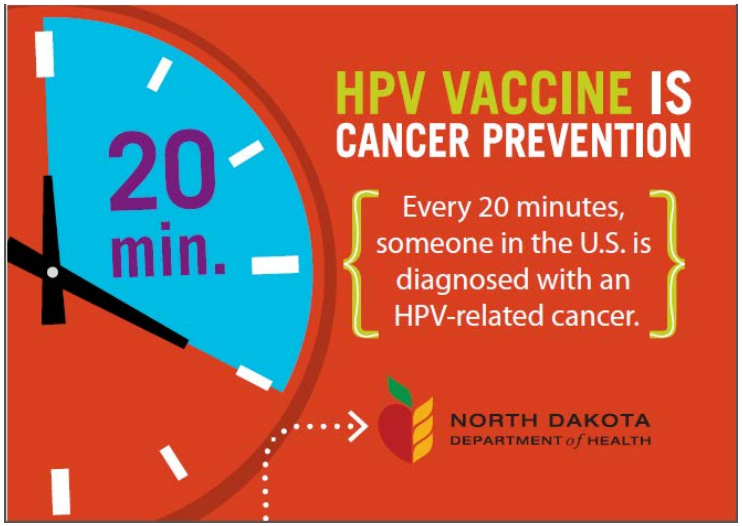
Assessing Program Performance



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Immunization Program
2635 East Main Ave., P.O. Box 5520
Bismarck, ND 58506-5520

Save **YOUR CHILD** from HPV cancers.

- Human Papillomavirus (HPV) cancers affect both **GIRLS** and **BOYS**.
- The HPV vaccine works best and is recommended for boys and girls at age **11 or 12**.
- If your child is 13 or older, it is not too late to get them vaccinated.
- HPV vaccine is **SAFE**. More than 67 million doses have been distributed in the U.S.

The NDDoH urges you to contact your child's health care provider or local public health unit to have your child immunized.

For more information, visit **www.getHPVvaccine.com.**

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Assessing Program Performance

- Schools utilize the NDIIS to determine student compliance with immunization requirements.
  - Print official Certificate of Immunization
  - School Module in the future
- NDDoH and providers fulfill immunization record requests from the public.
- The NDIIS is used for vaccine preventable disease investigations to determine the vaccination status of cases and contacts.
  - Connecting the NDIIS to the electronic disease surveillance system (MAVEN) in 2015.

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Assuring Access to Vaccines (IPOM C)

- Historical NDIIS doses administered data is used to auto-populate the VFC Provider Profile annually.
- Deputized LPHUs report VFC doses administered to underinsured children using NDIIS.
- NDIIS is used to verify hepatitis B vaccination status of infants born to hepatitis B positive mothers.

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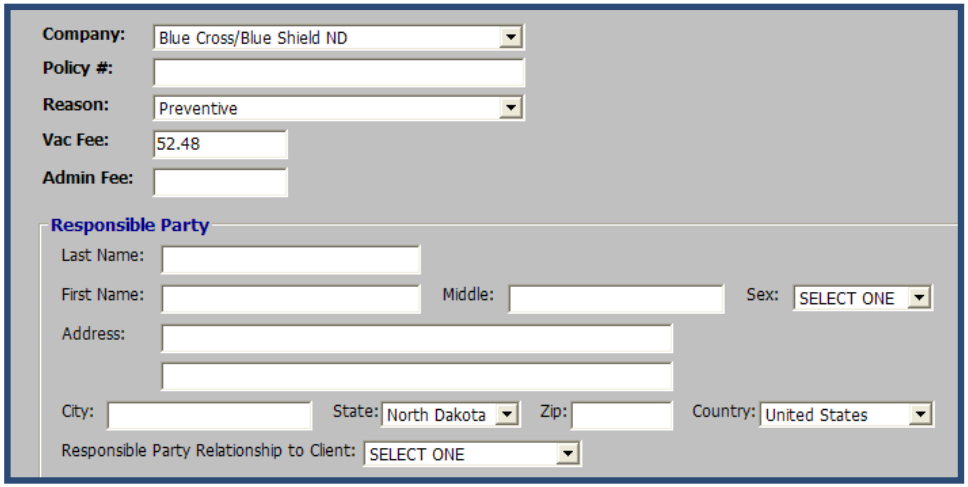
Assuring Access to Vaccines

- The NDIIS is currently capable of billing insurance for immunizations on behalf of LPHUs in need.
  - BCBS claims paid to LPHUs weekly.
  - Non-BCBS claims sent to a clearinghouse.



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Immunization Information Technology Infrastructure (IPOM D)

- NDIIS is interoperable with 206 providers in ND and the ND Health Information Network.
  - HL7 2.5.1
  - SOAP/HTTPS
  - Bi-directional (query/response and unsolicited updates)
  - Electronic transactions per week: 14,128
  - Electronic queries per week: 156,112

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Immunization Information Technology Infrastructure

- Dose-level accountability
  - VFC eligibility
  - Funding source
- VTrckS integration
  - Ordering
  - Returns
  - Wastages

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Improve and Maintain Preparedness (IPOM E)

- NDIIS is a core component of VPD outbreak response.
- NDIIS is capable of tracking pandemic influenza vaccine and adjuvant doses administered.
  - Dose and inventory tracking reports
  - Pharmacy flat file uploads
  - Pre-booking and allocations module (will be complete in late 2015)

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Collaboration

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IIS and Program Staff Collaboration

- NDDoH immunization program meets every other week to discuss current and future activities.
  - Gives IIS staff an understanding of other program activities and vice versa
- Non-IIS staff play role in developing business requirements for NDIIS new functionality with the IIS manager.

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IIS and Program Staff Collaboration

- Non-IIS staff are trained on the NDIIS and are able to answer provider questions, register new users, create new providers, etc.
- Non-IIS staff help test new NDIIS functionality.
- Program manager encourages IIS staff to go on VFC and AFIX visits to understand programmatic activities.
- IIS staff are involved in pandemic planning.
- Program manager attends weekly IIS status meeting between NDDoH and NMIC.
- Program manager is the project sponsor for NDIIS large project oversight.

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Conclusions

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Lessons Learned

- IIS staff, immunization program manager, and other immunization staff need to have a close relationship (team).
  - Develop business rules and specifications for IIS functionality in conjunction with program staff.
  - Program manager should attend regular IIS meetings.
  - IIS staff should attend immunization program meetings.
  - All staff should be cross-trained.

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Lessons Learned

- The IIS should be used for all components of the immunization program.
  - IIS data should be used to evaluate and prioritize program activities.
  - Make the IIS a priority within the immunization program.
  - When writing cooperative agreement activities, think: "How could my IIS help?"
    - IIS budget can then be spread across multiple funding sources: 317, VFC Ops, VFC/AFIX, VFC Ordering, Pan Flu.

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