



This training describes CDC's protocols and definitions for the High Risk Inpatient Influenza Vaccination Module within the Patient Safety Component of the National Healthcare Safety Network, or H R I I V. This module addresses both **seasonal** and **non-seasonal**, e.g., novel H1N1 2009, influenza vaccination surveillance for inpatient populations.



Target Audience for the High Risk Inpatient Influenza Vaccination Module (HRIIV)



- ◆ Designed for those who will collect and analyze data for high risk inpatient seasonal and non-seasonal influenza vaccinations

- ◆ This may include the following:
 - NHSN Facility Administrator
 - Patient Safety Primary Contact
 - Infection Preventionist (IP)
 - Staff Nurse or Healthcare Epidemiologist
 - Data entry or other support staff

This training session is designed for those of you who will collect and analyze inpatient seasonal and non-seasonal flu vaccination data. This may include the NHSN Facility Administrator, the Patient Safety Primary Contact, Infection Preventionists, Staff Nurses, Healthcare Epidemiologists, data entry staff, or other trained support staff.



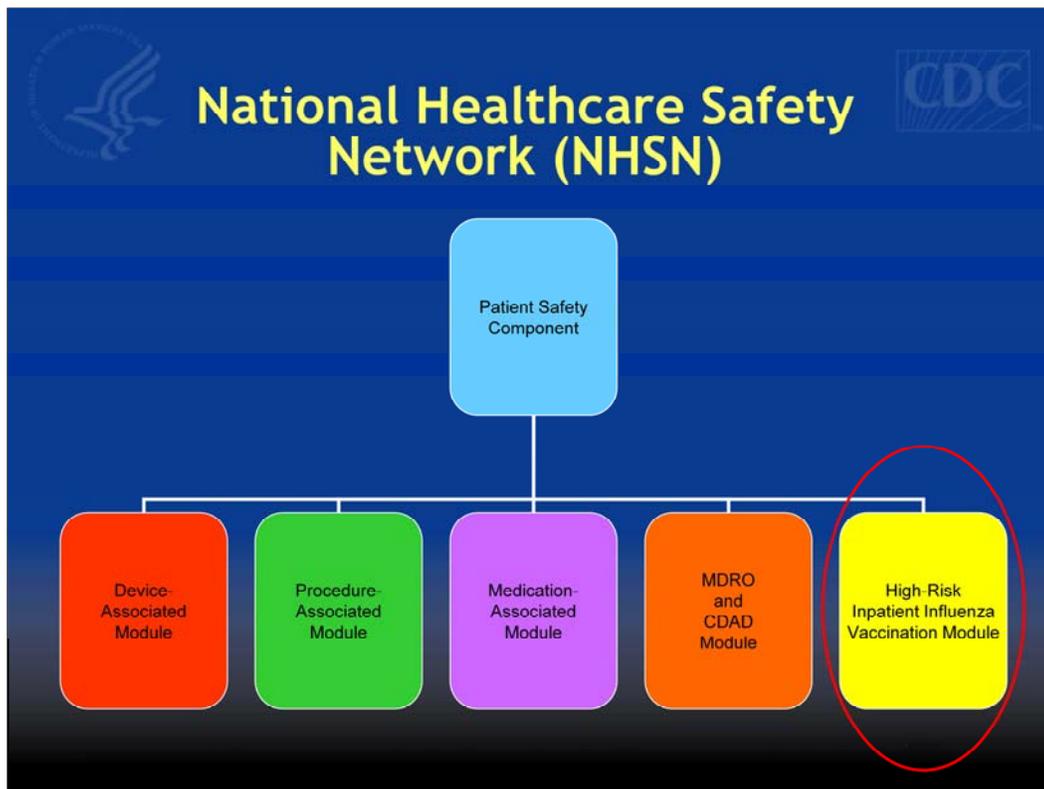
NHSN's HRIIV Module Objectives



- ◆ Outline the structure, methodology, and purpose
- ◆ Describe the CDC protocols, definitions, and analysis used

<http://www.cdc.gov/nhsn>

At the end of this training, you should be able to outline the structure, methodology, and purpose of NHSN's Inpatient Flu Vaccination Module and describe the CDC protocols and definitions used. In addition, this presentation will provide an introduction to the analysis function in NHSN for this module. It is important to note that *all* CDC protocols, definitions, and data collection forms specific for the Inpatient Flu Vaccination Module are available on the NHSN website under the Topic: Resource Library. On the website, look for the High Risk Inpatient Influenza Vaccination Module under the NHSN Patient Safety Component. The web link is shown here at the bottom of this slide.



Here is a visual look at where the HRIIV Module is located within NHSN.

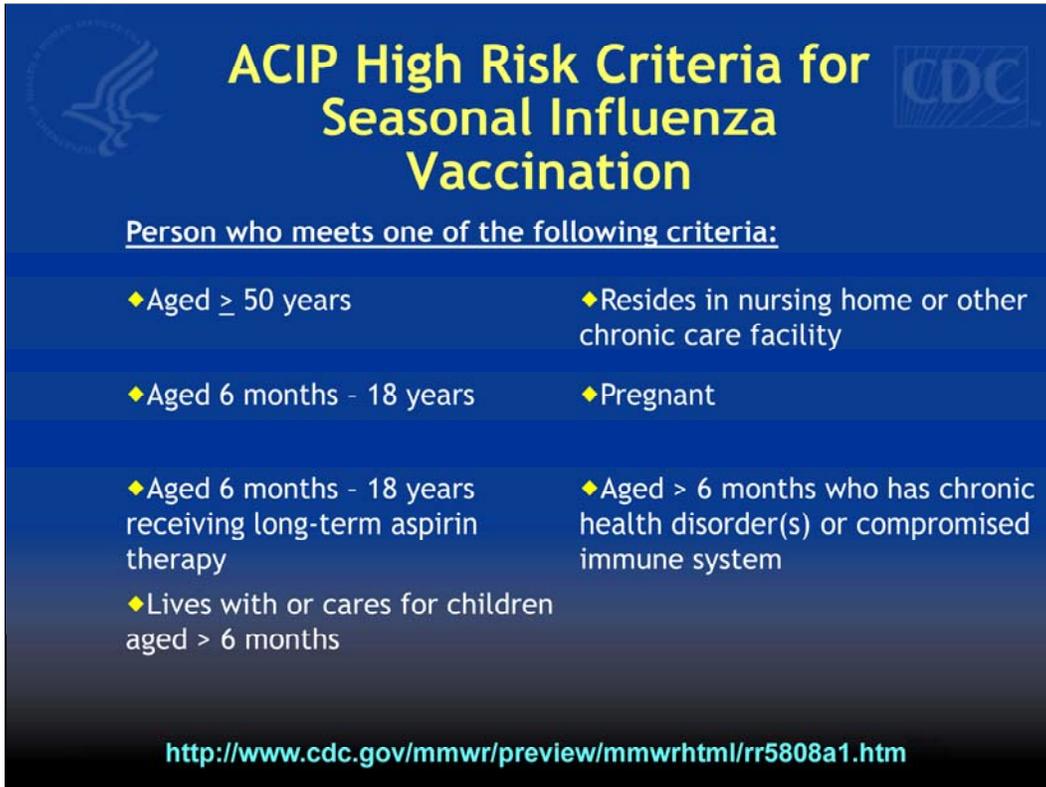


Background



- ◆ Influenza infection can cause serious illness and death in certain age groups and among those with certain types of chronic conditions
- ◆ When such persons are hospitalized, it is an opportunity to vaccinate them
- ◆ HRIIV Module provides two options for monitoring success of such vaccination efforts

Influenza viruses are associated with illness among all age groups, but the risk of serious illness and death following seasonal influenza infection, for example, is highest among persons aged 65 and older and in persons with certain chronic medical conditions. Brief experience with novel H1N1 influenza places younger persons, children and pregnant women and those with chronic diseases at higher risk for non-seasonal influenza infection.



The slide features a dark blue background with a white CDC logo in the top right and a stylized bird logo in the top left. The title is in large yellow font. Below the title, a white box contains the text 'Person who meets one of the following criteria:'. The criteria are listed in two columns, each preceded by a yellow diamond symbol. At the bottom, a white URL is provided.

ACIP High Risk Criteria for Seasonal Influenza Vaccination

Person who meets one of the following criteria:

- ◆ Aged \geq 50 years
- ◆ Resides in nursing home or other chronic care facility
- ◆ Aged 6 months - 18 years
- ◆ Pregnant
- ◆ Aged 6 months - 18 years receiving long-term aspirin therapy
- ◆ Aged > 6 months who has chronic health disorder(s) or compromised immune system
- ◆ Lives with or cares for children aged > 6 months

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5808a1.htm>

The definition of high risk criteria for inpatient influenza vaccination in this module is based on selected ACIP criteria. There are other ACIP criteria but these are the ones we will be using for this module because of the focus on the inpatient population. First, the definition of high risk criteria in this module includes only those inpatients who *have not* been previously vaccinated during the current influenza season under surveillance. If an inpatient meets the high risk criteria but they have been previously vaccinated during the current influenza season, they should not be included as high risk inpatients for influenza vaccination in this module.

Other high risk criteria include the patient's age. As shown here, adults 50 years of age and older plus children and adolescents from the ages of 6 months through 18 years are categorized in the high risk population for influenza vaccination. In addition, any child or adolescent between the ages of 6 months and 18 years who is receiving long term aspirin therapy, any resident of a nursing home or other long term care facility, or any pregnant woman during the influenza season also meet the high risk criteria.



ACIP* High Risk Criteria for 2009 H1N1 Influenza Vaccination

Person who meets one of the following criteria:

- ◆ Aged 6 months - 24 years
- ◆ Aged 25 - 64 who has chronic health disorder(s) or compromised immune system
- ◆ Lives with or cares for children aged > 6 months
- ◆ Healthcare and emergency medical services worker
- ◆ Pregnant

*Advisory Committee on Immunization Practices

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5810a1.htm>

The definition of high risk criteria for inpatient influenza vaccination in this module is based on selected ACIP criteria. There are other ACIP criteria but these are the ones we will be using for this module because of the focus on the inpatient population. First, the definition of high risk criteria in this module includes only those inpatients who *have not* been previously vaccinated during the current influenza season under surveillance. If an inpatient meets the high risk criteria but they have been previously vaccinated during the current influenza season, they should not be included as high risk inpatients for influenza vaccination in this module.

Other high risk criteria include the patient's age. As shown here, adults 50 years of age and older plus children and adolescents from the ages of 6 months through 18 years are categorized in the high risk population for influenza vaccination. In addition, any child or adolescent between the ages of 6 months and 18 years who is receiving long term aspirin therapy, any resident of a nursing home or other long term care facility, or any pregnant woman during the influenza season also meet the high risk criteria.



Chronic Conditions



- ◆ Person aged > 6 months who has one of the following:
 - Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological, or metabolic disorders (including diabetes mellitus)
 - Any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase risk of aspiration
 - Immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV])

Furthermore, adults or children over 6 months of age are considered high risk if they have any of the following disorders: chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological, or metabolic (including diabetes mellitus); immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus (HIV)); and any condition (for example, cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase risk of aspiration.

It should also be noted that in the future ACIP may recommend a redefinition of the high risk criteria, which may result in the need to update the high risk criteria used for this Inpatient Flu Vaccination Module as well.



Two HRIIV Modules



- ◆ Minimum requirements:
 - Complete module for at least one month during influenza season (September–March)
 - Use only one method during the season: Method A or Method B
 - Use same method when more than one influenza subtype vaccination is available in a season
 - Maximal benefit obtained by completing module each month for each subtype during influenza season

The minimum requirement needed to complete the Inpatient Flu Vaccination Module is to enter data required using either Method A or Method B for at least one month during the influenza season, which occurs from September through March. The maximal benefit from the module is obtained by completing it for *each* month during the influenza season. If you plan to complete the module for more than one month during a single influenza season, it is important to decide in advance whether you plan to complete Method A or Method B of the module and use the *same* method for each month during the *same* influenza season.



Methodology



- ◆ Retrospective – Method A or B
 - Review of medical records
 - Use optional Standing Orders form
- ◆ Prospective – Method B
 - Track patient admissions to determine eligibility for vaccination and high risk category
 - Use optional Standing Orders form

Facilities will have the opportunity to complete this module either retrospectively or prospectively. A retrospective review can be completed by reviewing inpatient medical records, review of automated data systems or in some cases, a combination of both.

Although both methods can be used when doing either a retrospective or prospective review, Method A tends to lend itself better to a retrospective review as there may be data elements in Method B that may be difficult to identify in a retrospective review.

Department of Health and Human Services
Centers for Disease Control and Prevention

NHSN - National Healthcare Safety Network (ID: CLPT-NHSN1)

Logged into Mount Sinai Medical Center (ID 10127) as TCH.
Facility Mount Sinai Medical Center (ID 10127) is following the PS component.

Add Monthly Reporting Plan

Mandatory fields marked with *

Facility ID*: Mount Sinai Medical Center (ID 10127)

Month*:

Year*:

No NHSN Patient Safety Modules Followed this Month

[Print PDF Form](#)

Device-Associated Module

Locations: CLA BSI DE VAP CAUTI CLIP

Procedure-Associated Module

Procedures: SSI Post-procedure PNEU

Medication-Associated Module

Antimicrobial Use and Resistance

Locations: Microbiology Pharmacy

Multi-Drug Resistant Organism Module

Locations: Setting: Specific Organism Type:

Process and Outcome Measures

Infection Surveillance	AST-Timing	AST-Eligible	Incidence Prevalence	Lab ID Event	HH GC
<input type="checkbox"/>					

Patient Influenza Vaccination Module

Method A:

Method B:

The place to begin to satisfy the protocol for the Inpatient Flu Vaccination Module is the Patient Safety Monthly Reporting Plan. The purpose of the plan is to inform CDC which modules, locations, procedures, and events will be monitored during a specified month. How to enter a reporting plan is described in detail in another training session. However, let's briefly look at the location for entering a Monthly Reporting Plan for the Inpatient Flu Vaccination Module. Using the navigation bar on the left hand side menu, first click on Reporting Plan and then click on Add.



NHSN Forms Used for HRIIV Module



- ◆ HRIIV Monthly Monitoring Form — Method A
 - CDC Form 57.130
- ◆ HRIIV Monthly Monitoring Form — Method B
 - CDC Form 57.131
- ◆ HRIIV Method B Form — Part 1
 - CDC Form 57.132
- ◆ HRIIV Method B Form — Part 2
 - CDC Form 57.133
- ◆ HRIIV Standing Orders Form — Optional
 - CDC Form 57.134

<http://www.cdc.gov/nhsn>

This slide shows the different forms that may be used as part of the Inpatient Flu Vaccination Module. You may find it useful to pause the presentation at this time and go to the NHSN website and print out these forms before continuing. The forms can be found on the NHSN website address noted at the bottom of the slide.



Method A



- ◆ Uses a single form: HRIIV Monthly Monitoring Form – Method A
- ◆ Less data required to complete—summary counts only
- ◆ Less information provided about patient population than Method B

Method A of the Inpatient Flu Vaccination Module uses a single form to complete, which is the Monthly Monitoring Form - Method A. As stated earlier, Method A requires less data to be collected in order to complete the form. But, as a result Method A also provides less detailed information and provides essentially no information on individual patients, who are identified as meeting high risk characteristics.

NHSN **High Risk Inpatient Influenza Vaccination**
Monthly Monitoring Form – Method A

OMB No. 0920-0666
 Exp. Date: 03-31-2011

* required for saving

Record the number of patients for each category below for the month being reviewed.

*Facility ID# :

*Vaccination type: Influenza *Influenza subtype: Seasonal Non-seasonal *Month *Year:

Patient categories	Number of patients in each category
*1. Total # of patient admissions	
*2. Total # of patients meeting high risk criteria for influenza vaccination	
3. Total # of patients previously vaccinated during current influenza season	
*4. Total # of patients meeting high risk criteria previously vaccinated during current influenza season	
*5. Total high risk patients not previously vaccinated during current influenza season (Denominator: Box 2 - Box 4)	
*6. Patients meeting high risk criteria offered vaccination but declining for reasons other than medical contraindication.	
*7. Patients meeting high risk criteria offered vaccination but having medical contraindication	
*8. Patients meeting high risk criteria receiving vaccination during admission	
*9. Total patients offered vaccination for high risk criteria (Numerator: Box 6 + Box 7 + Box 8)	

CDC

If more than one flu vaccine subtype is recommended for a season, use one form per subtype. (seasonal and non-seasonal).

The paper-based form looks similar to this.

- Select Summary Data “Add” from Nav Bar
- Then Method A from drop down list

The screenshot shows the NHSN interface for adding patient safety summary data. The left navigation bar includes sections for Reporting Plan, Patient, Event, Procedure, Summary Data, Analysis, Surveys, and Log Out. Under Summary Data, the 'Add' option is selected. The main content area is titled 'Add Patient Safety Summary Data' and features a dropdown menu for 'Summary Data Type'. The dropdown is open, showing a list of options including 'High Risk Inpatient Influenza Vaccination Monthly Monitoring Form - Method A (FLUA)', which is highlighted. Red arrows indicate the path from the 'Add' button in the navigation bar to the selected dropdown option.

As noted earlier, *all* Inpatient Flu Vaccination forms can be downloaded from the NHSN website. However, another way to locate the Monthly Monitoring Form – Method A is within the NHSN application. To do this, you must go to the Navigation bar on the left, click on Summary Data from the menu, then click Add. You will be asked for the Summary Data Type, which you then would select the High Risk Inpatient Influenza Vaccination Monthly Monitoring Form – Method A from the drop down list.

NHSN Home Logged into Mount Sinai Medical Center (ID 10127) as TCH.
 Facility Mount Sinai Medical Center (ID 10127) is following the PS component.

High Risk Inpatient Influenza Vaccination Monthly Monitoring Form - Method A

[HELP](#)

Mandatory fields marked with *

Facility ID*: 10127 (Mount Sinai Medical Center)

Influenza subtype*: SEASONAL - Seasonal ←

Month*:

Year*:

Patient categories

1. Total # of patient admissions

2. Total # of patients meeting high risk criteria for influenza vaccination	*	<input type="text"/>
3. Total # of patients previously vaccinated during current influenza season		<input type="text"/>
4. Total # of patients meeting high risk criteria previously vaccinated during current influenza season	*	<input type="text"/>
5. Total high risk patients not previously vaccinated during current influenza season (Denominator: Box 2 - Box 4)		<input type="text"/>
6. Patients meeting high risk criteria offered vaccination but declining for reasons other than medical contraindication	*	<input type="text"/>
7. Patients meeting high risk criteria offered vaccination but having medical contraindication	*	<input type="text"/>
8. Patients meeting high risk criteria receiving vaccination during admission	*	<input type="text"/>
9. Total patients offered vaccination for high risk criteria (Numerator: Box 6 + Box 7 + Box 8)		<input type="text"/>

If more than one flu vaccine subtype is recommended for a season, use one form per subtype. (seasonal and non-seasonal).

The form in the NHSN application looks like this. The red asterisks on the form indicate required fields.



Method B



- ◆ Uses three separate forms
 - Monthly Monitoring Form – Method B
 - HRIIV Method B Form – Part 1
 - HRIIV Method B Form – Part 2
- ◆ Requires patient-level data
- ◆ Provides more information on high risk patient population

In comparison with Method A that requires only one form for completion, Method B requires up to three separate forms. The Monthly Monitoring Form - Method B is similar to the Monthly Monitoring Form - Method A. However, several data elements on the Monthly Monitoring Form - Method A are expanded in Method B and completed using as many as two additional forms. This results in more data elements that must be collected in order to complete the module. However, it also provides more detailed information on the high risk inpatient population that is identified.

This additional data may provide the information you need to identify specific locations in your facility that may not have as high a rate of success in offering vaccine to high risk inpatients or the reasons why patients are declining vaccine. This may assist you in better targeting your staff or patient education programs to improve the rate of flu vaccine acceptance and administration among high risk inpatients.

HRIIV Monthly Monitoring Form— Method B

NHSN National Healthcare Safety Network **High Risk Inpatient Influenza Vaccination
Monthly Monitoring Form – Method B** OMB No. 0920-0666
Exp. Date: 03-31-2011

* required for saving

Record the number of patients for each category below for the month being reviewed.

*Facility ID# :			
*Vaccination type: Influenza	*Influenza subtype: <input type="checkbox"/> Seasonal <input type="checkbox"/> Non-seasonal	*Month:	*Year:
Patient categories		Number of patients in each category	
*1. Total # of patient admissions			
2. Total # of patients previously vaccinated during current influenza season			
*3. Total # of patients meeting high risk criteria previously vaccinated during current influenza season			

If more than one flu vaccine subtype is recommended for a season, use one form per subtype. (seasonal and non-seasonal).

The paper-based Monthly Monitoring Form for Method B looks similar to this.

NHSN Home | Logged into Mount Sinai Medical Center (ID 10127) as TCH. Facility Mount Sinai Medical Center (ID 10127) is following the PS component.

Add Patient Safety Summary Data

Summary Data Type: High Risk Inpatient Influenza Vaccination Monthly Monitoring Form - Method B

Continue Back

NHSN - National Healthcare Safety Network (ISO-CLFT-NHSN1) | NHSN Home | My Info | Contact us | Help | Log Out

Logged into Mount Sinai Medical Center (ID 10127) as TCH. Facility Mount Sinai Medical Center (ID 10127) is following the PS component.

High Risk Inpatient Influenza Vaccination Monthly Monitoring Form - Method B

Mandatory fields marked with *

Facility ID*: 10127 (Mount Sinai Medical Center)

Influenza subtype*: SEASONAL - Seasonal

Month*: [Month]

Year*: [Year]

PDF Form

HELP

each

Patient categories

1. Total # of patient admissions	[Input]
2. Total # of patients previously vaccinated during current influenza season	[Input]
3. Total # of patients meeting high risk criteria previously vaccinated during current influenza season	[Input]

Save Back

If more than one flu vaccine subtype is recommended for a season, use one form per subtype. (seasonal and non-seasonal).

The Monthly Monitoring Form - Method B in the NHSN application looks like this. This form is located in the same manner within the NHSN application as the Monthly Monitoring Form - Method A by clicking Summary Data in the menu on the left Navigational Bar, then clicking Add, and selecting Monthly Monitoring Form – Method B from the drop down menu.



HRIIV Method B Form – Part 1

- ◆ Complete one form for each high risk inpatient identified for each vaccine subtype
 - Patient demographic information
 - Date of admission and vaccine subtype
 - High risk condition(s) which makes patient a potential candidate for influenza vaccination
 - Vaccine offered: Yes / No?
 - If Yes → Complete Part 2 form

For each high risk inpatient identified, a Method B Form – Part 1 should be completed. This form includes patient demographic information, date of admission, and a list of high risk criteria, including a table of medical diagnoses which may make patients candidates for influenza vaccination. In addition, this form includes a box to indicate whether or not vaccine was offered to the inpatient.



OMB No. 0920-006
Exp. Date: 03-31-20

High Risk Inpatient Influenza Vaccination Method B Form - Part 1

* required for saving

Facility ID:		Event #:	
*Patient ID:		Social Security #:	
Secondary ID:			
Patient Name, Last:		First:	Middle:
*Gender: F M		*Date of Birth:	
Ethnicity (specify):		Race (specify):	
*Event Type: FLUVX:		Vaccination type: Influenza	
*Influenza subtype: <input type="checkbox"/> Seasonal <input type="checkbox"/> Non-seasonal		*Date Admitted to Facility:	
*High Risk Criteria for Seasonal Influenza (Check all that apply.)			
<input type="checkbox"/> Person aged ≥ 50 years <input type="checkbox"/> Person aged 6 months - 18 years <input type="checkbox"/> Person aged 6 months - 18 years receiving long-term aspirin therapy <input type="checkbox"/> Resident of nursing home or other chronic-care facility <input type="checkbox"/> Person who lives with or cares for children younger than 6 months of age <input type="checkbox"/> Pregnancy <input type="checkbox"/> Person over 6 months of age who has chronic health disorder(s) or compromised immune system (see below for high risk conditions)			
*High Risk Criteria for Non-seasonal Influenza (Check all that apply.)			
<input type="checkbox"/> Person aged 6 months - 24 years <input type="checkbox"/> Person who lives with or cares for children younger than 6 months of age <input type="checkbox"/> Pregnancy <input type="checkbox"/> Healthcare or emergency medical services worker <input type="checkbox"/> Person aged 25 through 64 who has chronic health disorder(s) or compromised immune system (see below for high risk conditions)			
*Vaccine Offered: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes complete HRIIV Method B Form - Part 2, CDC 57.133)			
High Risk Conditions			
<ul style="list-style-type: none"> • Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological, or metabolic disorders (including diabetes mellitus) • Any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration • Immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV]) 			

See NHSN Manual for further information on high risk disease conditions.

Indicate vaccine sub-type and high risk criteria for the appropriate sub-type

The paper-based form looks like this. Please note the high risk criteria listed in table format where you would check all applicable high risk criteria for each inpatient. Also, note whether or not vaccine was offered with the reminder notation that if the vaccine was offered, meaning a “yes” answer, that Method B Form – Part 2 also needs to be completed.



HRIIV Method B Form – Part 2



- ◆ Complete if “Vaccine Offered” = Yes on Method B Form - Part 1 for each vaccine subtype
 - Indicate if vaccine declined and if so, why?
 - Indicate if vaccine administered with details of vaccine (date, type, lot number) and vaccinator information (optional)
- ◆ Method B Forms Part 1 and 2 will build as indicated and display as a single form in the NHSN reporting tool

To repeat, if the answer to Vaccine offered is “Yes” on the Method B Form - Part 1, then Method B Form - Part 2 should also be completed for that inpatient. Method B Form - Part 2 includes a determination if vaccine was declined and if so, why. On the other hand, if vaccine was not declined, Method B Form - Part 2 includes a block to indicate if influenza vaccine was administered and then provide the details of flu vaccine administration including the date of vaccination, vaccine type, vaccine lot number plus vaccinator information.

Method B Forms - Part 1 and 2 will build and expand as indicated in the NHSN application based on responses to the questions on the form and will appear as a single form throughout the NHSN application.

		High Risk Inpatient Influenza Vaccination		<small>OMB No. 0920-0666 Exp. Date: 03-31-2011</small>	
Page 1 of 2		Method B Form – Part 2		<small>* required for saving</small>	
*Facility ID:		*Event #:			
*Patient ID:		Social Security #:			
Secondary ID:					
Patient Name, Last:		First:		Middle:	
*Gender: F M		*Date of Birth:			
Ethnicity (specify):		Race (specify):			
*Event Type: FLUVX		*Vaccination type: Influenza			
Vaccine offered: YES		*Vaccine declined: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Reason(s) vaccine declined (Check either section A or B but not both)					
A. Medical contraindication(s) (check all that apply):			B. Personal reason(s) for declining (check all that apply):		
<input type="checkbox"/> Allergy to vaccine components <input type="checkbox"/> History of Guillian-Barre syndrome within 6 weeks of previous influenza vaccination <input type="checkbox"/> Current febrile illness (Temp > 101.5) <input type="checkbox"/> Other (specify): _____			<input type="checkbox"/> Fear of needles/injections <input type="checkbox"/> Fear of side effects <input type="checkbox"/> Perceived ineffectiveness of vaccine <input type="checkbox"/> Religious or philosophical objections <input type="checkbox"/> Concern for transmitting vaccine virus to contacts <input type="checkbox"/> Other (specify): _____		
*Vaccine administered: <input type="checkbox"/> Yes <input type="checkbox"/> No					
Date Vaccine Administered:					
More...					

The paper-based form looks like this.

Bottom of Method B - Part 2 Form

Type of influenza vaccine administered

Seasonal: Afluria® Fluarix® FluLaval® Flumist® Fluvirin® Fluzone®
 Non-seasonal: 2009 H1N1 CSL Ltd. Novartis & Diagnostics, Ltd. Sanofi Pasteur, Inc. MedImmune LLC
 Other (specify) _____

Live attenuated influenza vaccine (LAIV) e.g., nasal Inactivated vaccine (TIV)
 Manufacturer: _____ Lot number: _____

Route of administration: Intramuscular Intranasal Subcutaneous

Vaccine Information Statement (VIS) Provided to Patient

Live Attenuated Influenza VIS Inactivated Influenza VIS None or unknown
 Edition Date: ____/____/____

Person Administering Vaccine

Vaccinator ID:	Title:
Name: Last: _____	First: _____ Middle: _____

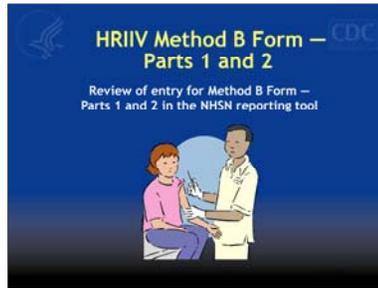
Work Address: _____
 City: _____ State: _____ Zip code: _____

Assurance of Confidentiality: The information obtained in this surveillance system that would permit identification of any individual or institution is collected with a guarantee that it will be held in strict confidence, will be used only for the purposes stated, and will not otherwise be disclosed or released without the consent of the individual, or the institution in accordance with Sections 304, 306 and 308(d) of the Public Health Service Act (42 USC 242a, 242c, and 242e(d)).

Public reporting burden of this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC, Reports Clearance Officer, 1600 Clifton Rd., MS D-70, Atlanta, GA 30333, ATTN: PRA (10920-0696).

CDC 57.133 rev 2, N48N v6.0

The paper-based form looks like this.



Now let's take a look at the NHSN application itself and how the 2 paper-based Method B forms will appear and build within the NHSN application. Participants may wish to have printed versions of Method B Forms - Part 1 and Part 2 available to view as we go through this portion of the demonstration.

Add Event = FLUVX

NHSN Home | Logged into Mount Sinai Medical Center (ID 10127) as TCH. Facility Mount Sinai Medical Center (ID 10127) is following the PS component.

Add Event | Print PDF Form - Part 1 Part 2

Reporting Plan
Patient
 Event
 Add
 Find
 Incomplete
Procedure
Summary Data
Import/Export
Analysis
Surveys
Users
Facility
Group
Log Out

Mandatory fields marked with *
 Fields required for record completion marked with **
 Fields required when in Plan marked with >

Patient Information [HELP](#)

Facility ID*: Mount Sinai Medical Center (ID 10127) | Event #: 18886
 Patient ID*: | Find | Find Events for Patient
 Social Security #: | Secondary ID:
 Last Name: | First Name:
 Middle Name:
 Gender*: | Date of Birth*:
 Ethnicity:
 Race: American Indian/Alaska Native Asian
 Black or African American Native Hawaiian/Other Pacific Islander
 White

Event Information [HELP](#)

Event Type*: FLUVX - Influenza Vaccination

Identifying an inpatient who meets one or more of the high risk criteria is the equivalent of an Event in the Inpatient Flu Vaccination module. To add the inpatient flu vaccination event, you will need to go to Event in the menu on the left Navigation Bar then click Add. You would then input your patient ID and demographic information in the Patient Information Section, making sure to complete all required fields marked with a red asterisk.

Event Information [HELP](#)

Event Type*: FLUVX - Influenza Vaccination

Influenza subtype*: SEASONAL - Seasonal

Date Admitted to Facility*:

High Risk Details - Part 1 [HELP](#)

High Risk Criteria (Check all that apply)*

- Person aged >= 50 years
- Person aged 6 months - 18 years
- Person aged 6 months - 18 years receiving long-term aspirin therapy
- Resident of nursing home or other chronic-care facility
- Person who lives with or cares for children younger than 6 months of age
- Pregnancy
- Person over 6 months of age who has chronic health disorder(s) or compromised immune system (see below for high risk conditions)

High Risk Conditions

- Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological, or metabolic disorders (including diabetes mellitus)
- Any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration
- Immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV])

High Risk Details - Part 2 [HELP](#)

Custom Fields [HELP](#)

Comments [HELP](#)

If **seasonal** subtype is selected, appropriate high risk criteria are displayed. Check all that apply.

After you have entered the patient's birth date and the date the patient is admitted to the facility, the NHSN application will automatically calculate if your patient meets the age requirements for the high risk criteria. In this screen shot, the patient's birth date is April 13, 1953 so the NHSN application automatically auto-populates that the patient met the high risk age criteria for an adult. Please note that this high risk criteria section asks you to check all the high risk criteria that apply for those patients not previously vaccinated.

Event Information [HELP](#)

Event Type*: FLUVX - Influenza Vaccination

Influenza subtype*: NONSEASONAL - Non-seasonal ←

Date Admitted to Facility*:

High Risk Details - Part 1 [HELP](#)

High Risk Criteria (Check all that apply)* ←

- Person aged 6 months - 24 years
- Person who lives with or cares for children younger than 6 months of age
- Pregnancy
- Healthcare or emergency medical services worker
- Person aged 25 through 64 who has chronic health disorder(s) or compromised immune system (see below for high risk conditions)

High Risk Conditions

- Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological, or metabolic disorders (including diabetes mellitus)
- Any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration
- Immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV])

High Risk Details - Part 2 [HELP](#)

Custom Fields [HELP](#)

Comments [HELP](#)

If non-seasonal subtype is selected, appropriate high risk criteria are displayed. Check all that apply.

After you have entered the patient's birth date and the date the patient is admitted to the facility, the NHSN application will automatically calculate if your patient meets the age requirements for the high risk criteria. In this screen shot, the patient's birth date is April 13, 1953, so the NHSN application automatically auto-populates that the patient met the high risk age criteria for an adult. Please note that this high risk criteria section asks you to check all the high risk criteria that apply for those patients not previously vaccinated.

Patient Information [HELP](#)

Facility ID*: Mount Sinai Medical Center (ID 10127) Event #: 18893

Patient ID*: 345678

Social Security #: Secondary ID:

Last Name: First Name:

Middle Name:

Gender*: F - Female Date of Birth*: 06/23/1947

Ethnicity:

Race: American Indian/Alaska Native Asian
 Black or African American Native Hawaiian/Other Pacific Islander
 White

Event Information [HELP](#)

Event Type*: FLUVX - Influenza Vaccination

Influenza subtype*: SEASONAL - Seasonal

Date Admitted to Facility*: 10/01/2009

High Risk Details - Part 1 [HELP](#)

High Risk Criteria (Check all that apply)*

Person aged >= 50 years

Person aged 6 months - 18 years

Person aged 6 months - 18 years receiving long-term aspirin therapy

Resident of nursing home or other chronic-care facility

Person who lives with or cares for children younger than 6 months of age

Pregnancy

Person over 6 months of age who has chronic health disorder(s) or compromised immune system (see below for high risk conditions)

High Risk Conditions

- Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological, or metabolic disorders (including diabetes mellitus)
- Any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration
- Immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV])

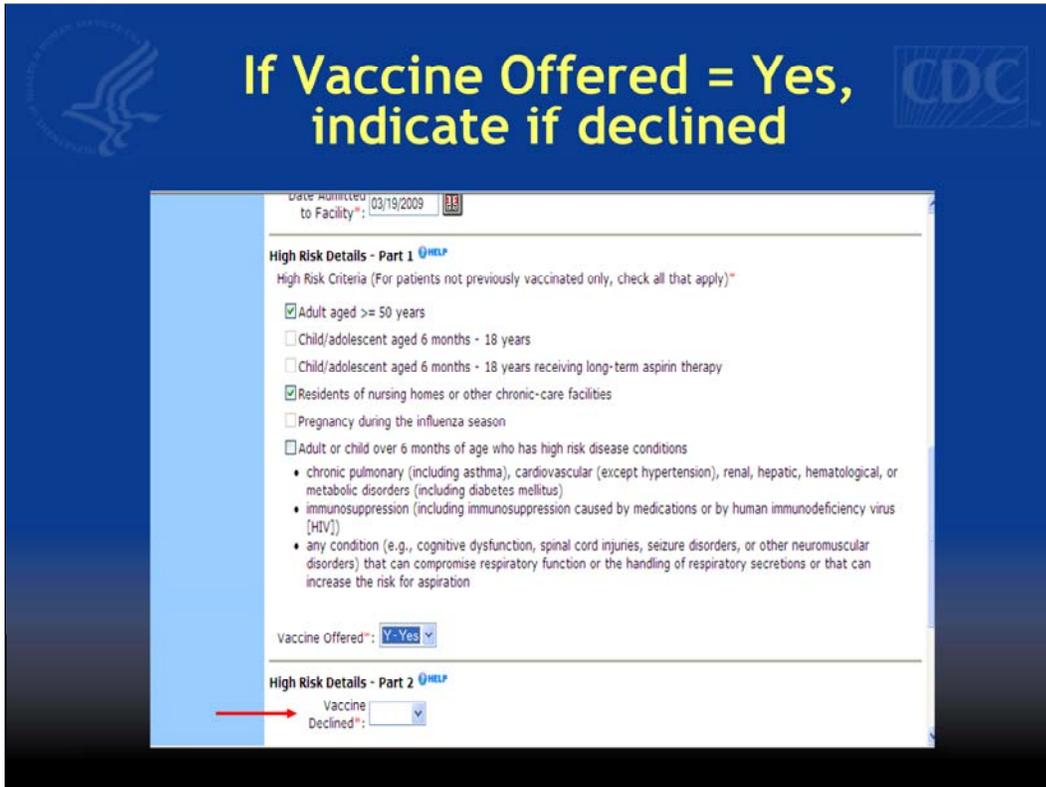
Vaccine Offered*: N - No



If Vaccine Offered = No, form is complete; click Save

As you can see, when I do *not* check the box for the “Adult or child over 6 months who has high risk conditions,” the Table for disease conditions is not shown. As mentioned earlier, the NHSN application builds itself based on the answers provided for the data collection elements.

Below the High Risk Details section is the final question on Method B Form - Part 1: whether or not vaccine was offered to the patient during the course of his/her hospital stay.



However, if Vaccine Offered is Yes, then the application will continue to build, asking whether or not the offered flu vaccine was declined, which is the first question on the Method B Form - Part 2 immediately following the demographic information section. I would like to also point out the demarcation of Method B Forms Part 1 and Part 2 are noted in the NHSN application. This screen shot shows where the high risk details are located, whether Method B Form – Part 1 or Method B Form - Part 2.

**If Declined = Yes,
indicate reason(s); click Save**

Vaccine Offered*: Y-Yes

High Risk Details - Part 2 [HELP](#)

Vaccine Declined*: Y-Yes

Reason(s) vaccine declined (Check either section A or B but not both)

A. Medical contraindication(s) (check all that apply):	B. Personal reason(s) for declining (check all that apply):
<input checked="" type="checkbox"/> Allergy to vaccine components	<input type="checkbox"/> Fear of needles/injections
<input type="checkbox"/> History of Guillian-Barre syndrome within 6 weeks of previous influenza vaccination	<input type="checkbox"/> Fear of side effects
<input type="checkbox"/> Febrile illness (Temp > 101.5 in past 24 hours)	<input type="checkbox"/> Perceived ineffectiveness of vaccine
<input type="checkbox"/> Other <input type="text"/>	<input type="checkbox"/> Religious or philosophical objections
	<input type="checkbox"/> Concern for transmitting vaccine virus to contacts
	<input type="checkbox"/> Other <input type="text"/>

Custom Fields [HELP](#)

Comments [HELP](#)

Save Back

If vaccine is declined, choose a reason, either medical or personal. Only one reason for declination should be chosen. If there are both medical and personal reasons for declination, the medical reason for declinations should be selected.

Vaccine Offered*: Y - Yes

High Risk Details - Part 2 [HELP](#)

Vaccine Declined*: N - No

Vaccine administered*: Y - Yes Date Vaccine Administered: 10/02/2009

Product*: LAVAL - FluLaval®

Type of influenza vaccine*: TIV - Inactivated vaccine (injectable)

Manufacturer: IDB - ID Biomedical Corporation of Quebec

Lot number*: 345890

Route of administration*: MUSC - Intramuscular

Vaccine information statement (VIS) provided to patient: **Optional**

- Live Attenuated Influenza VIS
- Inactivated Influenza VIS
- None or unknown

Edition date: 08/11/2009

Vaccinator ID: 1379 [Find HCW](#)

Title: Registered Nurse

Last Name: Smith

First Name: Gail

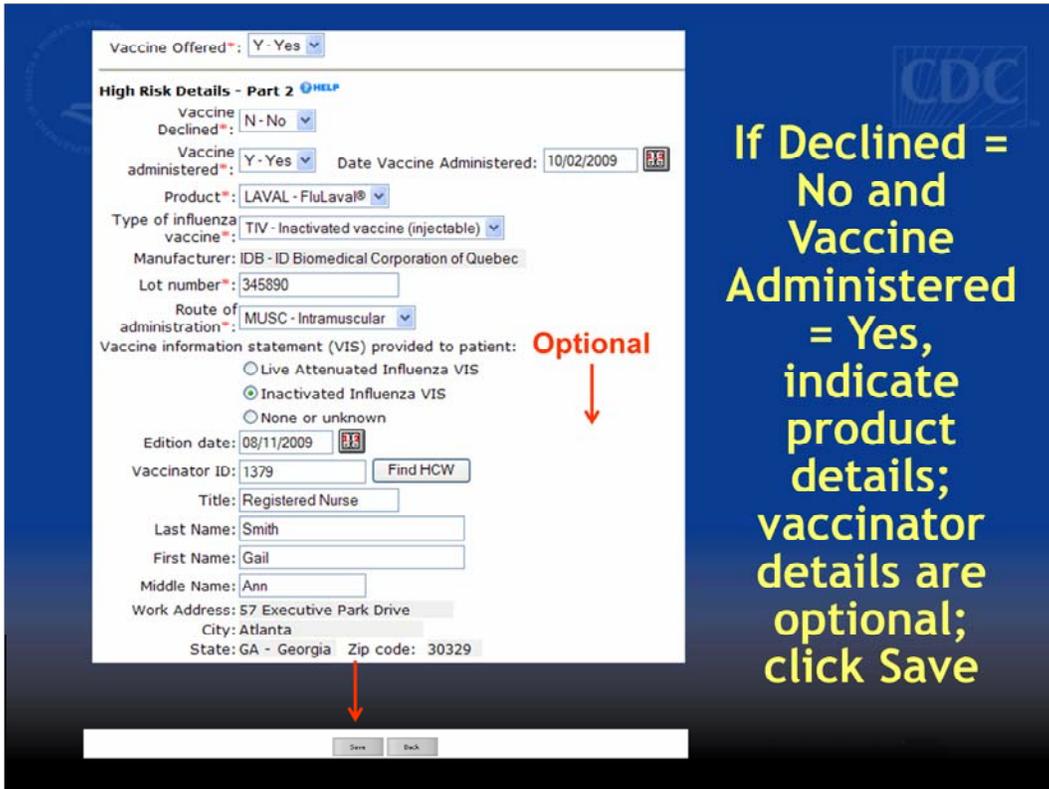
Middle Name: Ann

Work Address: 57 Executive Park Drive

City: Atlanta

State: GA - Georgia Zip code: 30329

[Save](#) [Back](#)



If Declined = No and Vaccine Administered = Yes, indicate product details; vaccinator details are optional; click Save



HRIIV Standing Orders Form

- ◆ Optional
- ◆ May be used to collect information required to complete forms for Method A or Method B
- ◆ Available on NHSN Web site for printing as is or modifying to meet facility-specific needs

In addition to the required forms for Method A or Method B, there is also an Optional – Standing Orders Form provided on the NHSN website. The use of Standing Orders forms for vaccinations has been shown to improve vaccination coverage rates which in turn can reduce the burden of disease from vaccine preventable diseases. ACIP encourages the use of standing orders forms as a result.

This Optional – Standing Orders Form may be used to assist collection of data required to complete the Inpatient Flu Vaccination Module in conjunction with a current standing orders program or may be used as a template to assist development of a facility-specific form for the patient chart that provides for standing orders as well as collection of data for the Inpatient Flu Vaccination Module. If a facility does not currently have a standing orders policy for vaccinations, it may help serve as another justification for developing one.



HRIIV Data Analysis

- ◆ Method A and Method B provide data for 12 different rates identified in module protocol (Tables 3 and 4)
- ◆ Method B provides additional data to describe characteristics of high risk inpatients identified including:
 - Demographic details of identified high risk inpatient population
 - Diagnosis associated with high risk population
 - Type of vaccination used by those receiving vaccination

Let's now discuss the NHSN application data analysis function for the Inpatient Influenza Vaccination Module. Method A and Method B both provide data for analysis of 12 different metrics identified in the module protocol as shown in Tables 4 and 5 in the NHSN Manual Patient Safety Component. Method B provides additional data to describe characteristics of high risk inpatients identified including: demographic details of identified high risk inpatient population, the diagnosis associated with the high risk population of inpatients, and the type of vaccination used by those receiving vaccination.

HRIIV Data Analysis



Table 3. Formulas for Metrics: Method A

All data come from Boxes 1-9 of the HRIIV Monthly Monitoring Form - Method A (CDC 57.130)

	Metric	Method A Formula (x 100)
1	Prevalence rate for all high risk inpatients among all inpatient admissions	$\frac{\text{Box 2}}{\text{Box 1}}$
2	Prevalence rate for high risk inpatients not previously vaccinated among all inpatients admissions	$\frac{\text{Box 5}}{\text{Box 1}}$
3	Prevalence rate of high risk inpatients previously vaccinated among total population of high risk inpatients	$\frac{\text{Box 4}}{\text{Box 2}}$
4	Adherence rate for offering influenza vaccination to high risk inpatients among all eligible high risk inpatients	$\frac{\text{Box 9}}{\text{Box 5}}$
5	Adherence rate for receiving influenza vaccination by high risk inpatients among all high risk inpatients	$\frac{\text{Box 8}}{\text{Box 5}}$
6	Adherence rate for receiving influenza vaccination by high risk inpatients among all medically eligible high risk inpatients	$\frac{\text{Box 8}}{\text{Box 5} - \text{Box 7}}$
7	Adherence rate for receiving influenza vaccination by high risk inpatients among all medically eligible, willing high risk inpatients	$\frac{\text{Box 8}}{\text{Box 5} - [\text{Box 6} + \text{Box 7}]}$

Here is Table 3 from the module protocol within the NHSN Manual Patient Safety Component, which includes the formulas for the 12 metrics noted for Method A taken from the single Method A form. Table 5 is a similar table in the module protocol within the NHSN Manual Patient Safety Component with the formulas for these same metrics using the Method B forms.

HRIIV Data Analysis

Table 4. Formulas for Metrics: Method B

Data come from three CDC forms:

Boxes 1-3 of the *HRIIV Monthly Monitoring Form - Method B* (CDC 57.131)

HRIIV Method B Form - Part 1 (CDC 57.132)

HRIIV Method B Form - Part 2 (CDC 57.133)

	Metric	Method B Formula (x 100)
1	Prevalence rate for all high risk inpatients among all inpatient admissions	$\frac{\text{Total \# Part 1 Forms} + \text{Box 3}}{\text{Box 1}}$
2	Prevalence rate for high risk inpatients not previously vaccinated among all inpatients admissions	$\frac{\text{Total \# Part 1 Forms}}{\text{Box 1}}$
3	Prevalence rate of high risk inpatients previously vaccinated among total population of high risk inpatients	$\frac{\text{Box 3}}{\text{Total \# Part 1 Forms} + \text{Box 3}}$
4	Adherence rate for offering influenza vaccination to high risk inpatients among all eligible high risk inpatients	$\frac{\text{Total \# Part 1 Forms "Vaccine offered" = "Yes"}}{\text{Total \# Part 1 Forms}}$

Here is Table 4 from the module protocol within the NHSN Manual Patient Safety Component, which includes the formulas for the 12 metrics noted for Method A taken from the single Method A form. Table 5 is a similar table in the module protocol within the NHSN Manual Patient Safety Component with the formulas for these same metrics using the Method B forms.




**Example:
Prevalence rate for all high risk
inpatients among all inpatient
admissions**

Method A:

$$\frac{\text{Box 2}}{\text{Box 1}}$$

Method B:

$$\frac{\text{Total \# Part 1 Forms + Box 3}}{\text{Box 1}}$$

This slide displays the formulas for the first metric found in the module's protocol within NHSN Manual from Table 4 for Method A and Table 5 for Method B. In the formula for Method A the box numbers refer to specific numbered boxes found on the single form, the Monthly Monitoring Form - Method A, or CDC Form 57.130.

Because Method B uses three different forms to collect the data needed, this same prevalence rate formula comes from a greater number of sources using a couple different forms, as is the case here.

For demonstration purposes, let's look at where the information for these formulas comes from using the Method A formula, Box 2 over Box 1, to determine the prevalence rate for all high risk patients among all inpatient admissions.

Completed HRIIV Monthly Monitoring Form - Method A

Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as BGT2.
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following PS component.

High Risk Inpatient Influenza Vaccination Monthly Monitoring Form - Method A

Mandatory fields marked with *

[Print PDF Form](#)

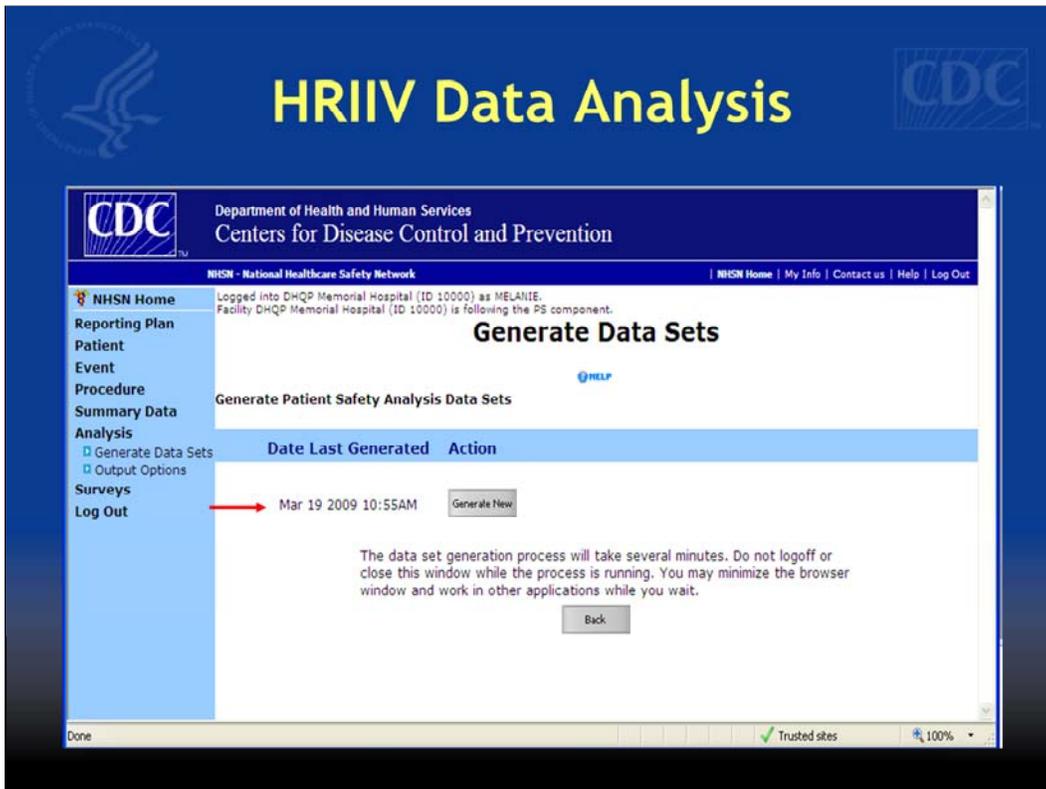
Facility ID*: 10018 (DHQP MEMORIAL HOSPITAL)
Month*: January
Year*: 2008

Box 1

Patient categories	Number of patients in each category
1. Total # of patient admissions	250
2. Total # of patients meeting high risk criteria for influenza vaccination	150
3. Total # of patients previously vaccinated during current influenza season	10
4. Total # of patients meeting high risk criteria previously vaccinated during current influenza season	*10
5. Total high risk patients not previously vaccinated during current influenza season (Denominator: Box 2 - Box 4)	140
6. Patients meeting high risk criteria offered vaccination but declining for reasons other than	*5

Box 2

This shows the location of Boxes 1 and 2 and their corresponding totals from the data that was entered previously. Box 1 and Box 2 refer to the numbered boxes on the form and the corresponding data that you have entered. In this case Box 1 is 250 and Box 2 is 150.



The analysis component of the NHSN application can be found under Analysis on the menu of the left Navigation bar. After you have entered new data, it will be necessary to Generate Data Sets first *before* proceeding to Analysis Output Options. Click on Generate Now and allow a few minutes for the data generation process to complete.

The screenshot displays the HRIIV Data Analysis interface. At the top, the title "HRIIV Data Analysis" is prominently displayed in yellow. The interface includes a navigation menu on the left with categories such as Reporting Plan, Patient, Event, Procedure, Summary Data, Analysis, Surveys, and Log Out. The main content area is titled "Patient Safety Component" and "Analysis Output Options". It features a tree view of modules and a list of CDC Defined Output options, each with "Run" and "Modify" buttons. A red arrow points to the "Rate Table - All HRIIV Events" option.

Reporting Plan
 Patient
 Event
 Procedure
 Summary Data
 Analysis
 Generate Data Sets
 Output Options
 Surveys
 Log Out

Patient Safety Component
 Analysis Output Options

Expand All Collapse All

- Device-Associated Module
- Procedure-Associated Module
- Medication-Associated Module
- MDRO/CDAD Module - Infection Surveillance
- MDRO/CDAD Module - LABID Event Reporting
- MDRO/CDAD Module - Process Measures
- MDRO/CDAD Module - Outcome Measures
- High Risk Inpatient Influenza Vaccination Module
 - All High Risk Inpatient Influenza Vaccinations
 - CDC Defined Output
 - Line Listing - HRIIV Declination Data [Run] [Modify]
 - Line Listing - HRIIV Administration Data [Run] [Modify]
 - Line Listing - All HRIIV Events [Run] [Modify]
 - Frequency Table - All HRIIV Events [Run] [Modify]
 - Bar Chart - All HRIIV Events [Run] [Modify]
 - Pie Chart - All HRIIV Events [Run] [Modify]
 - Rate Table - All HRIIV Events [Run] [Modify]
 - Advanced
 - My Custom Output

This slide shows more of the specific CDC defined outputs for analysis for the Inpatient Flu Vaccination Module, including line listing, frequency table, bar chart, pie chart, and rate table. The rate table provides the 12 metrics found in Tables 4 and 5 of the NHSN protocol specific for the Inpatient Flu Vaccination Module. You have the option to run your reports or to modify your reports by clicking on the appropriate button for Run or Modify. As you familiarize yourself with the many features of the Run and Modify buttons, you can produce reports suitable for your facility's needs.

HRIIV Data Analysis

Analysis Rate Table

Analysis Data Set: HRIIV_Rates [Export Analysis Data Set](#)

Modify Attributes of the Output:

Last Modified On: **02/07/2008**

Output Type:

Output Name:

Output Title:

Select output format:

Output Format:

Use Variable Labels

Select a time period or Leave Blank for Cumulative Time Period:

Date Variable: Beginning: Ending: [Clear Time Period](#)

To display a table with variable labels on it rather than name of the data variable, you should check Use Variable Labels box under the Select Output Format section.



HRIIV Data Analysis



National Healthcare Safety Network

Rate Table for HRIIV Events

Prevalence Rate - HRI Among All Inpatient Admissions

As of: March 7, 2008 at 3:50 PM

Date Range: HRIIV_RATES summaryYM 2008M01 to 2008M01

Org ID=10018

Summary Mon/Yr	Summary Type	# High Risk Inpatients	# Patient Admissions	Prevalence Rate - HRI Adm
2008M01	FLUA	150	250	60.0

Source of aggregate data: Not available

Data contained in this report were last generated on February 7, 2008 at 2:12 PM.

And, using our formula of Box 2 over Box 1, the NHSN application calculates our prevalence rate for all high risk inpatients among all inpatient admissions for January 2008 as 60%.



Summary of NHSN HRIIV Module



- ◆ Allows facilities to track rates of vaccine administration among high risk inpatients as defined by ACIP
- ◆ HRIIV Module forms are used to collect data using CDC definitions and protocols
- ◆ HRIIV data can be used to improve the rate of influenza flu vaccine administration and reduce the risk of complications in high risk inpatients from influenza infection

In summary, the Inpatient Flu Vaccination Module allows facilities to track rates of vaccine administration among high risk inpatients as defined by ACIP. The Inpatient Flu Vaccination Module forms are used to collect NHSN data using CDC definitions and protocols. Finally, inpatient flu vaccination data can be used by facilities to improve the rate of vaccine administration and reduce the risk of complications in high risk inpatients from influenza infection.

Contact Information

nhsn@cdc.gov

<http://www.cdc.gov/nhsn>

SAFER • HEALTHIER • PEOPLE™

This concludes the training session on the Inpatient Flu Vaccination Module of the NHSN Manual Patient Safety Component.

Thank you for taking the time to review this presentation and for your participation in the National Healthcare Safety Network.

If you have any additional questions about the Inpatient Flu Vaccination Module or about NHSN, you can find additional information on the NHSN website or contact us by email at nhsn@cdc.gov.