

# Management of Patient Status Designations IN IMMUNIZATION INFORMATION SYSTEMS

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Public and private providers administer immunizations to individuals, receive information about immunizations administered elsewhere, and conduct many other activities related to an individual's immunizations.

The provider ideally documents these immunization activities as they occur and reports this information to the Immunization Information System (IIS).

Determining who is responsible for ensuring a patient's immunizations are up to date is often difficult. Is it a private provider? The county public health clinic? The state health department? Or is no one responsible? Immunization Information Systems (IIS) need a consistent means of determining who is responsible for ensuring a patient is immunized, and what that patient's status is with the responsible entity. Such information would enable more accurate coverage assessments and more effective reminder/recall activities, and most importantly, would identify individuals with no entity responsible for ensuring his or her immunizations are up to date.

To address this issue, a national group of immunization subject matter experts defined a set of patient immunization status designations, rules for assigning status and recommended actions for recall/reminder notifications and coverage assessment based on status. They used a consensus-based process to develop these best practice guidelines around patient status, and subsequently published them in *Management of Moved or Gone Elsewhere (MOGE) Status and Other Patient Designations in Immunization Information Systems*.

This mini-guide highlights the work group's recommendations around patient status—recommendations any IIS can implement to improve data quality of the IIS and ensure individuals have up-to-date immunizations.

## A Hierarchy of Responsibility for Patient Vaccination

Two main entities may be responsible for ensuring patients are immunized—a healthcare provider and a public health agency. Because the best practice guidelines classify patient status slightly differently for each entity, it is important to understand how these entities are defined.

A healthcare provider, or Provider, is responsible for ensuring his or her patients are immunized. A public health agency is responsible for ensuring the individuals that comprise the population within its Geographic Jurisdiction are immunized, where Geographic Jurisdiction is further defined as a City, County, or State jurisdiction. A Provider can be associated with more than one Geographic Jurisdiction.

From the public health perspective, maintaining patient status for an individual at the Provider and Geographic Jurisdiction levels helps ensure that ultimately, at least one party is responsible for ensuring an individual is immunized. For example, if an individual in a city has no Provider that considers the individual his or her patient, the city's public health agency would be responsible for ensuring this individual is immunized. However, if the city has no public health agency, the county or district health agency would take responsibility. Ultimately, the state public health agency has responsibility for all individuals in its jurisdiction.

## Patient Status Designations

This mini-guide provides general guidelines for assigning patient status and describes the actions or conditions that cause the status to transition to a different status. Both the Provider level and the Geographic Jurisdiction level have patient status definitions. In the original best practices guidelines, the definitions for patient status as well as the actions or conditions that lead to a change in status are described in Business Rules.

### PROVIDER LEVEL STATUS DEFINITIONS

IIS should use the following definitions when determining an individual's status with a Provider who participates in the IIS. Within each patient status definition are the Business Rules, noted as BR10, BR11, etc., that describe how patient status is initially assigned or how patient status transitions from one designation to another.

**Active.** An individual who meets at least one of the following criteria:

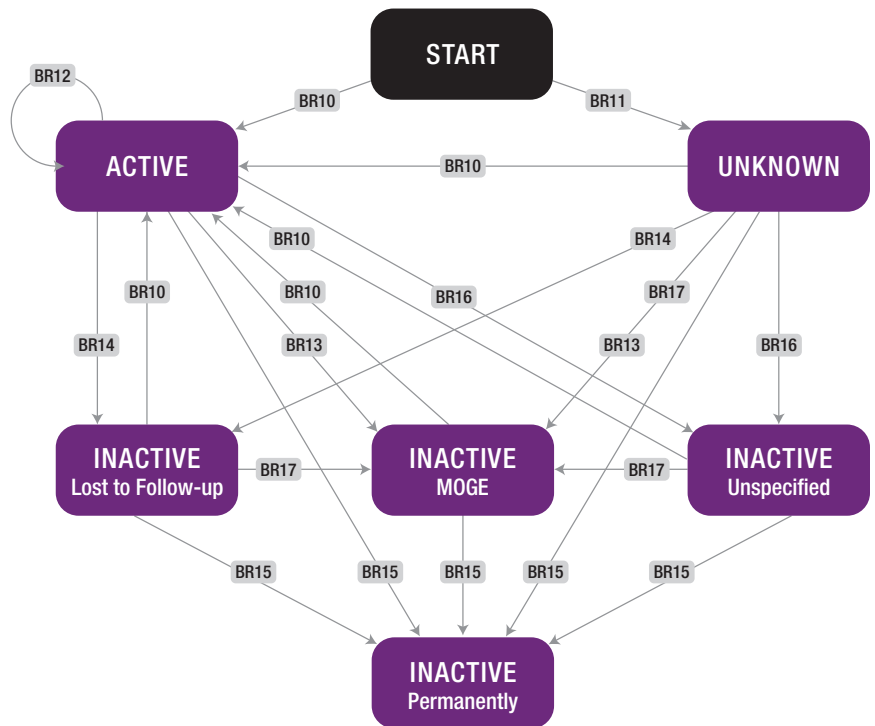
- (BR10) Received an immunization from the Provider.
- (BR10) Has been identified by a health plan as a patient of the Provider.
- (BR10) Has been identified by the Provider as a patient.
- (BR10) Has been identified by other medical information as a patient of the Provider.
- (BR12) Has an immunization home with the Provider, but that provider refers the individual elsewhere for immunization.
- (BR12) Receives subsequent immunizations from the same Provider.

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### Using Consistent Patient Status Definitions:

- Leads to more accurate coverage assessments
- Enables more effective reminder/recall activities
- Makes data across different IIS understandable
- Simplifies measurement of data quality
- Identifies individuals with no entity responsible for their immunizations
- Simplifies data sharing between IIS
- Ensures integrity of IIS information

## Assigning Patient Status at the Provider Level



**Inactive – MOGE.** An individual with documentation that shows he or she meets at least one of the following criteria:

- (BR13) Has moved out of the immediate area. For example, a reminder/recall notification has been returned with a forwarding address out of the immediate area.
- (BR13) Has gone to another practice. For example, the individual or the individual's parent or guardian has requested the transfer of his or her medical records or has notified the Provider of his or her intent to get immunizations elsewhere.
- (BR13) Has moved with no forwarding address.
- (BR17) Has *unknown*, *inactive – lost to follow-up*, or *inactive – unspecified* immunization status with the Provider, and the IIS determines the patient is receiving immunizations elsewhere.

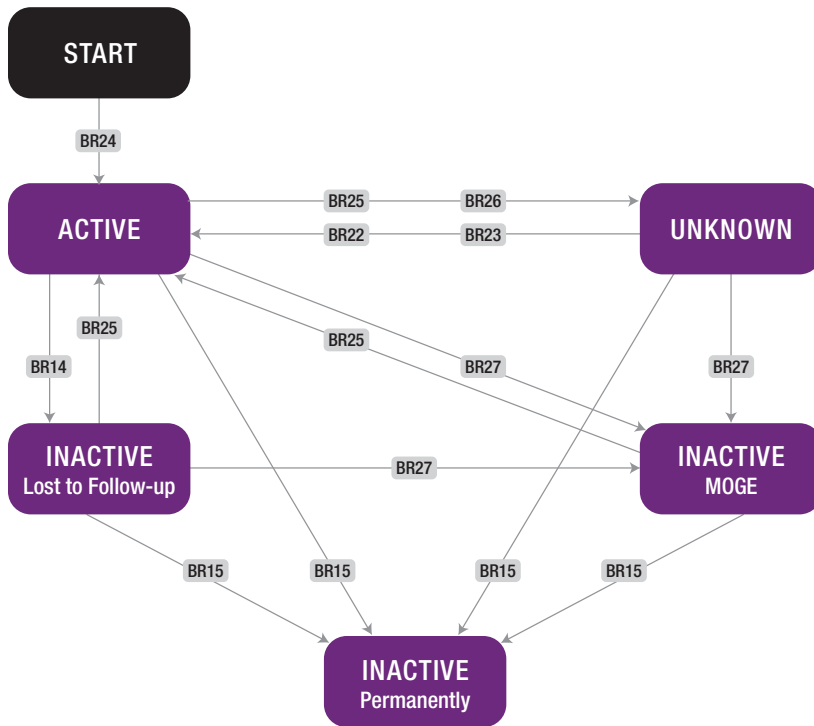
**Inactive – Lost to Follow-up.** (BR14) An individual who has not responded or provided adequate contact information in response to documented attempts at contact.

**Inactive – Permanently.** (BR15). An individual confirmed as deceased.

**Inactive – Unspecified.** (BR16) An individual whom the Provider has determined is no longer active for immunization, but has not specified a reason for this determination.

**Unknown.** (BR11) An individual made known to an IIS via an electronic interface, perhaps with demographic and historical data, but without that individual's status specified. This situation can occur as a result of health insurance companies or Providers providing historical data via an electronic interface.

## Assigning Patient Status at the Geographic Level



### GEOGRAPHIC JURISDICTION LEVEL STATUS DEFINITIONS

IIS should use the following definitions when determining an individual's status with a public health agency in a Geographic Jurisdiction that participates in the IIS.

**Active.** An individual who meets at least one of the following criteria:

- (BR24) Resides within the geographic jurisdiction has been reported.
- (BR25) Has had a new record of his or her residence within the jurisdiction received.
- (BR26) Has had documentation of an immunization event for the individual received with no address or with an address within the jurisdiction.

**Inactive – MOGE.** (BR27) An individual with documentation showing that he or she no longer resides in the geographic jurisdiction.

**Inactive – Lost to Follow-up.** (BR14) An individual who has not responded or provided adequate contact information in response to documented attempts at contact.

**Inactive – Permanently.** (BR15) An individual confirmed as deceased.

**Unknown.** An individual who meets at least one of the following criteria:

- (BR23). Is at least 7 years of age with no documented immunizations after their birth dose.
- (BR23). No contact or event information has been documented in their record for 10 years. For example, no vaccination information has been added or changes have been made to the record in 10 years.

## TRANSITIONING FROM ONE STATUS DESIGNATION TO ANOTHER

As mentioned earlier, Business Rules describe the actions or conditions that cause a patient's immunization status to change. For example, Business Rule 26 (BR26) describes the actions or conditions that must occur for an individual to transition to Active status from Inactive-MOGE, Inactive-Permanently, Inactive-Lost to Follow-up or Unknown status. Basically, BR26 states that if the IIS receives documentation of an immunization event, the patient transitions to Active status.

Once set as Active, an individual's status can only remain Active or transition to one of the Inactive designations—never to Unknown. BR11 states that the only way an individual can have Unknown status at the Provider level states is if his or her information is reported to the IIS from a Provider via an electronic interface and the information does not specify status. BR11 ensures that a Provider always remains responsible for a patient.

Consistently applying the business rules for transitioning from one status to another ensures that coverage assessment measures have the same meaning from one IIS to another and that reminder/recall notifications are sent to those individuals who need them. The complete list of Business Rules is available in the original best practice guidelines.

## IMPACT OF PATIENT STATUS ON REMINDER/RECALL NOTIFICATION AND COVERAGE ASSESSMENT

Consistent assignment of patient status definitions supports the development of best practice guidelines around sending reminder/recall notifications and performing coverage assessments.

Immunization coverage assessment activities should be documented and conducted at both Provider and Geographic Jurisdiction levels of responsibility. State immunization programs more commonly report Provider level coverage assessments. Assessing coverage and assigning responsibility at a Geographic Jurisdiction level is a newer concept for many IIS, but is necessary to ensure that patients do not fall through the cracks in the health care system. Typically, a public health agency is responsible for ensuring that an individual's immunization status is up to date at the Geographic Jurisdiction level.

The following four tables provide guidelines for reminder/recall and coverage assessments based on patient status at both the Provider and the Geographic Jurisdiction levels of responsibility.

### Reminder/Recall Notification

The first table in this section provides decision support for reminder/recall notifications based on patient status at the Provider level. The second table provides this decision support at the Geographic Jurisdiction level. The tables are based on the following assumptions:

- In IIS where it is allowed, when an individual opts out of receiving a reminder/recall notification, the individual is excluded from notification.
- When batch loads of historical, and sometimes real-time, data are loaded into the IIS, patient status for patients with no status designations are automatically flagged with a status of Unknown. Such flagging should prompt Providers or the IIS to update the status to the appropriate current status.

### Reminder/Recall Notification: Decision Support at Provider Level

ACTION TO TAKE BASED ON STATUS	STATUS (Provider Level)		
	Active	Inactive – MOGE Inactive – Permanently Inactive – Lost to Follow-up Inactive – Unspecified	Unknown
Include in Provider reminder/recall notification	X		
Exclude from Provider reminder/recall notification		X	
Provider or IIS makes determination to include or exclude from Provider reminder/recall notification			X

### Reminder/Recall Notification: Decision Support at Geographic Jurisdiction Level

ACTION TO TAKE BASED ON STATUS	STATUS (Geographic Level)		
	Active	Inactive – MOGE Inactive – Permanently Unknown	Unknown
Include in Geographic Jurisdiction reminder/recall notification	X		
Exclude from Geographic Jurisdiction reminder/recall notification		X	
IIS makes determination to include or exclude from Geographic Jurisdiction reminder/recall notification			X

### Immunization Coverage Assessment

The first table in this section provides decision support for including or excluding an individual in a coverage assessment based on patient status at the Provider level. The second table provides this decision support at the Geographic Jurisdiction level. The tables are based on the following assumptions:

- When batch loads of historical, and sometimes real-time, data are loaded into the IIS, patient status for patients with no status designations are automatically flagged with a status of Unknown. This flagged status should prompt Providers or the public health agency to update the status to the appropriate current status.
- If a coverage assessment is performed retrospectively, a status history must be maintained, and the patient status at the end of the time period should be used in the assessment.
- Including Inactive – Lost to Follow-up in coverage assessments promotes responsibility to resolve this status for the individual by the Geographic Jurisdiction. Interstate data exchange will likely help properly resolve many cases where this status is assigned.
- The Coverage Assessment Table for Geographic Jurisdiction level does not address the situation where an individual opts out of immunization because these refusals occur rarely.

**For additional information,  
please contact:**

**Warren Williams**  
Centers for Disease Control  
and Prevention  
(404) 639-8867  
wxw4@cdc.gov

**Elaine Lowery**  
elaine.lowery@comcast.net

**Cynthia Sutliff**  
AIRA, Executive Director  
(212) 676-2325  
csutliff@health.nyc.gov

**AIRA**  
c/o Public Health Solutions  
220 Church Street, 5th Fl.  
New York, NY 10013-2988

www.immregistries.org  
info@immregistries.org



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### Coverage Assessment: Decision Support at Provider Level

ACTION TO TAKE BASED ON STATUS	STATUS (Provider Level)	
	Active Unknown	Inactive – (all)
Include in Provider immunization coverage assessment	X	
Exclude from Provider immunization coverage assessment		X

### Coverage Assessment: Decision Support at Geographic Jurisdiction Level

ACTION TO TAKE BASED ON STATUS	STATUS (Geographic Level)	
	Active Unknown Inactive – Lost to Follow-up	Inactive – MOGE Inactive – Permanently Unknown
Include in Geographic Jurisdiction immunization coverage assessment	X	
Exclude from Geographic Jurisdiction coverage assessment		X

### Additional Benefit for Vaccine Ordering and Inventory Control

Implementation of the recommended guidelines around patient status can also improve vaccine management activities. An accurate measure of patient status is important for vaccine ordering and inventory control functions, and an accurate measure of patient status by vaccine type is one way the IIS can provide accountability for vaccines made available by the Vaccines for Children (VFC) program. In addition, the number of active patients at the Provider or Geographic Jurisdiction level provides a VFC provider profile that is useful for estimating future vaccine ordering needs.

### Consistent Status Designations and Usage Delivers Multiple Benefits

The implementation and use of consistent patient status designations helps ensure patients are up to date with the current immunization schedule, improves data quality in the IIS and assists with vaccine ordering and inventory control. IIS staff should take advantage of opportunities to integrate these recommendations—for example, when upgrading the IIS or when accepting data from different electronic sources. Even small steps toward implementing the best practice guidelines can lead to significant operational improvements and benefits.

### Learn More About Patient Status

The usefulness of an IIS and its ability to improve patient and population health relate directly to the quality of the data in the system. This mini-guide provides practical guidelines that most IIS programs can apply, but for more in-depth, technical information related to these best practices, download the original best practice guidelines from the AIRA web site:

[http://www.immregistries.org/docs/MIROW\\_MOGE\\_Chapter\\_Final\\_122005\\_rev1.doc](http://www.immregistries.org/docs/MIROW_MOGE_Chapter_Final_122005_rev1.doc).

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