**Herpes Zoster**

**Phenotype Algorithm Pseudo Code**

Group Health and University of Washington

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Contacts:  
David Carrell ([carrell.d@ghc.org](mailto:carrell.d@ghc.org), 206-287-2705)  
Eric Baldwin (baldwin.e@ghc.org)

**Background:**

Herpes zoster, also known as zoster or shingles, is caused by a virus called varicella zoster virus (VZV). Initial infection with the virus causes chickenpox. After chickenpox resolves the virus continues to resides in certain nerve cells. It may remain latent for many years. It may also re-activate, many years later, and cause shingles which is a painful skin rash. How the virus remains latent in the body is not well understood. Additional information is available at:

<http://en.wikipedia.org/wiki/Herpes_zoster>

**General Instructions:**

The chart validation review will consider information available anywhere within the electronic medical record (chart). The reviewer will not be blind to case or control status.

**Sample Selection:**

A random sample of 25 cases and 25 controls (50 total) will be selected from all cases and controls identified by the automated phenotype algorithm at the local site.

**Case/Control Defintions:**

**Cases**

A **Case** is defined as anyone 40 years of age or older with a diagnosis of herpes zoster or varicella zoster since their 40th birthday.

Cases must also have at least 5 years of enrollment in (or regular contact with) the health care system. The enrollment criterion is designed to increase the likelihood that a history of zoster infection will be documented in the chart.

Additionally, cases must not meet any of the following exclusionary criteria:

Exclusion conditions for cases:

1. HIV positive, ever
2. Cancer of the blood or bone marrow during the 365 day period prior to the index date
3. Chemotherapy infusion during the 180 day period prior to the index date.

*Index date*: Only cases have index dates (controls do not). This index date is defined as the earliest date on which a diagnosis of herpes zoster is recorded following the person’s 40th birthday.

**Controls**

A **Control** is defined as: having no evidence of herpes zoster infection documented anywhere in the patient’s chart.

Controls must also have at least 5 years of enrollment in (or regular contact with) the health care system (same reasoning as for cases).

Additionally, controls must not meet the following exclusionary criterion:

Exclusion condition for controls:

1. HIV positive, ever

*Index date*: Controls do not have index dates (only cases have index dates).

**Information provided to the reviewer:**

The following information will be provided to the reviewer prior to conducting the manual chart review:

* Patient identifier (for locating the chart)
* Case/control status as determined by the electronic algorithm
* For cases, the index date (date of earliest zoster diagnosis following the 40th birthday)

**Data entry form:**

To facilitate documentation of the local chart validation review, an Excel workbook has been provided (available on PheKB). See the first worksheet in that workbook (named ReadMe) for instruction on how to use it.

**Glossary/Codebook:**

By “evidence of herpes zoster infection in the chart” we mean the presence, in the narrative section of one or more chart documents, of an affirmative mention of herpes zoster or varicalla zoster. Mentions qualified by negation or uncertainty do not satisfy this requirement. Similarly, a mention that only appears in the formal Problem List section of the chart is not sufficient. This is because of the possibility a lone Problem List entry may represent a “rule-out” diagnosis that was determined not to be present upon examination.

Herpes zoster mentions include:

* Zoster
* Shingles
* Zona

**Validation decision tree**

The decision tree graphic on the following page is intended to assist reviewers during the validation chart review. It represents the essential components of the electronic algorithm as it relates to validation of herpes zoster cases and controls.

Meets *both* criteria:

* Age 40+
* Enrolled 5+ years since age 35

HIV diagnosis codes on 2+ distinct days, ever

Ever diagnosed with herpes zoster or varicella zoster

Diagnosis of herpes zoster or varicella zoster since age 40

Meets *either* criteria:

* Any blood cancer or bone marrow cancer diagnosis during 365 days prior to index date
* Any cancer chemotherapy infusion during the 180 day period prior to the index date

Herpes Zoster Chart Validation Decision Tree