

# Ring Maps: A Useful Visualization Technique for Pandemic H1N1

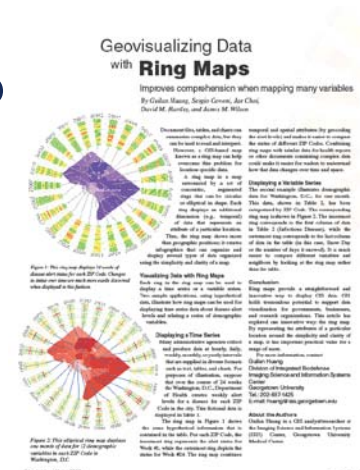
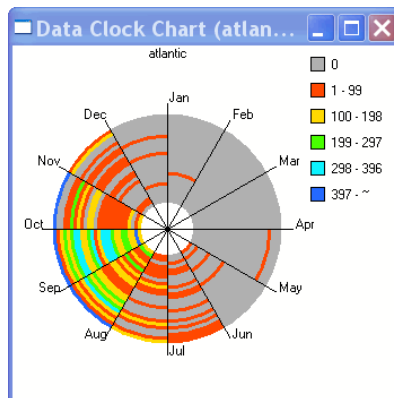
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## Today's Discussion Items:

- Personal history of the ring map
- What is a ring map?
- Benefits/advantages of ring maps
- How OAHPP currently uses ring maps
- Other applications of ring maps
- How the ring maps were created
- Questions
- Lunch

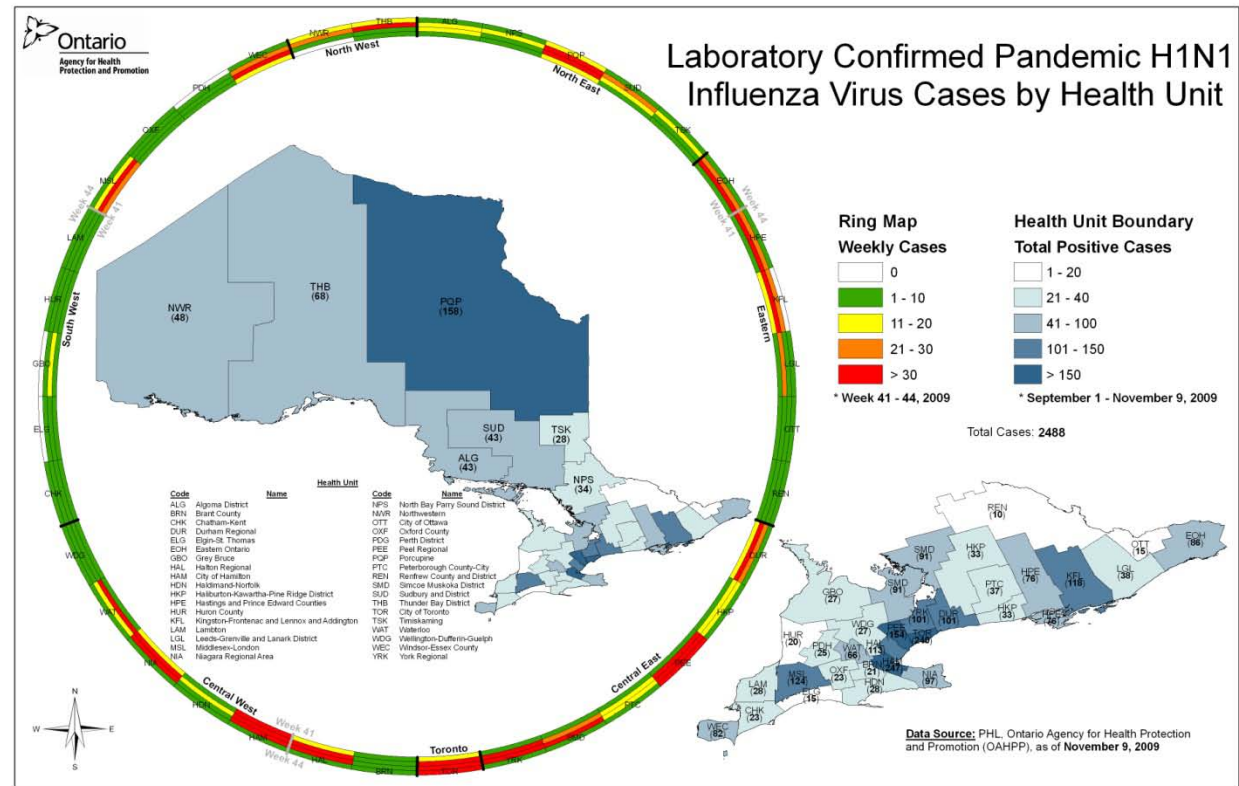
# Personal History of the Ring Map

- Primary exposure using ESRI Tracking Analyst extension → Data clocks
- Read about this style of maps in an ESRI publication – [ArcUser \(Winter, 2008\)](#) – [Geovisualizing Data with Ring Maps \(Huang et al\)](#)
- Co-worker received an email discussing ring maps from the field in August...shortly after, it was suggested that ring maps may be useful to add to the weekly pH1N1 laboratory summary reports
- After a few drafts....the OAHPP weekly ring maps were born!
- Modified and improved as needs change...an evergreen map



# What is a ring map?

- Visualization technique to show both space and time elements within one single map
- Contains a ring graphic to show change over time, AND a
- Geography (showing cases, rates, etc.) for specific locations
- Ring wedges represent geographies

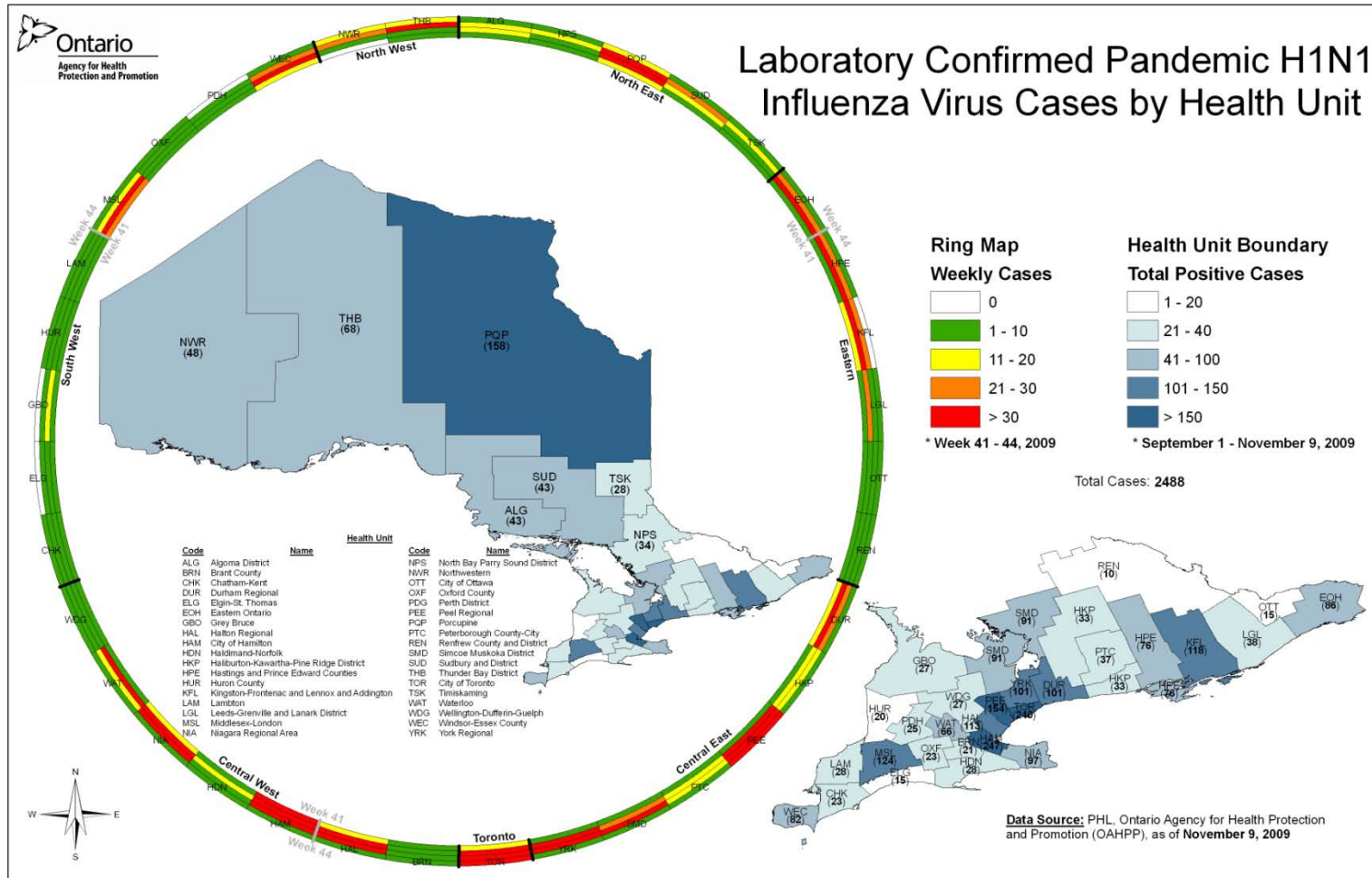


## Benefits/Advantages of ring maps:

- Traditionally, time elements often are displayed as:
  - snapshots spanning several maps or
  - by using animations (e.g. Tracking Analyst)
- Space AND time on one map
- One ring map provides much more information than a snapshot
- Can represent more time by simply adding more ring layers
- Provides a quick chronology and overview
- Like all maps, they add a great visual component to data within tables and/or graphs
- They are flexible! Can show any disease (or any other data) by any geography – It is not limited to influenza!!!



# How OAHPP uses ring maps – cont'd



## Other applications of ring maps

- Just a few examples...it's really quite open:
  - HIV/AIDS cases by year in Canada (years in rings, provinces/territories as ring wedges)
  - West Nile Virus cases by year by public health unit (same setup as pH1N1 example)
  - 2008 Listeriosis cases by month by LHINs (cases per month in rings – 12 rings, each of the 14 LHINs as wedges)
  - Again, anywhere temporal information is available for specific geographies

## How the ring maps are created

- Most laborious to originally set up – weekly, the modifications are quick
- Know your geography
  - The ring usually (but doesn't need to) surrounds your study area
- Within ArcGIS
  - Create your template circle (as a feature) – just outside your geography
  - Buffer the circle (multi-ring) by a distance (width of rings) (16, 32, 48, etc.)
  - Knowing your geography, divide the circles into equal-sized wedges → for PHUs, each of the 36 health units contains 10° of the 360° circle
    - Use the editing tools
  - Populate the attribute table with temporal and geographic information for later implementation
    - Ensure contents are correct (fall in proper wedge and are chronologic)
- Create your joins, and build your map!

## Questions?

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