The Research Question
Real-Time Surveillance of Influenza in Ambulatory Primary Care Settings
Jonathan L. Temte, Shari Barlow, Amber Schemmel, Emily Temte, David Hahn, Melody Bockenfeld, Erin Legee, Kate Judge, Amy Irwin, Tom Haupt, Erik Reisdorf, Mary Wedig, Peter Shult, David Booker, and John Tamerius

- The Question: Could rapid influenza diagnostic test (RIDT) analyzers connected to a wireless routers and placed into primary care practices provide “early detection” of influenza?
- Why this is important?
  Early detection of outbreaks facilitates medical/public health response
  Current approaches have inherent delays in reporting

What the Researchers Did

- Population/Subjects
  - 19 clinics in Wisconsin
  - Any patient with ARI on set within 4 days of visit
- Design
  - Prospective active surveillance
- Basic Method/Intervention
  - Nasal swab collected at visit
  - Tested with Quidel Sofia Influenza A+B RIDT
  - Equipped with wireless transmission of results
  - “waste swab” sent to Wisconsin State Laboratory of Hygiene for PCR confirmation

What the Researchers Found

- Great Surveillance Population
  - Wide range in ages
  - Similar to “community” rates of ARI
- Outbreak detection in real time
  - Extremely early detection
- Comparable with Existing Surveillance Systems
  - High correlation with PCR network
  - RIDT network
- Good Performance of RIDT
  - Sensitivity = 74%
  - 89% for children
  - Specificity = 96%
  - 96% for children

Number of Influenza Infections: Wisconsin 2013-2016
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Age (midpoint of 4-year block)
What This Means for Clinical Practice

Wireless RIDT allows real-time surveillance of influenza
- Free flow of anonymous result data to public health in near real-time
- Eliminates need for anyone to assemble, aggregate, and send information

Wireless RIDT can be implemented quickly in primary care
- Public health implementation would remove need to attain IRB approval
- Extremely simple surveillance protocols allow buy-in from clinics and clinicians

Wireless RIDT creates robust and reliable surveillance
- Extremely early detection of influenza outbreak in Wisconsin
- Close correlation with “gold standard” surveillance systems
- Adaptable system