Broadband Network Considerations in Support of Public Health:
a North Carolina Perspective

Dave Kirby

Kirby Information Management Consulting, LLC

Dave@KirbyIMC.com

Key RHCPP Order Requirements re: public health

- … selected participants shall coordinate the use of their health care networks with the Department of Health and Human Services (HHS) and, in particular, with its Centers for Disease Control and Prevention (CDC) in instances of national, regional, or local public health emergencies (e.g., pandemics, bioterrorism).

- In such instances, where feasible, selected participants shall provide access to their supported networks to HHS, including CDC, and other public health officials.

Key RHCPP Order Requirements re: public health

- Accordingly, where feasible, selected participants, as part of their Pilot Program network build-out projects shall:

  - (1) use health IT systems and products that meet interoperability standards recognized by the HHS Secretary;

  - (2) use health IT products certified by the Certification Commission for Healthcare Information Technology;

  - (3) support the Nationwide Health Information Network (NHIN) architecture by coordinating their activities with the organizations performing NHIN trial implementations;

  - (4) use resources available at HHS's Agency for Healthcare Research and Quality (AHRQ) National Resource Center for Health Information Technology;

- (5) educate themselves concerning the Pandemic and All Hazards Preparedness Act and coordinate with the HHS Assistant Secretary for Public Response as a resource for telehealth inventory and for the implementation of other preparedness and response initiatives; and

- (6) use resources available through CDC's Public Health Information Network (PHIN) to facilitate interoperability with public health organizations and networks.

Impact of order on NCTN and others

- The NC TeleHealth Network consists of all public health sites in the state (164) and all public free clinics (~75).

- So, supporting public health needs is integral to the NCTN and will also be integral to other RHCPP selectees that directly include public health sites.

- RHCPP selectees who don't plan to directly incorporate public health sites still, almost certainly, contain sites (e.g. local hospitals) who share (or will soon share) networked applications used to further the public health mission (e.g. community disaster response, HIEs).

Key characteristics of public health support programs in NC (and many other states)

- Sites are typically small (5-30 staff); numerous (164 PH sites in NC); move frequently (about 30% move per five years in NC)

- Most sites have basic broadband (e.g. DSL/Cable modem, T1) with connection to the commodity Internet used to reach all applications. ; most have inadequate bandwidth now and inadequate reliability.

- Key program elements include:
  - Primary care clinics for vulnerable populations (20-40% of total population)- including labs, dental, medical, mental
  - Environmental svcs;
  - Disaster planning/monitoring/response (frequently for the whole county- not just public health)
  - Family planning, school nurse, home health
  - Staff tele-education

Key characteristics of public health support programs in NC (and many other states)… continued

- Emerging use of networked applications (served centrally in the state) to support key program needs (e.g. new EMR, HAN, GIS-based environmental fields svcs)

- Little IT support (typically a fraction of a person from county government).

- Overall staff shortages and looming boomer retirement wave (i.e. strategic need for IT to partially replace staff)

- Increasing demands to collaborate on regional and state-wide services in support of efficiency and effectiveness improvements.

- Funding (sustainability) will depend on making improved network services that are similarly priced (within 100%) of current sources or (unexpected) finding a new source of funds.

- Close cooperation with other local health/government entities (e.g. local hospitals, private clinics, sheriff's office)

Key derived NCTN characteristics for the typical public health site.

- More bandwidth (e.g. 10-30 mbps throughput to key sites (e.g. state-centric EMR, state bio-preparedness servers, CDC, state lab, local hospital).
- Net management that does not depend on tech support at the site.
- Disaster-proofed connections to key sites (e.g. hurricane, ice storm, pandemic (tech staff loss), tornado, flood); even for non-disaster mode, many apps require very high uptime (e.g. EMR).
- Most apps have high security (confidentiality and integrity) needs.
- Low-investment in the last mile (due to frequent moving of sites).
- QOS sufficient to handle tele-education video and some tele-medicine apps (e.g. mental health) and VOIP.

Impact on RHCPP Selectees

- RHCPP projects that directly include public health sites will likely have similar needs.

- RHCPP selectees who don't plan to directly incorporate public health sites still almost certainly contain sites (e.g. local hospitals) who share (or will soon share) networked applications used to further the public health mission (e.g. community disaster response)

- …and so should anticipate interoperating with public health networks with similar operating characteristics to the NCTN.

END

- Thanks!