

Hitting the Ground Running: An Organizational Response to a Large Mumps Outbreak

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Overview

- ↖ Overview of mumps
- ↖ Incidence worldwide
- ↖ Epidemiology of Capital Health mumps outbreak
- ↖ Why Capital Health?
- ↖ Timeline
- ↖ Organizational structure
- ↖ Roles and responsibilities
- ↖ Learnings



Overview of Mumps

- ⌞ acute viral disease (Paramyxoviridae family) causing fever, swelling and tenderness of salivary glands
- ⌞ highly infectious - transmission by droplets from respiratory tract or contact with secretions
- ⌞ Potential for permanent sequelae (meningitis, hearing loss, miscarriage in first trimester, orchitis, oophritis, and rarely encephalitis)

Picture courtesy
of Centre for
Disease Control
and Prevention



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Mumps Outbreaks Worldwide

- ↯ most children contracted mumps prior to 1970's
- ↯ 1975 -1 dose at 12 months of Measles Mumps Rubella
- ↯ 1996 - 2 dose schedule implemented (12 mos and 4-6 yr)
- ↯ 1 – 2 cases of mumps per year in Capital Health after implementation of two dose schedule
- ↯ 2005 large outbreaks in Great Britain & Iowa
- ↯ 2005 Nova Scotia had two small outbreaks of mumps (13 cases and 19 cases)
- ↯ 2007 to present - large outbreak of mumps



Epidemiology of Mumps (April 23, 2008)

| | Nova Scotia | Capital Health |
|-----------------------|-------------------------------|-------------------------------|
| Total cases | 794 | 642 (81%) |
| Confirmed - lab | 571 (72%) | 470 (73%) |
| Confirmed – clinical | 24 (3%) | 20 (3%) |
| Probable | 199 (25%) | 152 (24%) |
| Age range – confirmed | 4 mos – 64 years | 4 mos – 64 years |
| Age range – probable | 2 years to 69 years | 2 years to 65 years |
| Age groups | 17 – 25: 57 % 17 – 37: 83% | 17 – 25: 57 % 17 – 37: 85% |
| Median Age | 23 | 23 |
| Male:Female | 52% Female | 52% Female |



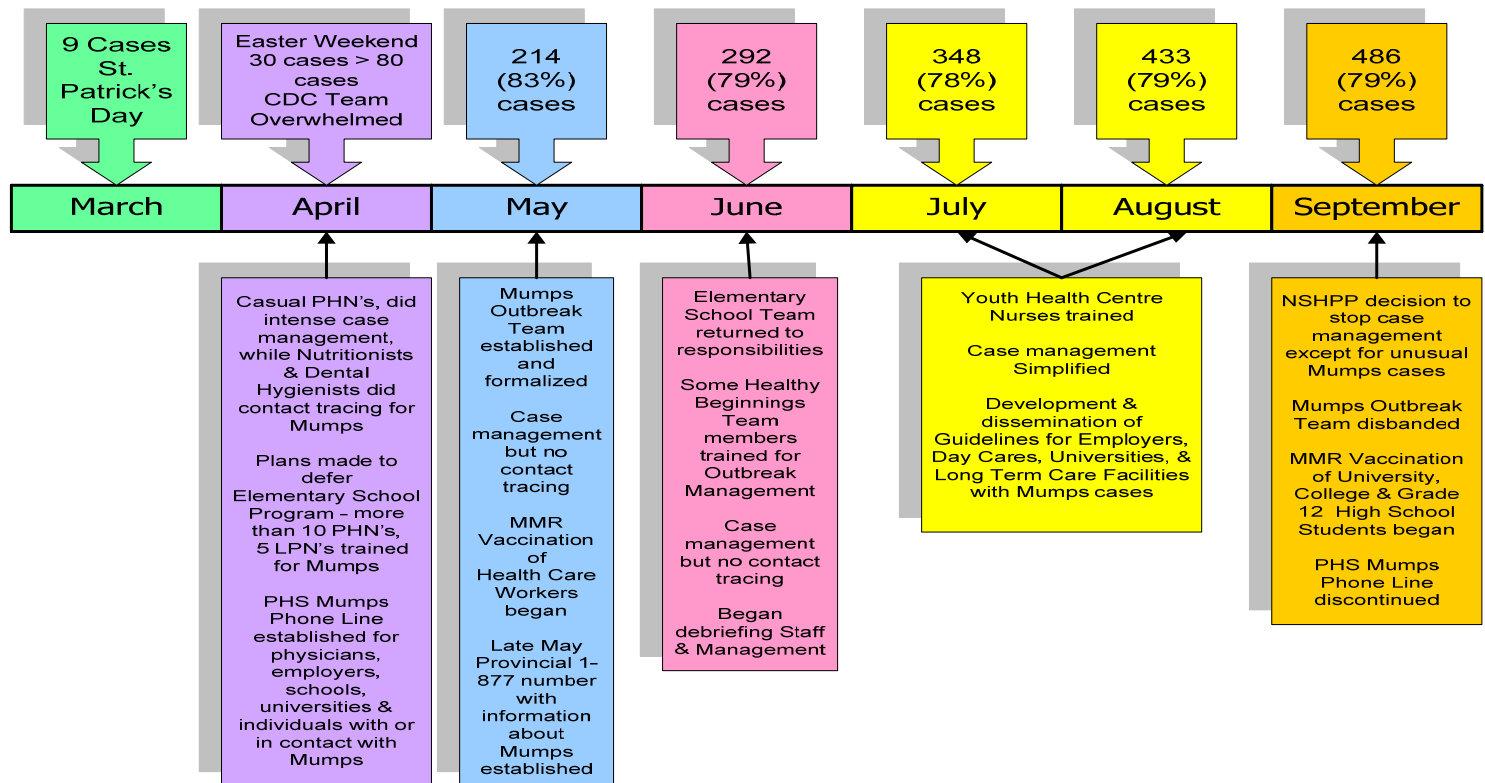
Why Capital District?

- ↖ 8 Universities
- ↖ Primary university affected has large population of students away from home living in close proximity
- ↖ Perfect storm
 - ↖ 6 students from New Brunswick in the infectious period prior to developing mumps socializing in Halifax during St. Patrick's Day festivities
 - ↖ University students generally had only 1 MMR
 - ↖ Mumps is very contagious and is spread by respiratory droplets
 - ↖ Seeded mumps outbreak

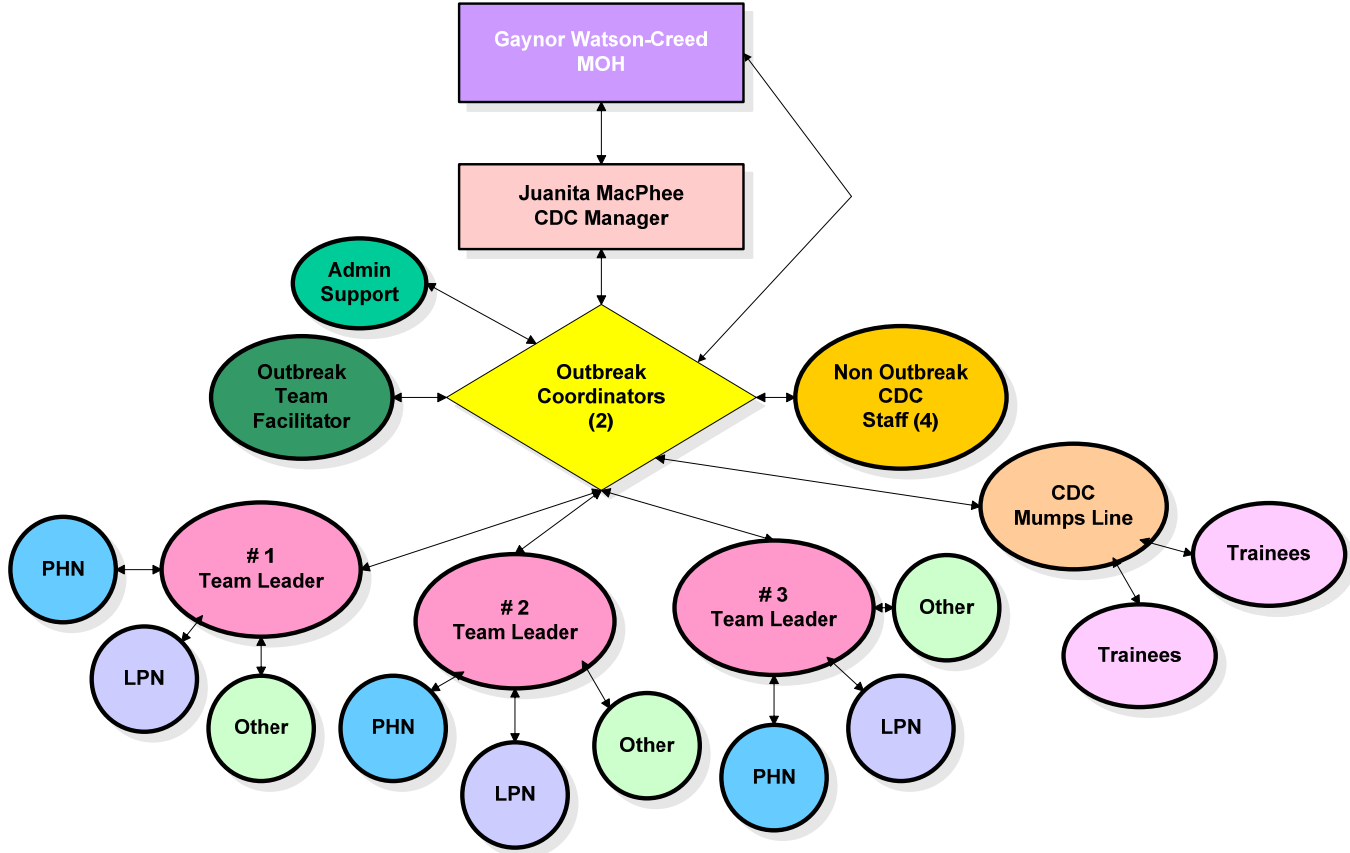


Timeline

Public Health Services, Capital District Health Authority Response to 2007 Mumps Outbreak



Outbreak Team Organizational Framework



New Roles Created

↯ **Mumps Team Facilitator**

- ↯ staffing, obtained resources, training

↯ **2 Team Coordinators**

- ↯ Communicable Disease Control Nurses

- ↯ Big Kahunas”

- ↯ case intake and dispersed cases to teams

↯ **Team Leaders**

- ↯ non Communicable Disease Control nurses

- ↯ from Healthy Beginnings, School Program

- ↯ mentored and taught by previously trained nurses



New Roles Created

☞ Phone Line Team

- ☞ managed up to 60 calls per day with 2 nurses at peak
- ☞ developed binder of key information – updated regularly
- ☞ staffed from programs such as Healthy Beginnings, School Team and Youth Health Centres

☞ Clerical Support

- ☞ document management

☞ Involvement of other public health services healthcare professionals including Dental Hygienists, Nutritionists, Licensed Practical Nurses) for contact tracing using scripts



Challenges

- ↯ paper-based immunization records
- ↯ paper-based case management
- ↯ staff developed “Mumps Fatigue”
- ↯ ebb and flow of mumps cycles
- ↯ reduced number of staff available for core public health programming
- ↯ communication within public health and to our partners
- ↯ variety and large volume of questions on phone line



What did we handle?

From April 2007 until the end of August 2007:

- ↯ we actively managed over 600 potential cases
- ↯ we handled 1390 phone calls
- ↯ we trained 37 staff in case management and phone line
- ↯ we trained 8 staff in contact tracing



Best Practices

- ▮ developed an organizational framework with clear roles, responsibilities and accountability to handle a large outbreak
- ▮ increased skill set individually and organizationally to managing a large outbreak
- ▮ developed an understanding of core programming that must be continued during an outbreak
- ▮ regular communication with staff working on mumps (Monday-Wednesday-Friday meetings)
- ▮ tested our surge capacity



Lessons Learned

Staffing:

- ⌘ Public Health Services staff need regular communication regarding the outbreak status
- ⌘ Outbreak Team requires addition of onsite Communications Advisor, Epidemiologist and extra clerical support
- ⌘ Outbreak Team Coordinators from Communicable Disease Team must be rotated to build organizational capacity and reduce fatigue
- ⌘ Outbreak Team members must work onsite



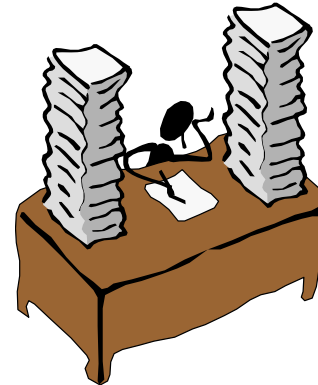
Lessons Learned

Infrastructure:

- ⌞ Require capacity to increase number of phone lines and computer stations during an outbreak



- ⌞ Require electronic immunization records and electronic case management system



Value of the Mumps Experience

- ↖ tested surge capacity for a large outbreak in real time
- ↖ developed and refined organizational framework that would allow us to handle an outbreak
- ↖ gave Public Health Services an increased public profile and built relationships with community partners
- ↖ built community capacity to handle an outbreak
- ↖ increased public health services group cohesion and broke down silos developed by focused programming



Questions



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