

Real Time Monitoring of Deaths Using Coroner's Data



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Presenter Disclosures

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The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose



Unusual Death Surveillance

- Funded by Centers for Disease Control Bioterrorism Preparedness and Response Cooperative Agreement
- Collaboration between Los Angeles County Department of Public Health and Department of the Coroner
- Early detection of unusual deaths
 - Bioterrorist attacks
 - Emerging infectious diseases
- Follow up and reporting of infectious disease related deaths



Today's Presentation

- Describe the unusual death surveillance system
 - Collaboration
 - Required resources
 - Scope of surveillance





Coroner Cases



California Government Code (Section 27491)

1. Therapeutic misadventures
2. Self-induced / Criminal abortion
3. Drug addiction or overdose
4. Aspiration
5. In custody / under sentence
6. Occupational disease / hazard
7. In state hospital





Coroner Cases



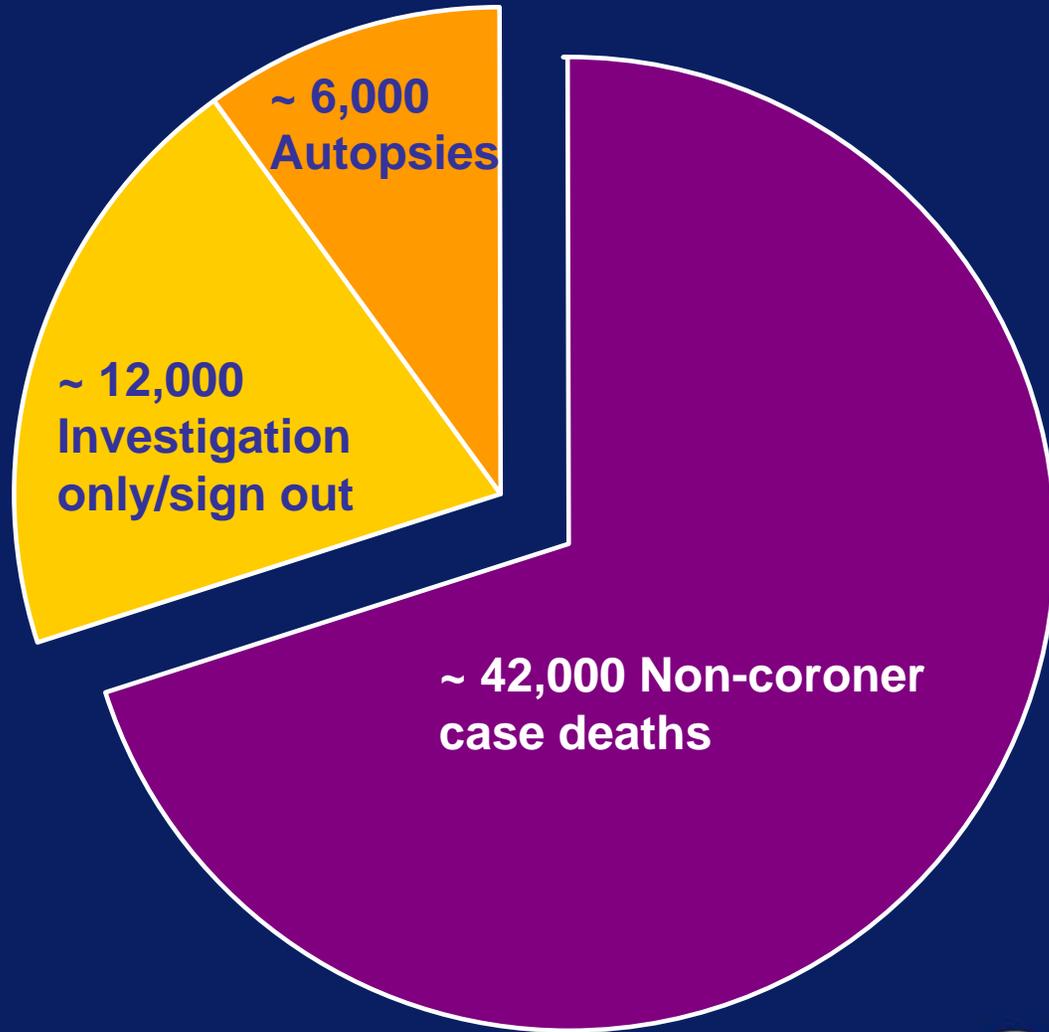
California Government Code (Section 27491)

8. Criminal acts of others
9. Rape / sodomy
10. Unattended fetal deaths
11. Human remains outside a dedicated cemetery
12. Homicide, suicide, accidental death (or cause or mode of death can not be determined)
13. Sudden or unusual
14. Contagious disease constituting public health hazard



Coroner Cases per Year

~ 18,000
Coroner's
Cases / yr



~ 60,000 LAC
Deaths / yr



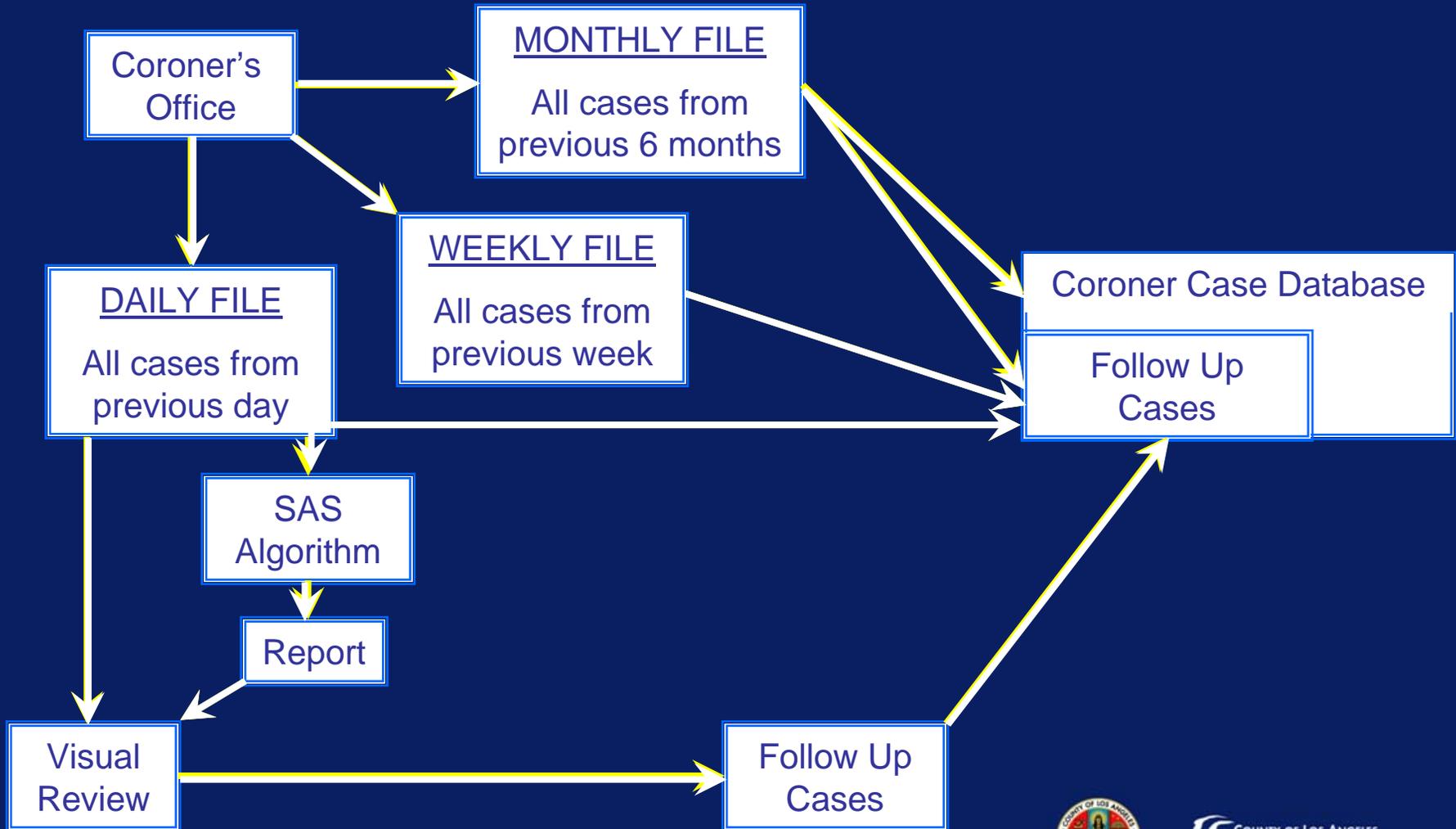
Coroner Dataset

42 variables

- Demographics: age, sex, race
- Place of residence
- Death descriptors – date, time, location, event description
- Reporting descriptors – who reported, when reported
- Cause of death



Data Acquisition



Case Selection Algorithm

- SAS software - Character string recognition

Respiratory Syndrome

- SARS
- Flu
- Respiratory
- Pneumon
- Cough
- SOB
- Breath
 - + Difficulty
 - + Short of
 - + Shortness of

Fever Syndrome

- Fever
- Temp
 - Attempt

Rash Syndrome

- Rash
 - Trash
 - Thrash
 - Crash
- Necrotizing fa

Neurological Syndrome

- Enceph
- Seizure
- Meningi
- West Nile

GI Syndrome

- Naus
- Vomit
- Diar
- Diah
- Food Poisoning

Disease Specific Syndromes

- Tuberculosis
- HIV
- AIDS

Situation Specific Syndromes

- LAX
- Airplane
- Airport



Case Follow Up - Active

1. Notify appropriate public health program
2. Ensure disease event has been reported
3. Determine status of autopsy or review autopsy records
4. Contact last provider or hospital of death if applicable

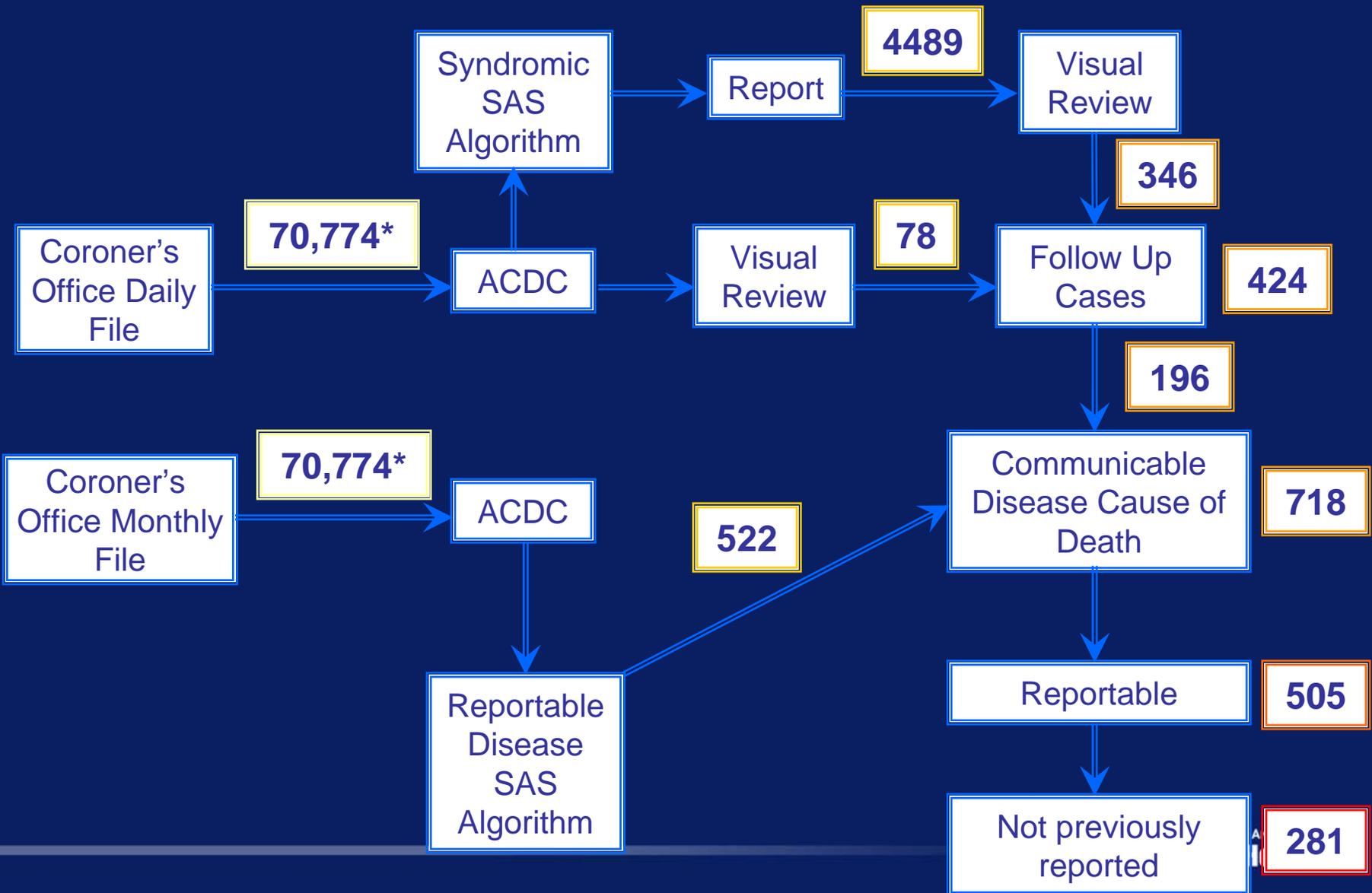


Case Follow Up - Passive

1. Await update of final cause of death
 - Weekly update
 - Monthly update
2. Upon receipt of final cause of death, forward case to appropriate public health program
3. Ensure disease event has been reported



Unusual Death Surveillance: 2003 – 2006



Unusual Death Surveillance 2003 – 2006

- Of the 70,774 coroner's cases from 2003-2006, 424 or 0.6% were selected for follow up.
- Of the 424 cases selected for follow up, 46% (196) had reportable communicable disease causes of death.
- Of the 505 cases with reportable communicable disease causes of death, 56% (281) were not previously reported.



Table 3: Number and types of cases of reportable infectious disease captured via UDSS from 2003 to 2006.

Reportable Disease	Number Captured
Coccidioidomycosis	3
Cysticercosis	4
Encephalitis	16
<i>Haemophilus influenzae</i>	4
Hantavirus	1
Hepatitis	118
Kawasaki Syndrome	2
Meningitis	36
Necrotizing Fasciitis	36
Invasive Pneumococcal Disease	1
Rabies	1
Rubella	1
Shigellosis	1
Streptococcus (IGAS and <i>S. pneumoniae</i>, Invasive)	49
Toxoplasmosis	7
West Nile Virus	1
Total	281



Limitations

- System only captures deaths which become coroner's cases
- Completely relies on coroner's investigators' descriptions of the decedent and circumstances of death in identifying cases for follow up
- Timeliness of passive follow up is dependent on speed of coroner's office



Future Steps



- Utilize retrospective knowledge of a public health infectious disease event to establish the sensitivity and specificity of the algorithm
- Use demographic variables to analyze infectious disease related death trends in LAC
- Compare coroner death data with Electronic Death Registration System data



Thank You

- Laurene Mascola, MD, MPH
- David Dassey, MD, MPH
- Sharon Sakamoto, RN, PHN, MPH/MSN
- Kim Bryant, RN, BSN
- Dawn Terashita, MD, MPH
- Amber Zelenay, MPH
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