Contra Costa Emergency Medical Services

Contra Costa Stroke System Design and Implementation

Informational Meeting
April 13, 2010
Agenda

- Welcome and Introductions
- Preliminary Stroke System Plan
- Stroke in Contra Costa
  - Demographics
- Timeline
- Stroke System Advisory Group
  - Stroke System Design & Management
Contra Costa EMS
Stroke System Program Contacts

- Joe Barger, MD
  - EMS Medical Director

- Patricia Frost RN, MS, PNP
  - Assistant EMS Director

- Craig Stroup
  - Prehospital Care Coordinator
  - Stroke Project Manager
Stroke System: The Vision

- Primary Stroke System Focus
- Inclusive
- Uniform Standard of Care
- Strong Partnerships
  - Prehospital
  - Hospital
  - Community
- Improvement Focused
Stroke System Design Principles

- Rapid Field Identification and Triage
- Communication
  - Field Stroke Alert
- Timely Transport to Designated Centers
- Reliable Feedback Loops
- Stroke Education Partnerships
- System Metrics
National Stroke Statistics

- #3 Killer - Stroke
  2009 AHA Statistics

- United States
  - 3rd leading cause of death
  - 700,000 victims/year
  - 25% mortality rate
  - 15-30% disabled
  - 49% patient with stroke die before hospital arrival
  - 1/2 to 3/4 of ischemic stroke patients do not arrive at hospital within 3 hour window for treatment
Contra Costa EMS
Annual Statistics for Stroke

- Estimated EMS Volume:
  - 940 suspected stroke cases/year
- 77% (723) likely stroke on case review
- 37% (267) within 3.5 hour window of treatment
  - Stroke ALERT candidates

2009 EMS data
Total Time At Scene - Suspected Stroke

Number

Minutes

National EMS Stroke Scene Time Goal: < 10 minutes
Contra Costa Emergency Medical Services

Contra Costa Stroke Ethnicity

(Data represents 20% sample of AMR data)
Contra Costa EMS

Suspected Stroke Cases

Age Range (n= 145)

- Below 40: 2%
- 40-49: 5%
- 50-59: 14%
- 60-69: 19%
- 70-79: 19%
- 80-89: 33%
- 90-99: 8%

Data represents 20% sample of 2009 AMR data
Contra Costa EMS Suspected Stroke Patients Receiving Facilities

- MT. DIABLO MEDICAL CENTER: 18%
- JOHN MUIR MEDICAL CENTER: 18%
- KAISER - WALNUT CREEK: 18%
- KAISER - ANTIOCH: 11%
- KAISER - RICHMOND: 9%
- Sutter Delta Medical Center: 14%
- Contra Costa Regional Medical Center: 3%
- Doctor's Hospital San Pablo: 7%
- KAISER - VALLEJO: 1%
- Not Entered: 1%
- KAISER - VALLEJO: 1%
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Contra Costa Prehospital Stroke Care

145 suspected stroke cases (20% sample)

- Glucose documented: 126 (87%)
- Stroke scale documented: 95 (66%)
- Time of onset/last normal: 85 (59%)
- All 3 items documented: 52 (36%)
- Stroke scale/time documented: 57 (39%)
Contra Costa Emergency Medical Services

Time of Stroke Onset

No Time documented: 34%

Awoke with abnl - no time listed: 8%

Time of onset less than 3.5 hrs: 37%

Time of onset 3.5 hrs or more: 21%
EMS Transported Suspected Stroke Patients
Primary Insurance

20% sample AMR ePCR data
National Perspective...

Delays in Stroke Care

- Lack of stroke recognition and delay in calling 9-1-1
  - Solution: Strong community outreach

- Up to 70% of stroke cases are missed by 911 dispatchers
  - Solution: Protocols, training & metrics

- Up to 61% of cases are missed by EMS providers
  - Solution: Protocols, training & metrics

- Lack of coordination with stroke centers
  - Solution: Rapid stroke center access & EMS/Stroke center collaboration
Contra Costa Emergency Medical Services
Stroke System Implementation Plan
Preliminary Timeline

Wednesday, April 07, 2010

Stroke System Launch Date January, 2012
Primary Stroke Center Recognition

- JCAHO Primary Stroke Center Certification
  - CCCEMS participation
- Imaging (CT/MRI)
  - Plan for diversion
- Community stroke reduction plan
- Stroke Registry
  - CMS, GWTG, JCAHO

- Informational site visit
  - Mock stroke alert
- Stroke System Metrics
  - EMS record access
- Stroke System Oversight
  - Participation
- Designation Fee
  - Stroke System Oversight
  - Community Outreach
ReddiNet CT Diversion Monitoring

CT Diversion - 2009

Time (Hour/Min/Sec)

January February March April May June July August September October November December

CCRMC DSP JMCON JMWC KRICH KWC KANT SRRMC SDMC
Stroke Advisory Group…
System Design & Management

- **Destination:** equivalent/equidistant time
- **Time frame for Thrombolysis**
  - 3-4.5 hours
- **CT/Neuro Diversion**
  - Imaging back-up
  - Tracking
- **Thrombolytic screen**
  - Abbreviated or none?
- **Other**
Stroke System Advisory Group

Identify within 60 days

- Neurologists
- Emergency Department
- Stroke Nurse Coordinators
- Prehospital Providers
- Interest groups e.g. AHA
- Public representative(s)
Advisory Group Participation

Objective: Produce a high quality stroke system that is sustainable

- Conference Call & Meetings
- Timely response and feedback
- Advice, consultation & solution focused
- Future Stroke System CQI Oversight
- Analytical and data management support
- Facilitate public/community education