

Be the Source and Change the Course: Using EMS Data to Improve Public Safety



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Be the Source

No matter how large or small your system may be, you have information that is of value to you, your patients, and others.

Be the Source

Your very valuable information:

- cardiac arrest
- cardiac emergencies
- cardiac urgency
- cardiac possibilities
- cardiac potential
- cardiac zebras
- cardiac outliers
- cardiac atypicals
- cardiac anything

Be the Source

Your very valuable information:

- injury locations and patterns
- incident locations
- syndromic surveillance
- drug and alcohol abuse
- patient-specific and population-specific needs
- safety information
- accountability

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Your very valuable information

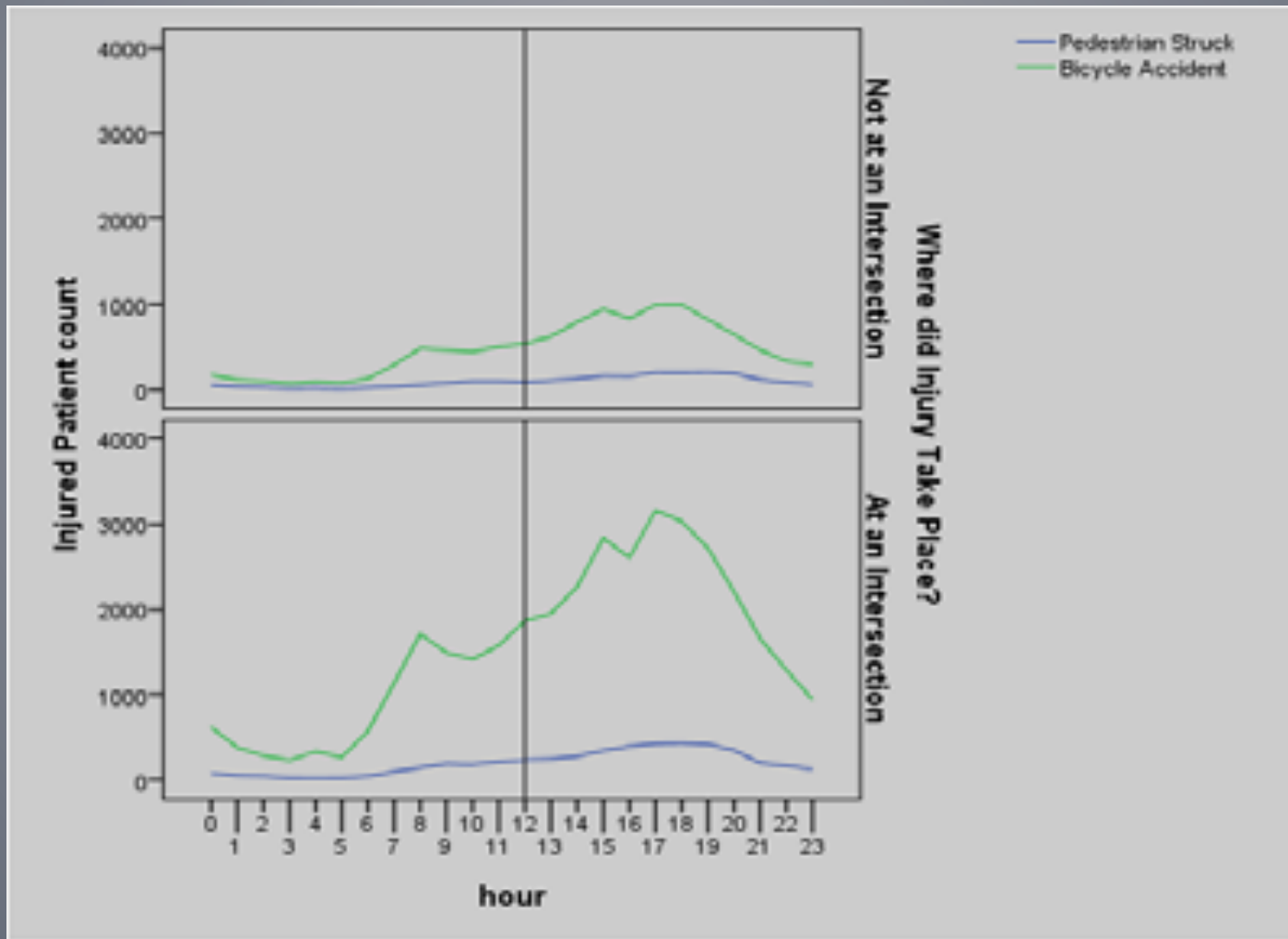
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Injury Locations

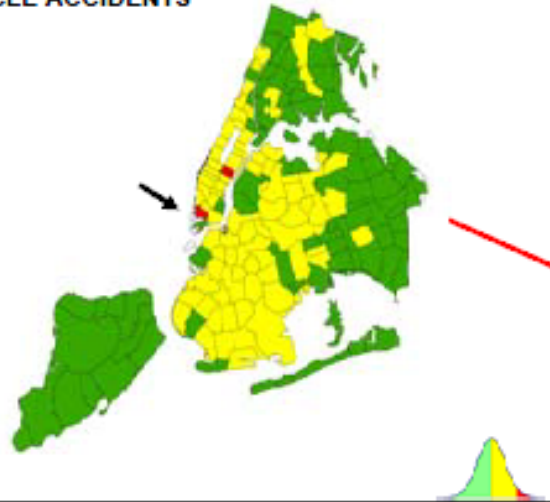


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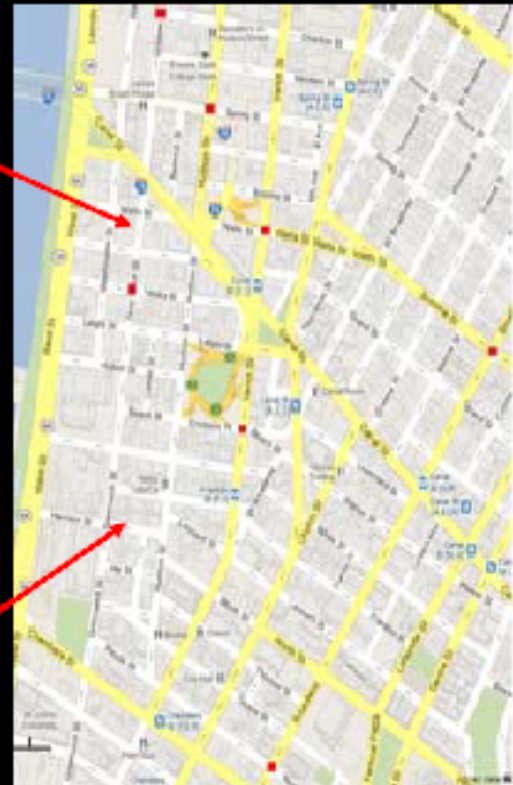
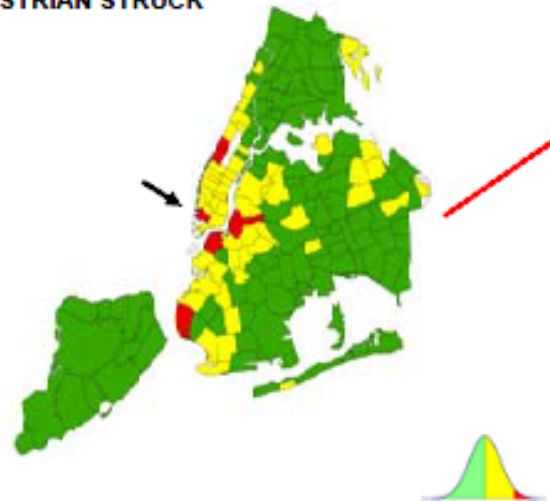


Be the Source

BICYCLE ACCIDENTS



PEDESTRIAN STRUCK



Be the Source

Bicyclist Injured Near A Holland Tunnel



pictures (3

photos)



A cyclist was injured after striking a lane divider near the

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Patient- / Population-Specific Needs



Data-Driven EMS

“Frequent Fliers”



Data-Driven EMS

~~“Frequent Fliers”~~

Known Patients



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2006-2011

- 3.3 million patient contacts
- 2,753 with an average of five or more EMS contacts annually
 - 132,000 EMS contacts
 - 124,000 transports
 - over \$210,000,000 in healthcare costs
 - major medical co-morbidities
 - 25x more likely to attempt or commit suicide
 - 30x more likely to experience cardiac arrest

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But there is a different way to look at this population...

- partnership between FDNY, DHS, OCME, shelter system, and HHC
- “next of kin” program
- patient location / outreach program
- “emergency outreach” program

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“Next of Kin”

- OCME notifies DHS of all deaths involving believed or known homeless
- immediate outreach to partner groups
- EMS search of all prior EMS contacts
 - prior addresses
 - prior phone numbers
 - prior emergency contact numbers

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Patient Location / Outreach Program

- most homeless are not considered stable shelter patients
- developing a mechanism for bidirectional communication
- will allow outreach teams to localize patients
- may allow for clinic referral without shelter placement

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“Emergency Outreach Program”

- utilizes the public health and/or emergency exemptions for HIPAA
- real-time outreach from DHS to EMS
- identified emergency for a specific patient
- streamlines / optimizes utilization of resources
- allows for intervention in time-critical processes

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“Emergency Outreach Program”

- 43 year-old female
- typically stays at a shelter in the Bronx
- called shelter at 3pm stating suicidal intent
- would not give location
- last seen at shelter at 7am that day
- history of bipolar disorder
- EMS transport in southern Queens 30 minutes later

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“Emergency Outreach Program”

- 52 year-old male – HTN, CRI, EtOH
- not seen in shelter or by outreach in 6 months
- still followed in clinic
- clinic visit on 12/22/11
- K level >8.0, not hemolyzed, called 12/24 at 5pm
- unable to locate patient
- DHS outreach to EMS
- 37 EMS pick-ups in the last 6 months, all in a two-block radius, >75% on same corner
- located 90 minutes after first call to EMS

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Accountability

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Public Safety - Accountable Care Organizations

- metrics
- allows for informed patient decisions
- provides comparative data
- makes risks apparent

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You are the patient

- seen in a local emergency department
- abdominal pain and fever
- CT confirms possible surgical emergency

Be the Source

Options:

- surgery
- or
- conservative care

Question: Do you want to have surgery?

Be the Source

You are the patient

- seen in a local emergency department
- abdominal pain and fever
- CT confirms possible surgical emergency
- and you turn to your iPhone and Google...

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Procedural Accountability

Very large surgical service

- Made up of ~1,000 surgeons
- Average surgeon performed 3 procedures
- Success rate varies from 30-97%
- Complication rate 1:1,000
- Death rate 1:2,000
- One in four surgeons did not perform this procedure last year

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Options:

- surgery

or

- conservative care –

“there is no proven benefit to surgery”

Question: Do you want to have surgery?

Be the Source



Be the Source

Procedural Accountability

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Procedural Accountability

Very large EMS service

- Made up of ~1,000 paramedics
- Average medic performed <4 intubations
- Success rate varies from 30-97%
- Complication rate 1:1,000
- Death rate 1:2,000
- One in four paramedics did not perform this procedure last year

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You intubate...

... in unusual positions,

... in difficult scenarios,

... with bystanders, friends,

family, and pets watching,

... under scrutiny that most in-

hospital providers never

experience

...without the drugs or tools used in
the ED

... **WITHOUT INTERRUPTING
COMPRESSIONS**

And you do it very well.

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And then we ask you to...

... package the patient,
... carry them down stairs, around
corners, over the river and through
the woods,
... into an ambulance,
... drive them across town,
... with lights and sirens,
... unload them,
... and bring them into the ED (where they
cannot count to three).

And all of that without losing a tube.

By the way, the skill may be of no value or
even harmful.



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Options:

- intubation

or

- conservative care –

“there is no proven benefit to
intubation”

Question: Do you want to be intubated?

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Conclusions

- we have a greater responsibility than just responding to calls
- the data that we have, regardless of the size of our systems, can be used for a greater good (maybe one that you don't even care about)
- data is power
- using data whenever possible will allow you to benefit the most patients possible
- we have a responsibility to honestly assess ourselves

Thank You

