

WHAT HAPPENS WHEN AN ASPLENIC PATIENT IS BITTEN BY A DOG: A CAREGIVER'S PERSPECTIVE ON HEALTH CARE COMMUNICATION ISSUES

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The most
important thing
in
communication is
hearing what isn't
said.

--Peter Drucker



Perfect Storm

An unusual combination of events or things that produce an unusually bad or powerful result.

Collins English Dictionary, 2018

Day 1: Dog Bite Wound

Sept. 22, 2015



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Day 2: 1st Urgent Care Center Visit (UCC)

- Tetanus shot
- Decline antibiotics
 - 5% dog bite wounds become infected
 - Over prescribing of antibiotics



Day 3: 2nd UCC Visit



- Flu-like symptoms
 - Temp: 102.9 F
 - BP: 112/70
 - Achy & Nauseous
 - Quiet – incomplete answers
- Doctor refers patient to emergency department (ED)
“They will be expecting you”

Day 3: Emergency Dept.

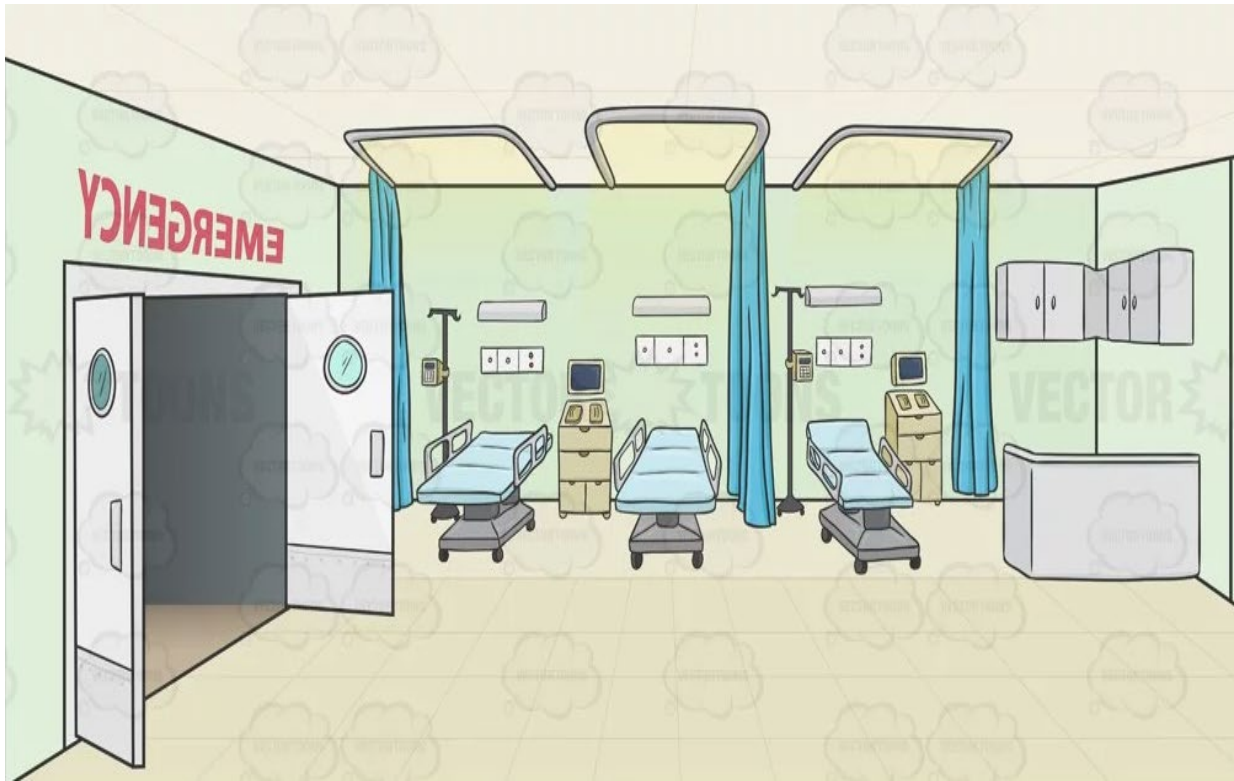


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- Registration desk not expecting us
- Patient seems responsive
- Triage wait - 90 min.
 - Temp: 101.9F
 - BP 95/60
 - Spouse returns home to care for dogs
 - Upon return, triage nurse:

"...sent blood sample to lab so doctors will have it when [patient] is called."

Day 4: Emergency Dept. Visit 2

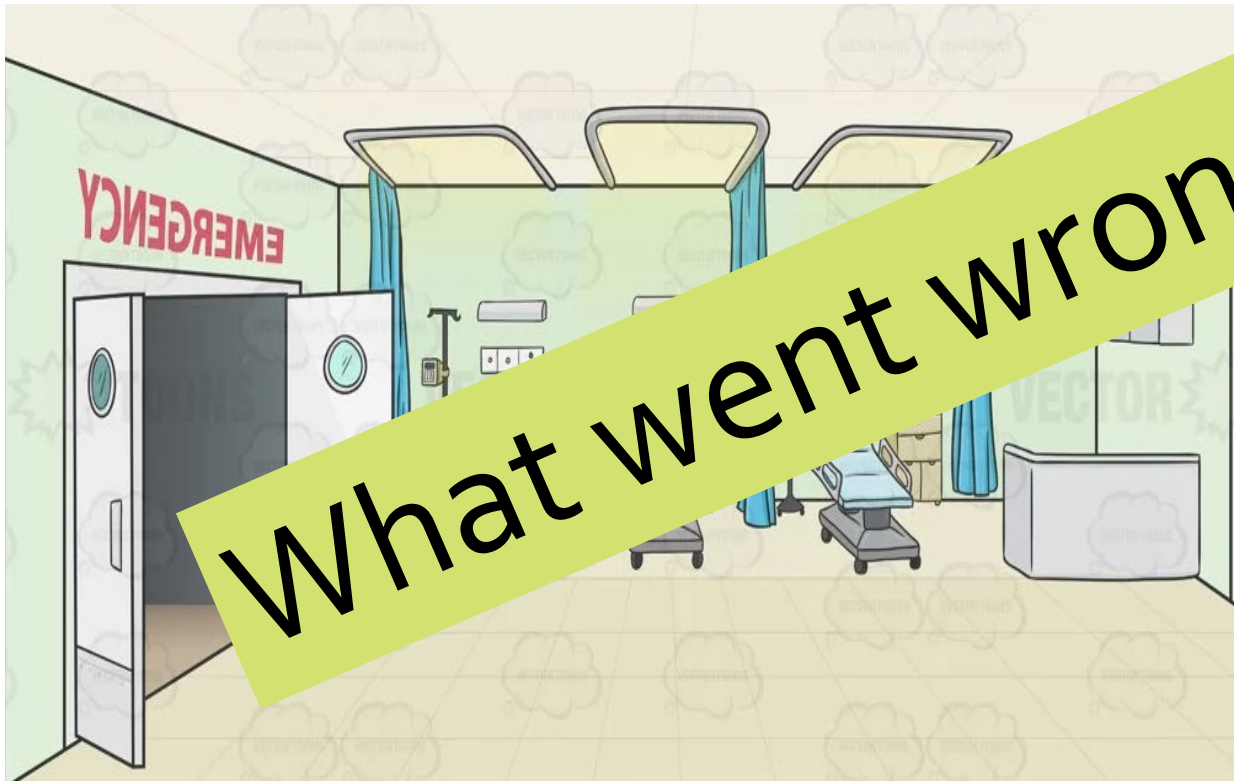


Temp: 99.1F
BP: 72/55 ↓
Hypoglycemic
Confused
Imbalanced

2 hours after arrival:

"You need to be prepared for your husband not to make it through the day."

Day 4: Emergency Dept. Visit 2



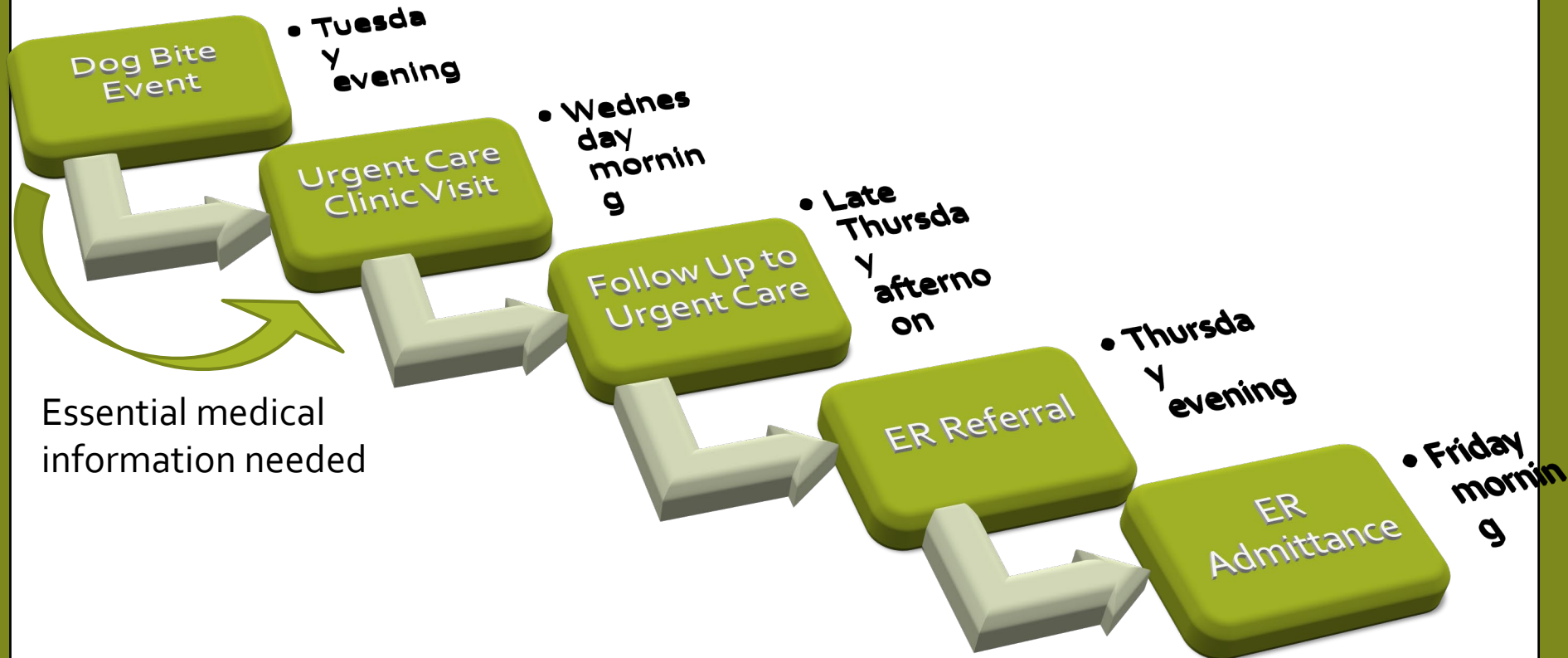
What went wrong?

T
emic
rused
Imbalanced

2 hours after arrival:

"You need to be prepared for your husband not to make it through the day."

Anatomy of Communication Issues



Essential Medical Information Needed



Dog bites

- ~ 18% of wounds become infected¹
- Asplenic patients more susceptible²⁻¹⁰

OPSI

- 50% - 70% mortality rates within 24-48 hrs¹⁰⁻¹¹
- Early medical treatment can decrease mortality to $\leq 10\%$ ¹⁰⁻¹¹

Capnocytophaga canimorsus (DF-2)

- Oral flora of dogs (up to 74%); cats (57%) saliva^{1,2,5}
- 1-7 day incubation period with flu-like symptoms
- Rapid development in immunocompromised – may present as sepsis, meningitis, osteomyelitis, peritonitis, endocarditis, pneumonia or septic arthritis^{4,9}
- Mortality most often caused by septic shock (60%)⁹
- Should no longer be considered a rare infection^{1,4,9}
- Second leading cause of sepsis for asplenics behind *Streptococcus pneumoniae*⁴



"C. canimorsus is one of the most lethal of sepsis pathogens ever described, with its estimated case-fatality rate of 26 %." (Butler, 2015)

Preventing Sepsis from *C. canimorsus* Infection

Medical personnel on the front lines should be aware of *C. canimorus infections*, its symptoms, and patients most at risk

We did not find this to be the case



Preventing Sepsis from *C. canimorsus* Infection



"I have never seen a *C. canimorsus* infection in my 25 year career [in infectious disease]." Doctor that observed my husband in the ICU

"Dawn Manteufel said doctors told them her husband's case is not common but **more like a 'crazy fluke.'**"¹²
Washington Post, July 31, 2018

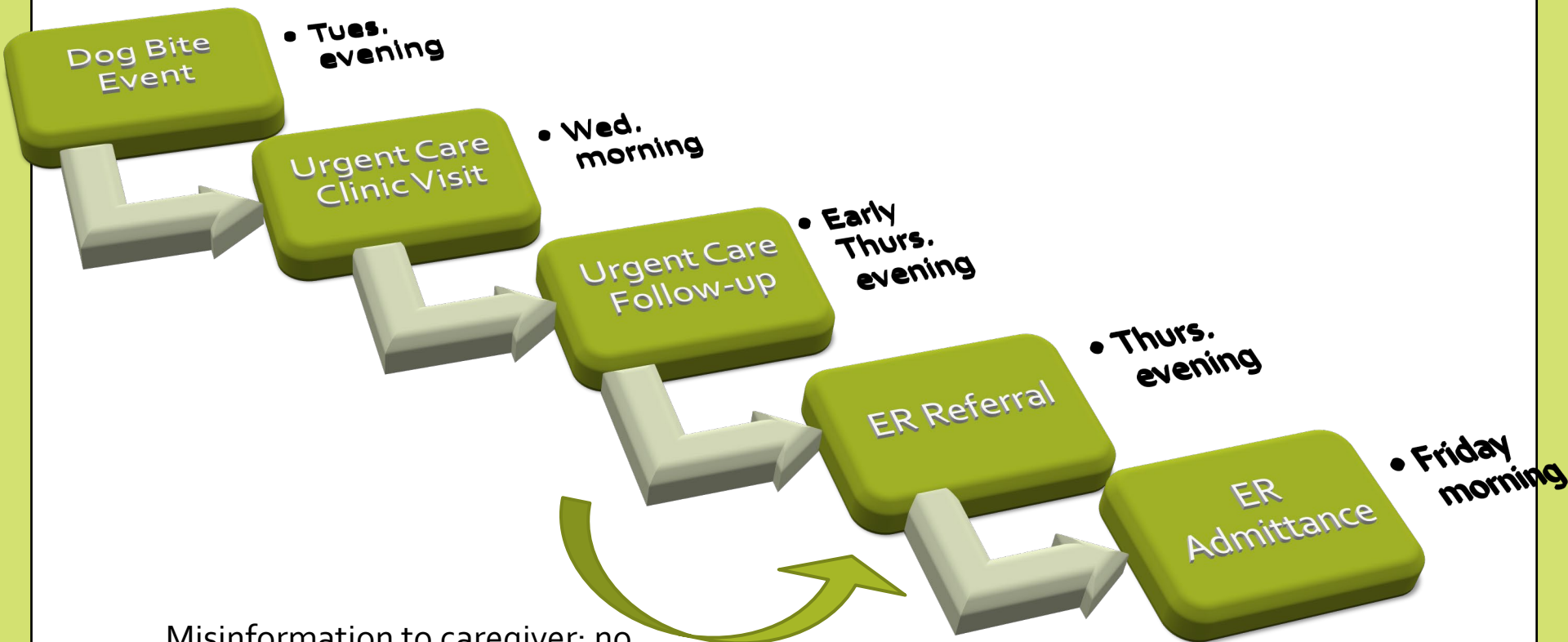
"More than 99 percent of the people that have dogs will never have this issue. **It's just chance,**" said Munoz-Price.¹³
New York Post, July 31, 2018

"It's just **really, really, really rare,**" said Scott Weese, a professor at Ontario Veterinary College's Centre for Public Health and Zoonoses. "The risk posed by a dog is really low. Most dogs are carrying this bug in their mouth, but few people get sick."
Huffington Post, August 3, 2018

"Anyone in those [immunocompromised] groups should be more aware of the possibility of infection from animal bites. For instance, a person without a spleen should go to a doctor for any dog bite, even a 'little nip' that most people wouldn't need to worry about."

Scott Weese, Huffington Post, 8/3/2018

Anatomy of Communication Issues



Misinformation to caregiver; no evidence of record transfer

Day 3: 1st Emergency Dept. (Ed) Visit

Patient Record	UCC	ED
History	Dog bite	Flu shot
Temp	102.9°F	101.9°F
BP	112/70	95/60
Pulse	70	76
Splenectomy	Given	No data



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Prehospital-ED handoff Issues

Caregiver

- Expects communication btw facilities
- Unaware of patient's delirium
- Unfamiliar with OPSI
- Unaware of dog bite dangers to asplenics

ED Triage Personnel

- Unfamiliar with patient
- No data on dog bite wound, splenectomy
- Unaware of UCC vital statistics
- Blood test never reviewed first evening

Follow Up to
Urgent Care

• Late
Thursday
afternoon

ER Referral

• Thursday
evening

FIND SEVERE SEPSIS

KNOW THE SIGNS

The Warning Signs



FEVER

Higher than
100.3 degrees



RAPID BREATHING

More than 20
per minute



RAPID PULSE

More than 100
beats per minute

Confirming Severe Sepsis



LOW BLOOD OXYGEN

Pulse Ox
< 90%



CONFUSION OR ALTERED MENTAL STATUS



LOW BLOOD PRESSURE

SBP < 90 mm Hg
or
MAP < 70 mm Hg

Things to do FAST



ANTIBIOTICS

As fast as you
can give them



IV FLUIDS

If you can give them



CALL EMS

The patient needs
a hospital

Severe Sepsis

Severe sepsis is a common, expensive, and frequently fatal condition, with as many deaths annually as those from acute myocardial infarction.

-- Angus, Linde-Zwirble, Lidicker, et al.¹⁵



One of the Lucky Ones

- Loss of hearing – cochlear implant
- Necrosis → partial amputation of 3 toes
- Otherwise healthy



Improving Patient Safety

To be safe, care must be seamless—supporting the ability of interdependent people and technologies to perform as a unified whole, especially at points of transition between and among caregivers, across sites of care, and through time. It is in inadequate handoffs that safety often fails first.¹⁶

Cheung, et al.

Concluding Thoughts

- For some patients, better doctor-patient communication and clear provider → ED communication could prevent sepsis or septic shock
- Better systems in ED to prevent patients from sitting untreated for hours
- Knowledge of *C. canimorsus* infections, its early signs, and treatment strategies necessary among first responding doctors
- Some pathogens like *C. canimorsus* too often are overlooked as potential infection sources during initial infection diagnosis



“...it only takes one voice, at the right pitch,
to start an avalanche.”

— **Dianna Hardy, Return Of The Wolf**



THANK YOU!

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