

Epidemiology: Making a Difference in Your World

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Getting Started

Research is trying to see...

Universal Truth

...through a lens.



Getting Started

The purpose of this course is to help you build a clean, high-quality lens (i.e., a good study design) for viewing the truth you seek.

Global Objectives

Research: Some will be producers; all will be consumers

- Help “Producers” create new, valid, knowledge
- Help “Consumers” discern between

The Good

The Bad

The Ugly

Today's Objectives

Epidemiology

(Epi=upon, demos= the people)

Study of patterns of disease and risk factors in populations

- **Descriptive:** person, place, time
- **Analytic:** risk factors, mechanism
- **Interventional:** test treatment efficacy

Today's Objectives

Epidemiologic patterns help us...

- Identify which groups need attention
- Design prevention programs
- Monitor and evaluate prevention programs
- Understand mechanism

Today's Objectives

Epidemiologic patterns differ...
from place to place and time to time

Therefore...

Your local or regional study is important.

H1N1 Outbreak, Mexico, 2009

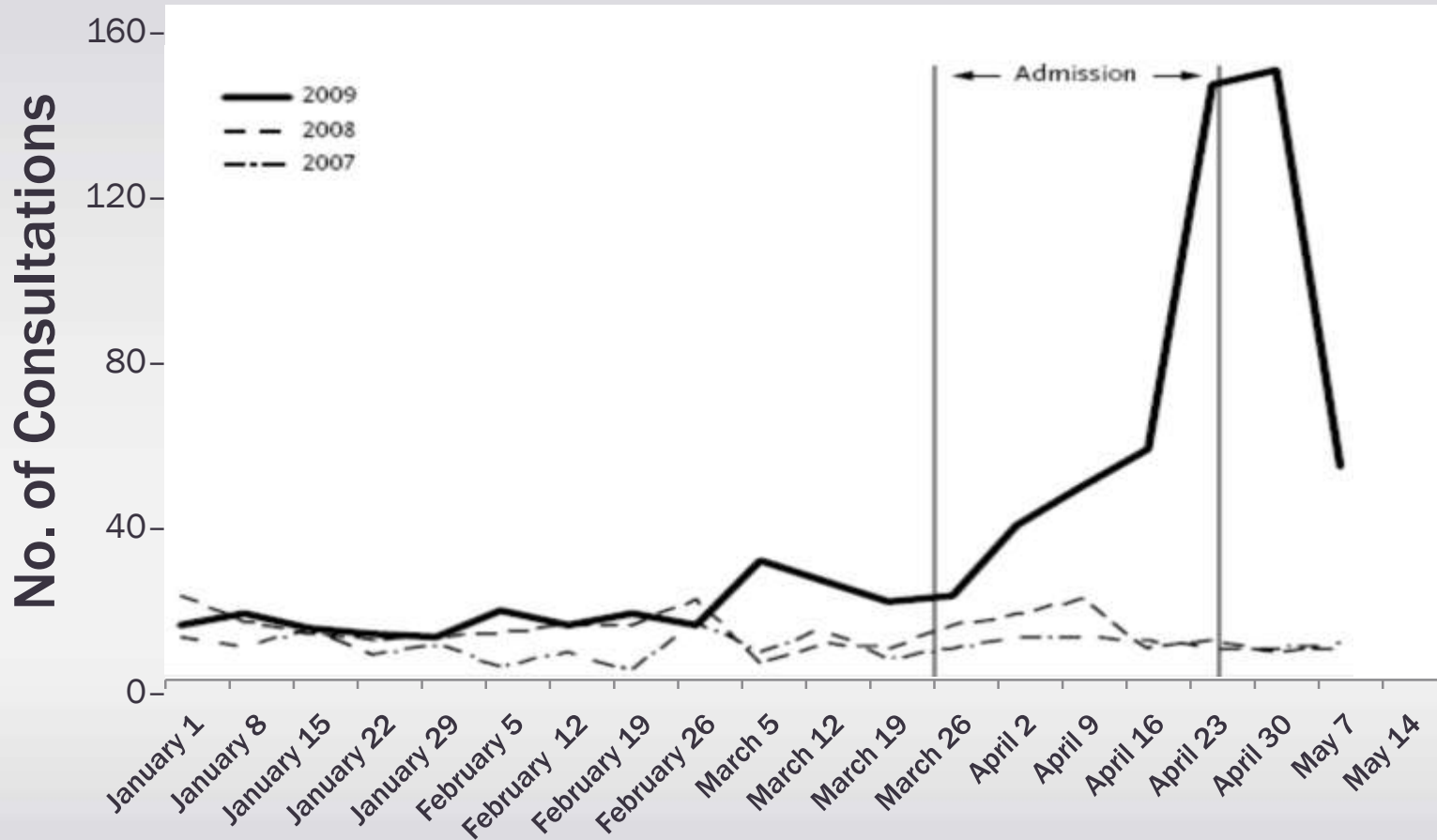


Figure 1. Emergency Room Consultations for Pneumonia or Respiratory Infection, Including Influenza-like Illness, at the National Institute of Respiratory Diseases of Mexico

H1N1 Outbreak, Mexico

Factors Associated with Death

Variable at Admission		Patients Who Survived (N=11)	Patients Who Died (N=7)	Hazard Ratio of Odds Ratio for Death (95% CI)	P Value
Age—yr	Median	37	45	1.00	0.81
	Range	0.75–61	9–52	0.96–1.04	
Male sex—no./ total no.		4/11	5/7	2.2 (0.4–11.5)	0.34
Hypotension that did not resolve after fluid administration—no./total no.		2/11	7/7		0.02
Orotracheal intubation required within first 24 hr after admission—no./total no.		3/11	7/7		0.06
Renal failure any time during follow-up—no./total no.		1/11	5/7	25 (1.3–1295)	0.01
Coexisting condition—no./total no.		5/11	3/7	0.78 (0.2–3.6)	0.75
Days from illness onset to admission	Median	6	6	0.71	0.2
	Range	4–13	5–8	0.4–1.2	

Purpose of Course

- Introduce resources
- Introduce methods
- Promote networking and collaboration
- Encourage publication

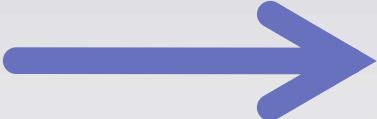
Resources

- Personal
 - Inner motivation
 - Clinical experience
 - Computer
- Colleagues
 - Collaborators
 - Medical literature
- Institutional
 - Source of patients and support

Elements of a Proposal

- Research Question
- Significance
- Design
- Subjects
- Variables
- Statistical and Analytical Issues

Scientific Hygeine

Study Log  **Imperative**

- Record meetings/decisions
- Summary results and Impressions
- Computer filenames, etc.
- “Super-reference” manuscript

File Log

File	Description	Date
COAG1	Distribution of Variables	5/17/91
COAG2	2-way tables	5/19/91
COAG3	3-way tables	5/21/91
ROID1	Synopsis of Steroid Study	3/2/00
ROID2	Upjohn Re: Funding	3/5/00
ROID3	Full Proposal, Steroid Study	8/1/00

Conclusions

1. Use the resources available to you.
2. Write it down and **develop** it!

Summary

- Research is an iterative, evolutionary process
- Make use of oculo-grapho-cerebral reflex
- Tap your resources!!