



TEPHINET

TEPHINET: A Global network

- Training Programs in Epidemiology and Public Health Interventions
- Strengthen capacity from the inside out
- Rapid alert, response and surveillance capability

TEPHINET: Development

- History & development
- Outline the problem which it was designed to address
- Preventing, controlling and responding to communicable diseases

The problem:

- 70 years ago...
 - 1929: Penicillin
 - 1945 commercial production
- **Infectious diseases beaten!!**
 - Strep throat, pneumonia, septicemia, skin infections, wound infections, scarlet fever
- 1940's & 1950's:
 - Streptomycin, Chloramphenicol, and Tetracycline

Emerging diseases: 1950s

- Confidence in new drugs
- Public health measures discontinued
- Capacity poor, fragmented
- Reliance antibiotics absolute

- *M. tuberculosis* resistant to Streptomycin

- 1953: multi-resistant *Shigella*

Vaccines:

- Salk and Sabin polio vaccines
- Measles, diphtheria, pertussis, Hib, tetanus
- Smallpox eradication (1979)
- **AIDS: 51 countries by 1985**

Building Capacity to Respond:

- Fear of biological warfare
- Lack of national and global capacity
-
- Radical US training program
 - apprentice-ship
 - field-based service
 - technical support
- Epidemic Intelligence Service



ALEXANDER DUNCAN LANGMUIR
1910-1993

Field Epidemiology Training Model:

- Two years full-time
- National Health Departments,
- Service focus
- Skills:
 - surveillance,
 - outbreak alert & response
 - public health practice



Not **just** a training program!:

- **Build public health capacity**
- **System-wide changes**
- **Change system from within**
- **Strengthen public health institutions**



Competencies of a Field Epidemiologist

- **Epidemiologic methodology and analyses**
 - outbreak investigation
 - disease surveillance systems
 - other public health projects
- **Communication**
 - written and oral
 - professional, bureaucratic, media, general public
- **Professionalism**
- **Public health management**

International developments

- Field Epidemiology Training Programs
FETPs
- Support from CDC
- PHSWOWS, EPIGEPS
- The Rockefeller foundation
- Regional training:
 - Thailand, EPIET

1975
1980 - 90

Canada
Thailand
Indonesia
The Philippines
Peru
Saudi Arabia

1991 – 2001

Australia
Colombia
Italy,
Egypt
Zimbabwe
Spain
Uganda
EU (EPIET)
Hungary
Cote D'Ivoire
Germany
Ghana
Vietnam
Jordan
Japan
WHO
Brazil
Central
America
Korea
India
China

Field Epidemiology

Training Programs

1975 - 2001

Field Epidemiology Training Programs

EIS	FETP	EPIET	PHSWOWS
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■ Graduates	>1,000		EIS >2,300
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■ Current fellows	130		EIS 144
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Global Challenges

- Methicillin resistant *S. aureus*
- HIV
- MDR-TB
- Ebola
- Hanta Virus
- HUS: *E. coli* O157, O111
- Equine Morbillivirus
- Nipah virus

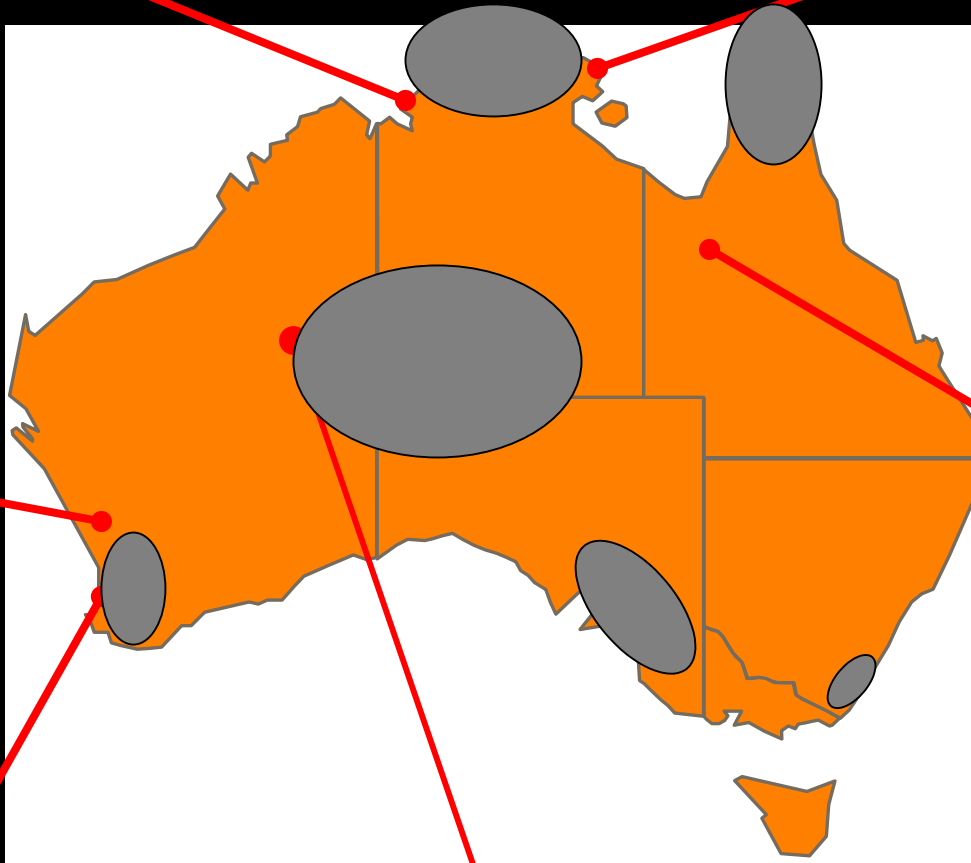
Emerging infections: Outbreaks & surveillance, Australia

Trainees Roles

Melioidosis
humans;

Milking goats

Ross River Virus /
Barma Forest Virus



Autochthonous
melioidosis

Ross River
Virus

Gonococcal
conjunctivitis

Meningococcal
disease
serogroup A
vaccine)

Emerging infections: Outbreaks & surveillance Australia

Acute Post Streptococcal
Glomerulo Nephritis

Q fever
(abattoir)



Hendra virus

Q fever
(feral goats)

Psittacosis

*Mycobacterium
ulcerans*

Pediatric Hemolytic Uremic
Syndrome: *E. coli* O111

Invasive non-toxigenic *C diphtheria*
endocarditis

Australia:

MAE Program outcomes: 1991 - 2001

70 Graduates (11 Indigenous)

- 90% in workforce
- 216 outbreak investigations
- 125 surveillance evaluations
- 28 systems established
- 239 peer-reviewed papers
- 137 conference presentations
- 14 major projects - Indigenous health
- Impact on policy:
Immunisation, Food, emerging infections



Canada: trainees and graduates

- Health Canada
- Strengthened capacity
- Responsible for:
 - Outbreaks (waterborne, foodborne zoonoses)
 - emerging infections (Hantavirus Pulmonary Syndrome (HPS))
 - HPS surveillance
 - Rapid response
- Policy:
 - *E. coli* O157, cyclospora, Raccoon Rabies, WNV

The Philippines: trainees and graduates

- Outbreak surveillance
- HIV seroprevalence, behavioural risks
- Earthquake in Bangio: rapid assessment
- Mt Pinitubo 1991:
 - active surveillance > 100,000 evacuees

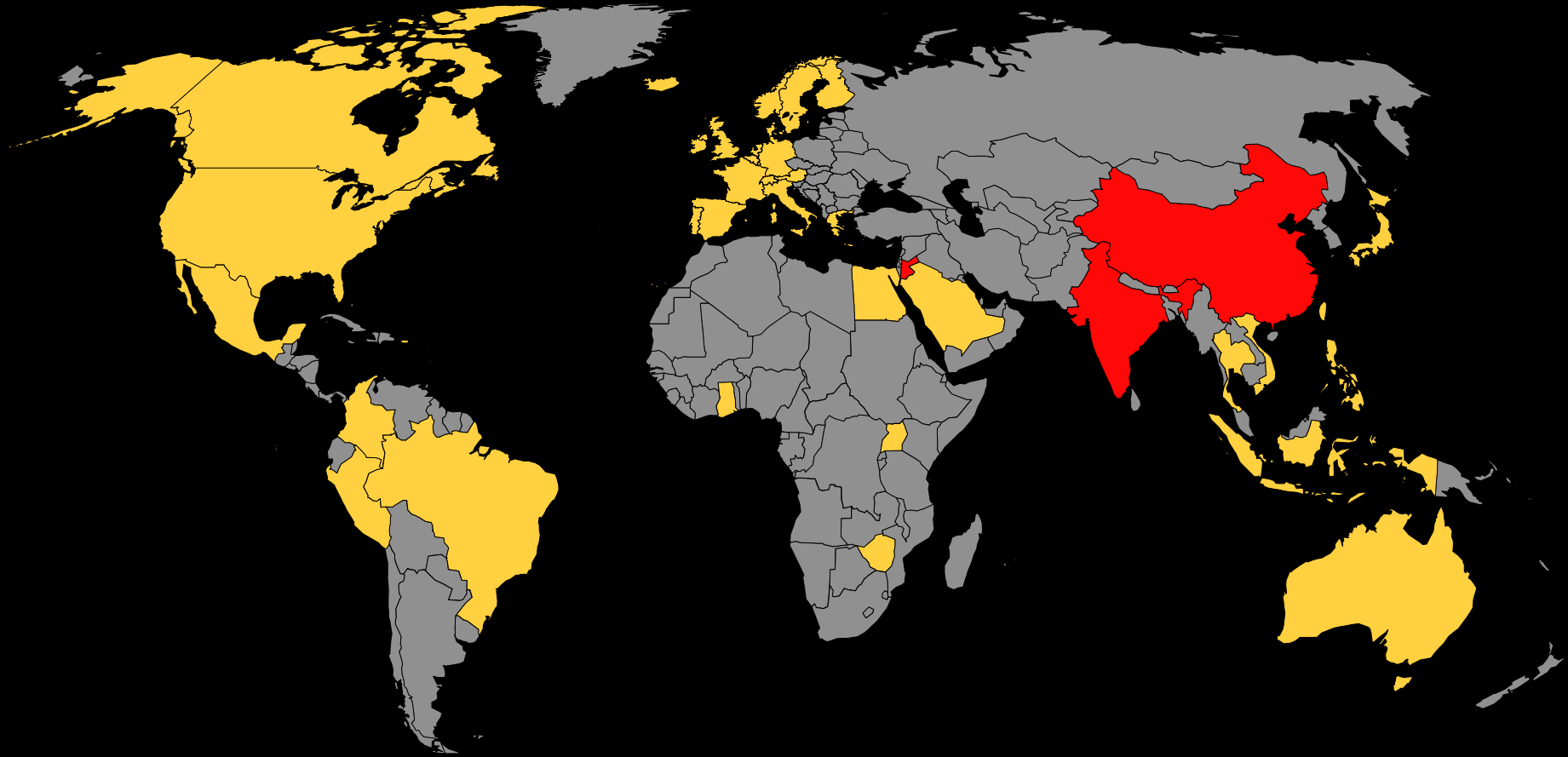
Uganda and Thailand

- Uganda:
 - Ebola Hemorrhagic Fever 2000 - 2001
- Thailand:
 - National Program Managers
 - HIV control program
 - Measles
 - Hepatitis B
 - Regional training

A New Initiative

- David Heymann, WHO
- Mark White, CDC
- 1997 - Merieux Foundation
- Global Rapid Response
- Global Partnerships
- 1998: TEPHINET

The Network Today



TEPHINET Mission

To strengthen international public health capacity through initiating, supporting, and networking of field-based training programs that enhance competencies in applied epidemiology and public health practice.

TEPHINET Goals

- Support and strengthen existing programs
- Improve response to public health emergencies
 - link professionals with competencies in field epidemiology to responding agencies
- Assist the development of new programs
- Enhance applied research activities of programs

TEPHINET Structure

- Secretariat:
 - Executive Director
 - Program Officer
- Board of Directors:
 - Chair
 - 6 regional representatives
 - 2 ex-officio members

Factors Enabling **TEPHINET**

- Grass roots
- **Critical mass**
- Maturity of some programs
- **Credibility and impact of individual programs in own countries**
- Service- and action-oriented paradigm
- **Common needs**
- Support from key agencies



TEPHINET

Training Programs in Epidemiology and
Public Health Interventions Network

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What's New at the TEPHINET Website!



TEPHINET Training Materials CD

EPIET Sixth Scientific Seminar and European Regional Meeting of TEPHINET

Location: Veyrier-Du-Lac, France

Date: October 19-20, 2001

TEPHINET 2002 Second International Conference

Location: Madrid, Spain

Date: June 2-6, 2002

Last updated: 2001-11-26



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Activities 2000-2001

- Participation of trainers in learning modules to advance technical skills
- Regional scientific conferences
 - Amman, Harare, Taipei, Cuzco, Annecy
- Workshops
 - developing case studies
 - writing manuscripts for peer-reviewed journals
- Quality assurance
 - standards, criteria, tools

TEPHINET members:

- Link individuals, institutions, governments
- Support Global responses
- Help establish new programs
- Share training resources
- Reinforce Global core competencies
- Build Global capacity for disease prevention and control



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