

The seal of the Department of Defense, Thailand, is a circular emblem. It features a central five-pointed star in red and white. Below the star is a golden crown with a sunburst above it. The crown is flanked by two golden lions. The entire emblem is set against a blue and red background. The seal is surrounded by a yellow and green border. The Thai text "สำนักงานแพทย์" (Department of Medicine) is written in green at the top, and "สำนักงานสนับสนุน" (Support Office) and "สำนักงานปลัดกระทรวงกลาโหม" (Office of the Permanent Secretary of Defense) are written in green at the bottom.

Acute Diarrhea in Thailand

Col.Pote Aimpun, MD, Dr.PH

Office for Medical Services, Office of Support

Office of Permanent Secretary of Defense



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Acute Diarrhea in Thailand

- Epidemiology
- Clinical features
- Treatment
- Preventions and Controls



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Diarrheal Diseases in Thailand

- Severe Diarrhea
- Watery Diarrhea
- Bloody Diarrhea
- Food poisoning

DIARRHEA


It might seem like diarrhea is no biggie. That's probably 'cause you never had it like I have. Try shitting your guts out every day for weeks at a time. How about being terrified to go anywhere because you might crap your pants?

Don't get me wrong, I'm really glad to be alive, but

HIV IS NO PICNIC

I don't care how good the sex is or how hot the guy is, nothing is worth what I'm going through now.

stopaids.org

 **STOP**
PROJECT

Design: Better World Advertising (www.betterworldadvertising.com)



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Acute Diarrhea

- Syndromic symptoms of loose or watery stool with nausea vomiting and/or fever
- Definition: defecation more than 3 times per day or have mucous / mucous-bloody stool one time in 12 hours



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Acute Diarrhea

1. Infective Diarrhea

1. Food Poisoning; *Clostridium botulism*, *Staphylococcus*, *C. perfringens*, *Bacillus cereus*
2. Infectious diarrhea;
 1. Viruses; rotavirus, Norwalk agent, Echo virus
 2. Bacteria; *Shigella*, *Vibrio cholera*, *V. parahaemolyticus*, *Campylobacter*, EPEC
 3. Fungus; *Candida*, *Cryptosporidium*
 4. Protozoa; *Giardia*, *Amoeba*
 5. Parasites; *Capilaria phillipinensis*

2. Non-infective diarrhea

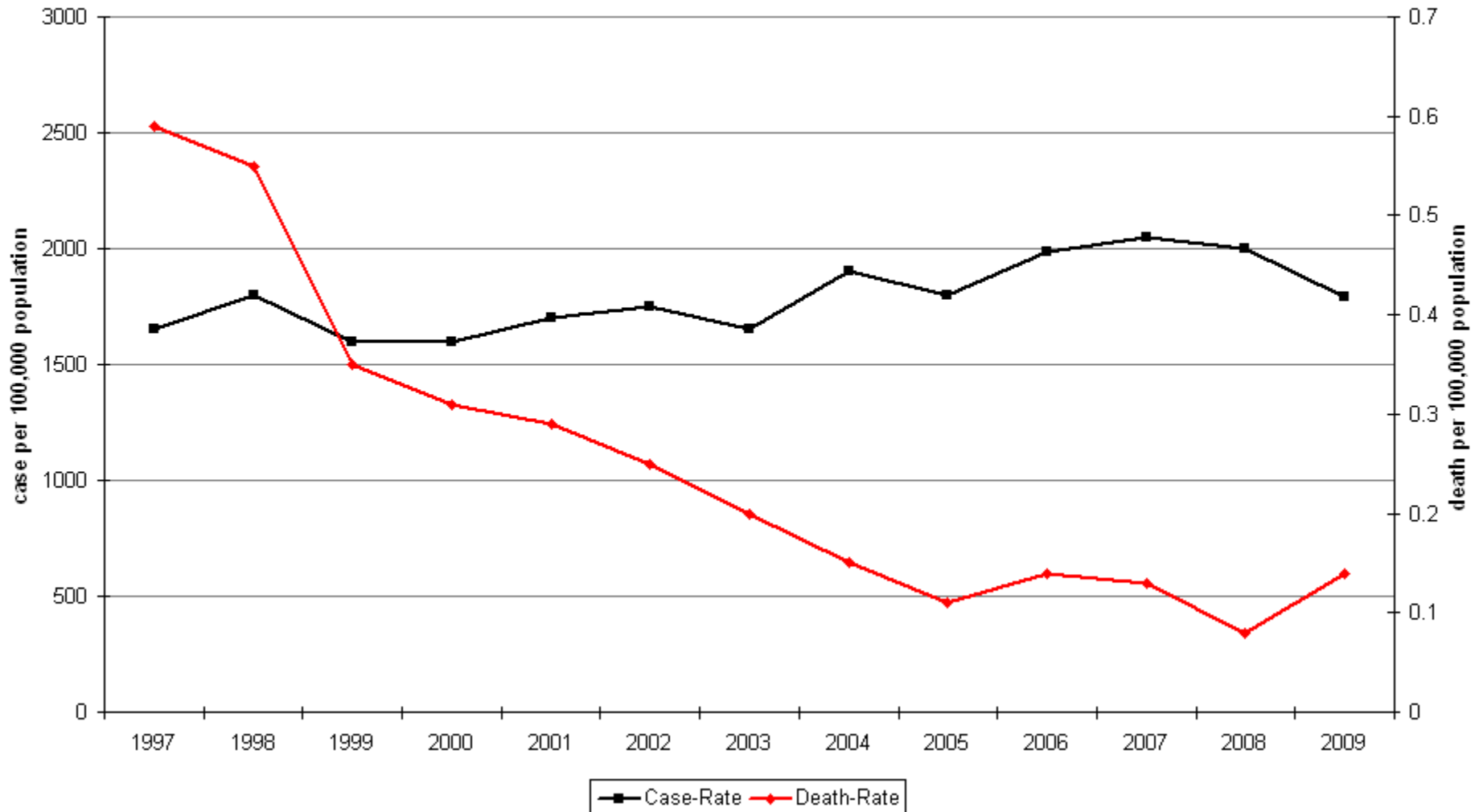
1. Chemical; drugs and toxic substances



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม
Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Acute Diarrhea

Fig 1 case rate and deat rate of acute diarrrhea per 100,000 population by year, Thailand, 1997-2009



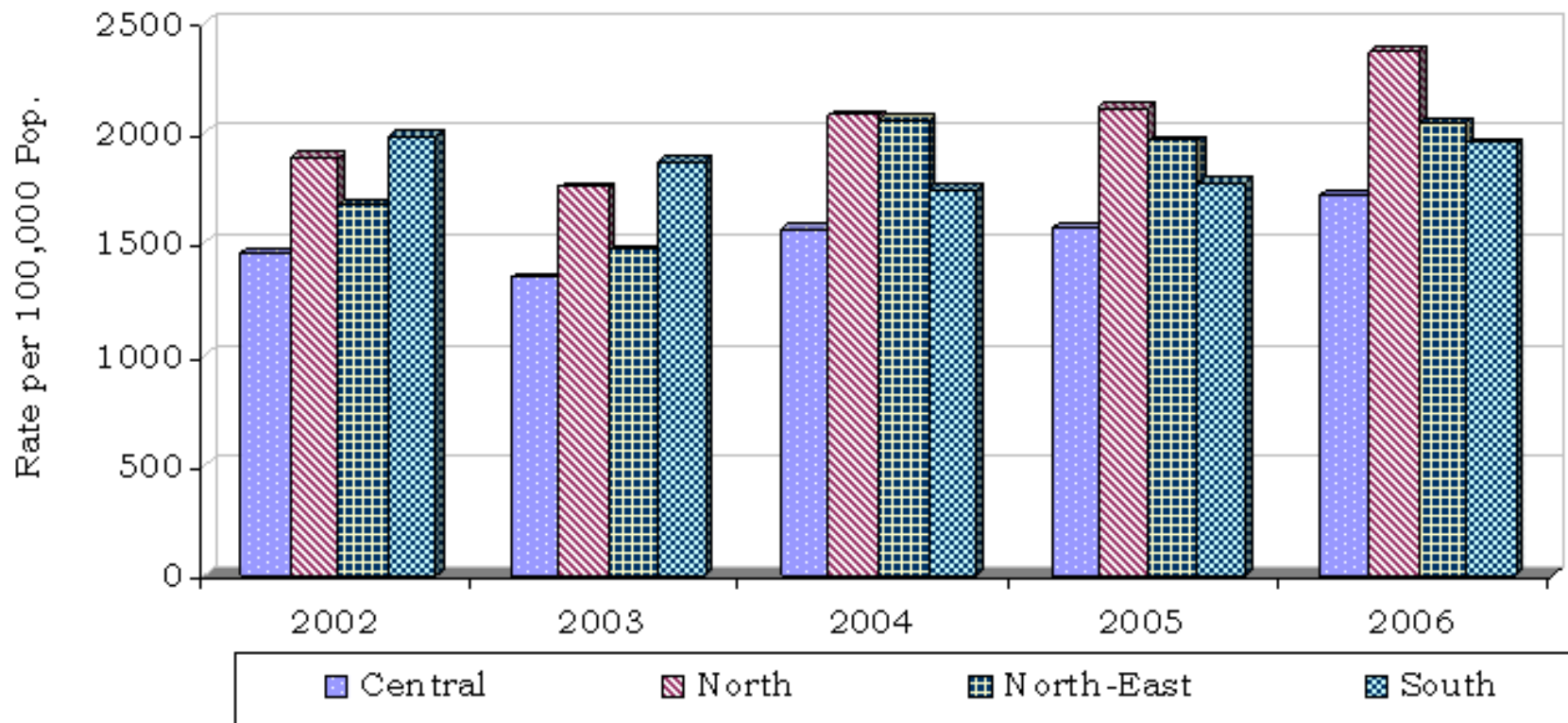


สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Acute Diarrhea

Fig. 2 Reported Cases of Acute diarrhoea per 100,000 Population, by Region, Thailand, 2002-2006





Acute Diarrhea

Fig 4 Reported Cases of Diarrhoea per 100,000 Population, by Region, Thailand, 2004 – 2008

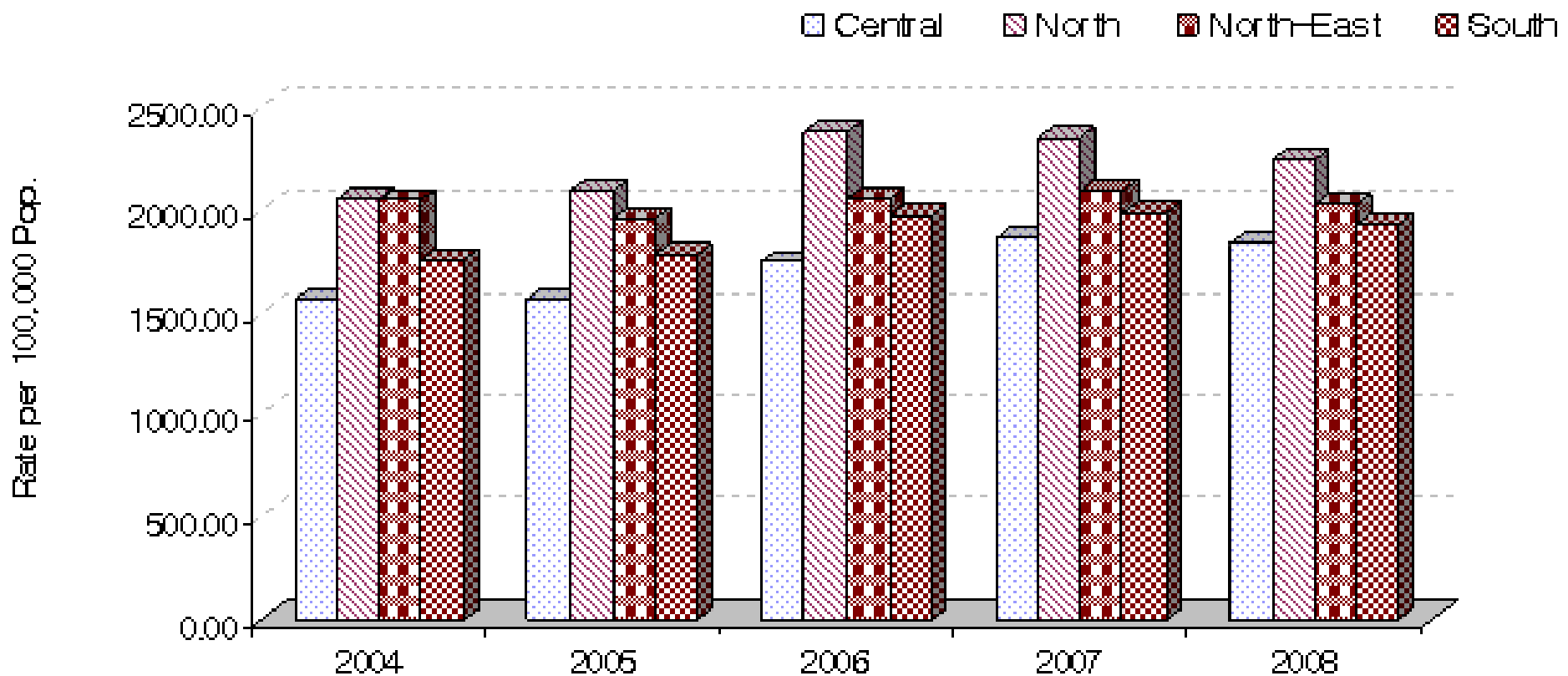
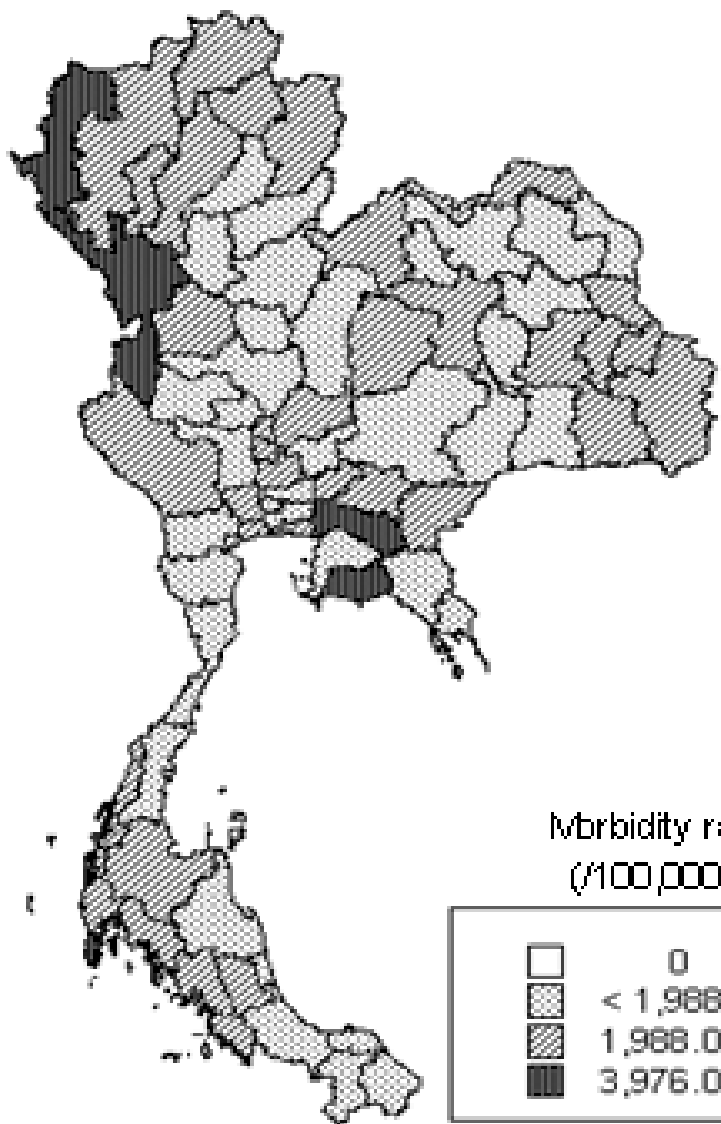


Fig 5 Reported Cases of Acute Diarrhoea per 100,000 Population by Province, Thailand, 2008



Top Ten Leading Rate

1	Phuket	4490.56
2	Chachoengsao	4231.01
3	Mae Hong Son	4121.02
4	Rayong	4053.52
5	Tak	4052.90
6	Prachin Buri	3873.06
7	Phayao	3421.89
8	Samut Songkhram	3386.84
9	Si Sa Ket	3133.59
10	P.Nakhon S.Ayutthaya	3100.20

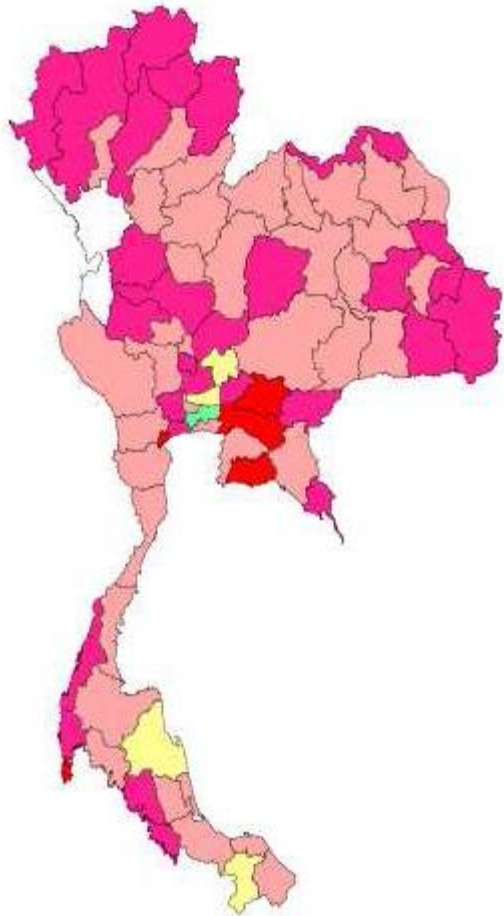
Morbidity rate (/100,000)	Number of provinces
0	(0)
< 1,988.03	(35)
1,988.03 - 3,976.06	(36)
3,976.06 +	(5)



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Diarrheal rate per 100,000 population 2009



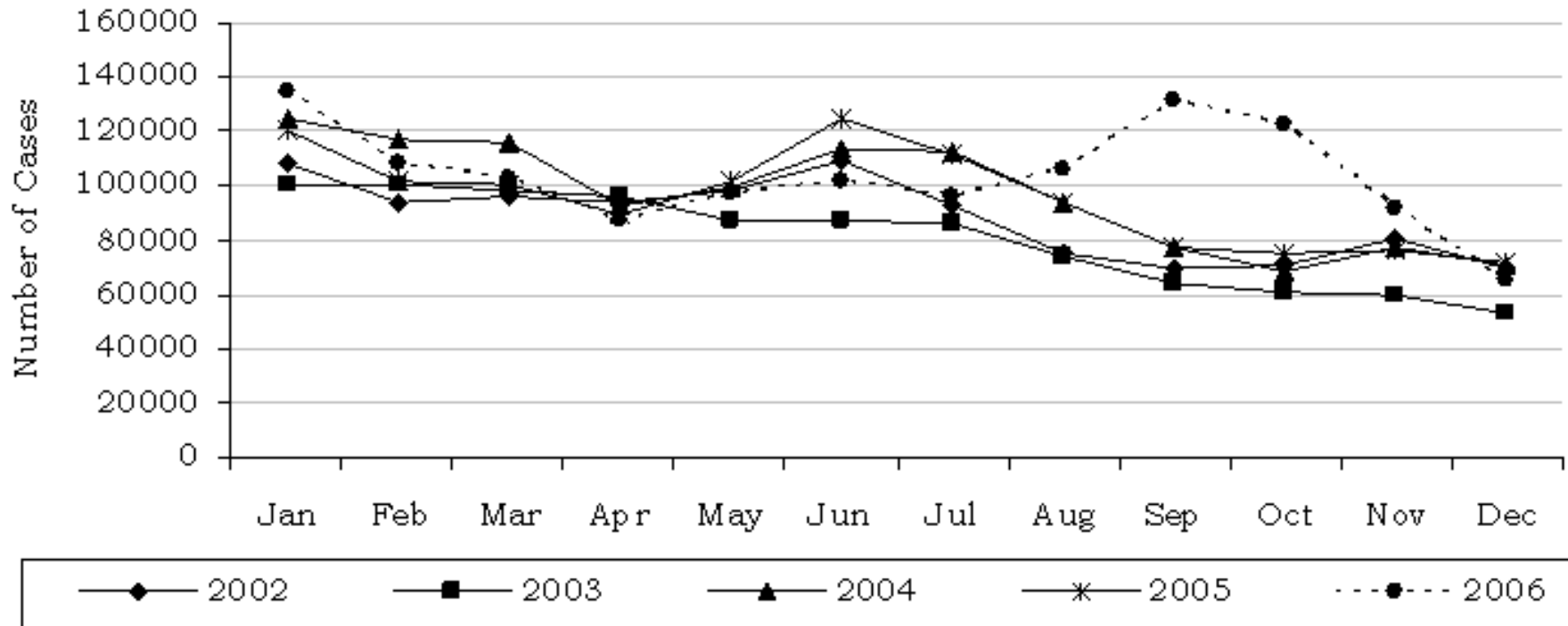
Per 100,000 population





Acute Diarrhea by year and month

Fig. 4 Reported Cases of Acute diarrhoea, by Month, Thailand, 2002-2006.

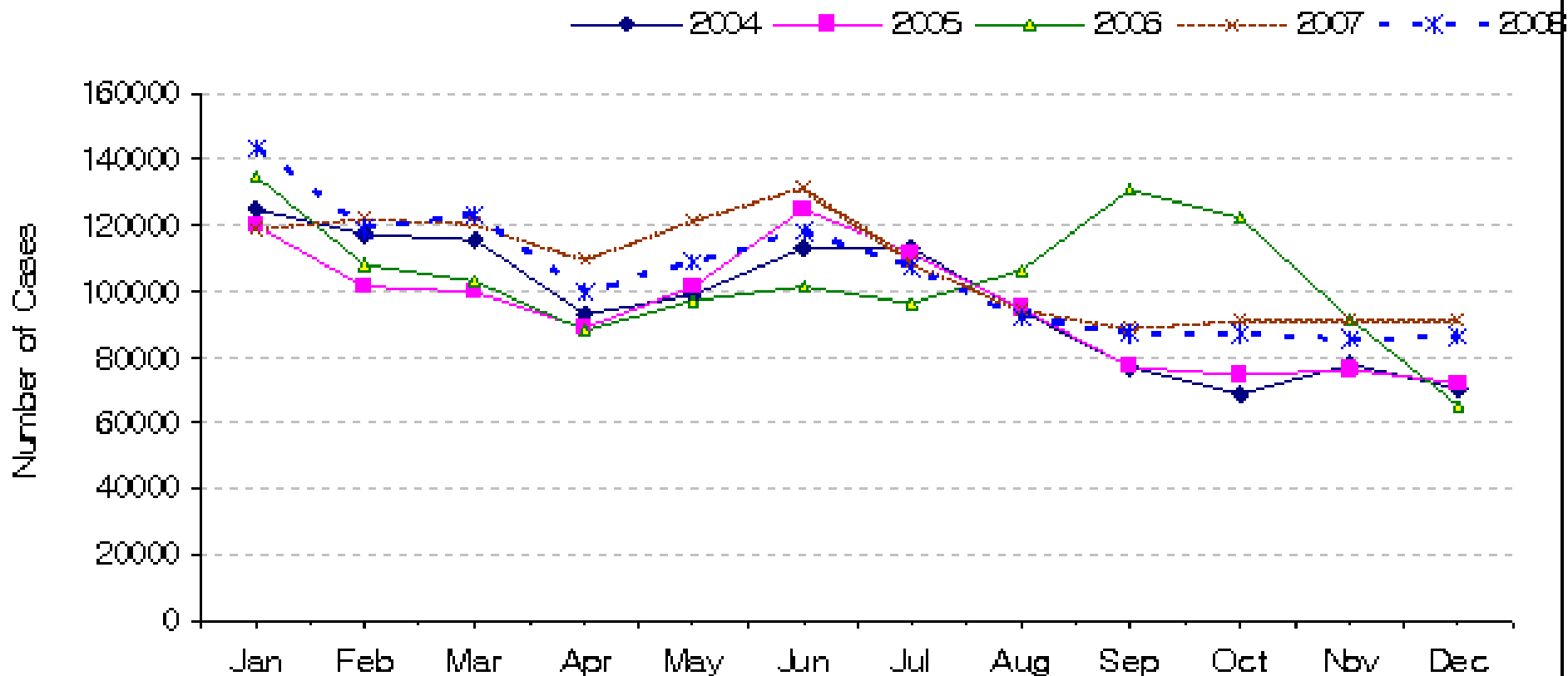




สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม
Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Acute Diarrhea year and month

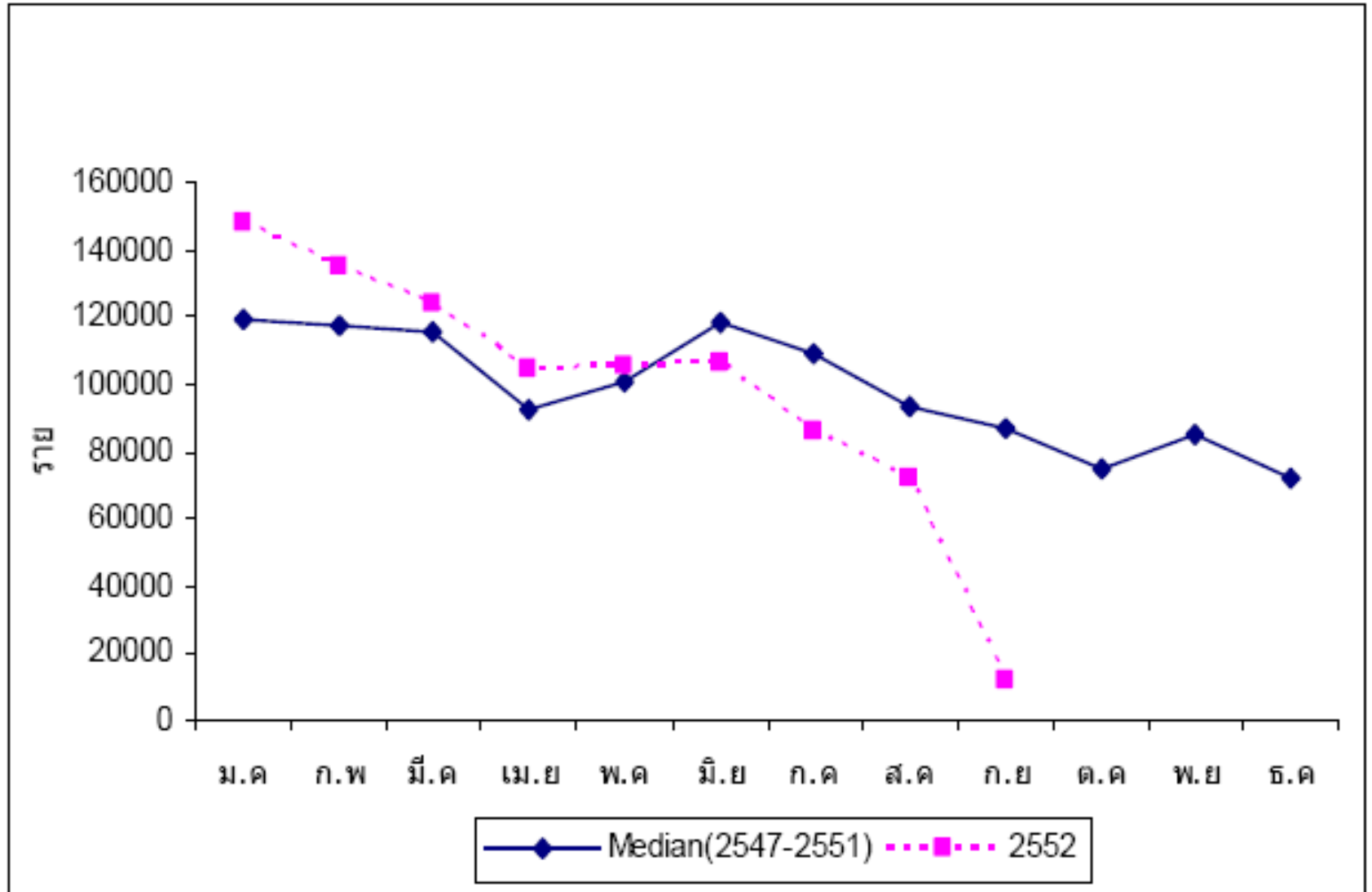
Fig 2 Reported Cases of Diarrhoea by month, Thailand, 2004 – 2008





สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม
Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

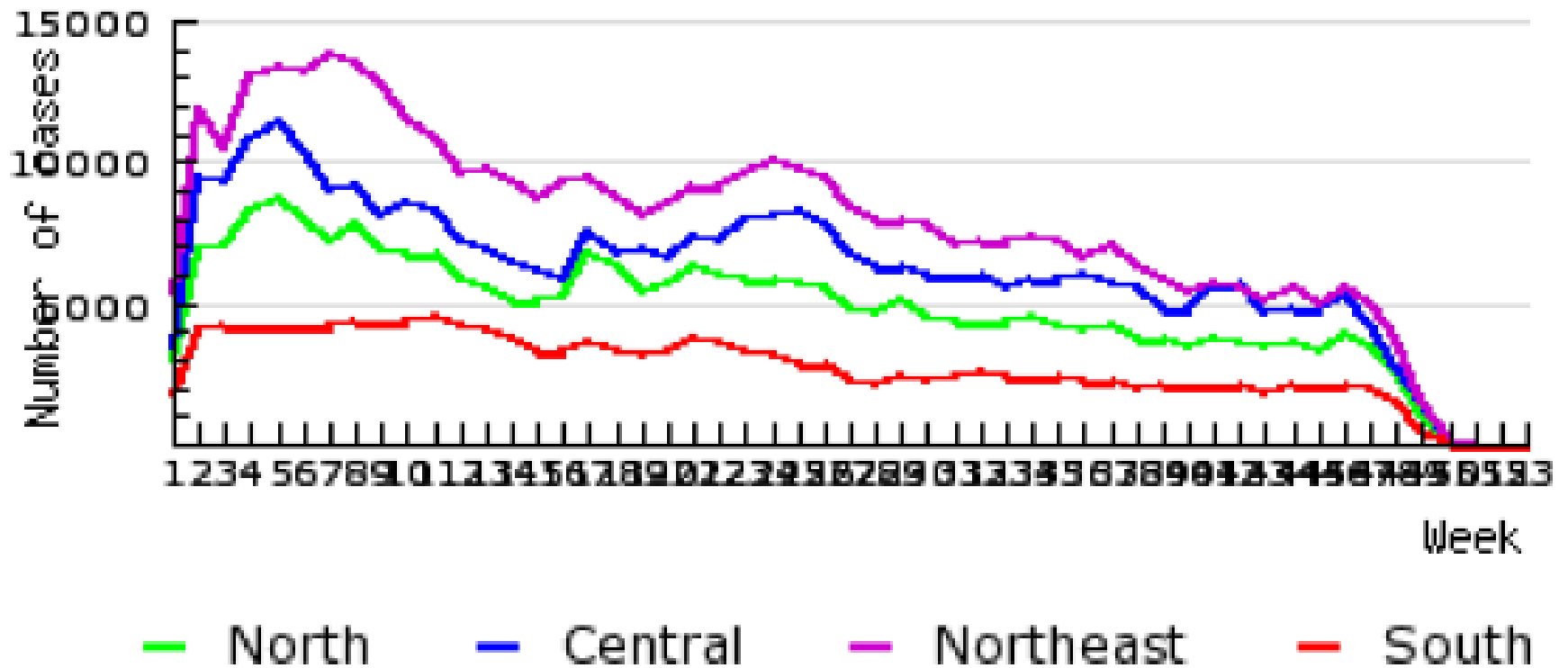
Acute Diarrhea by month





สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม
Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

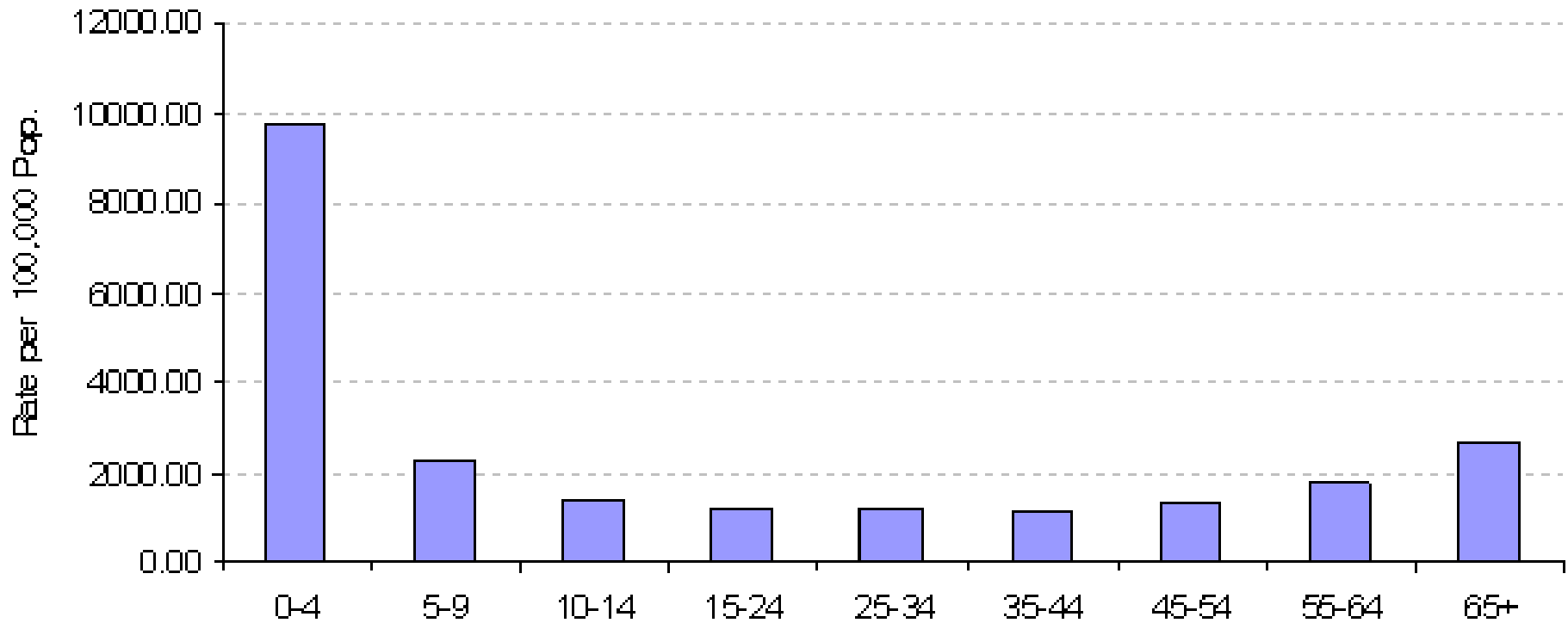
Number of Diarrhoea cases by week of onset and region. 2552





Acute Diarrhea

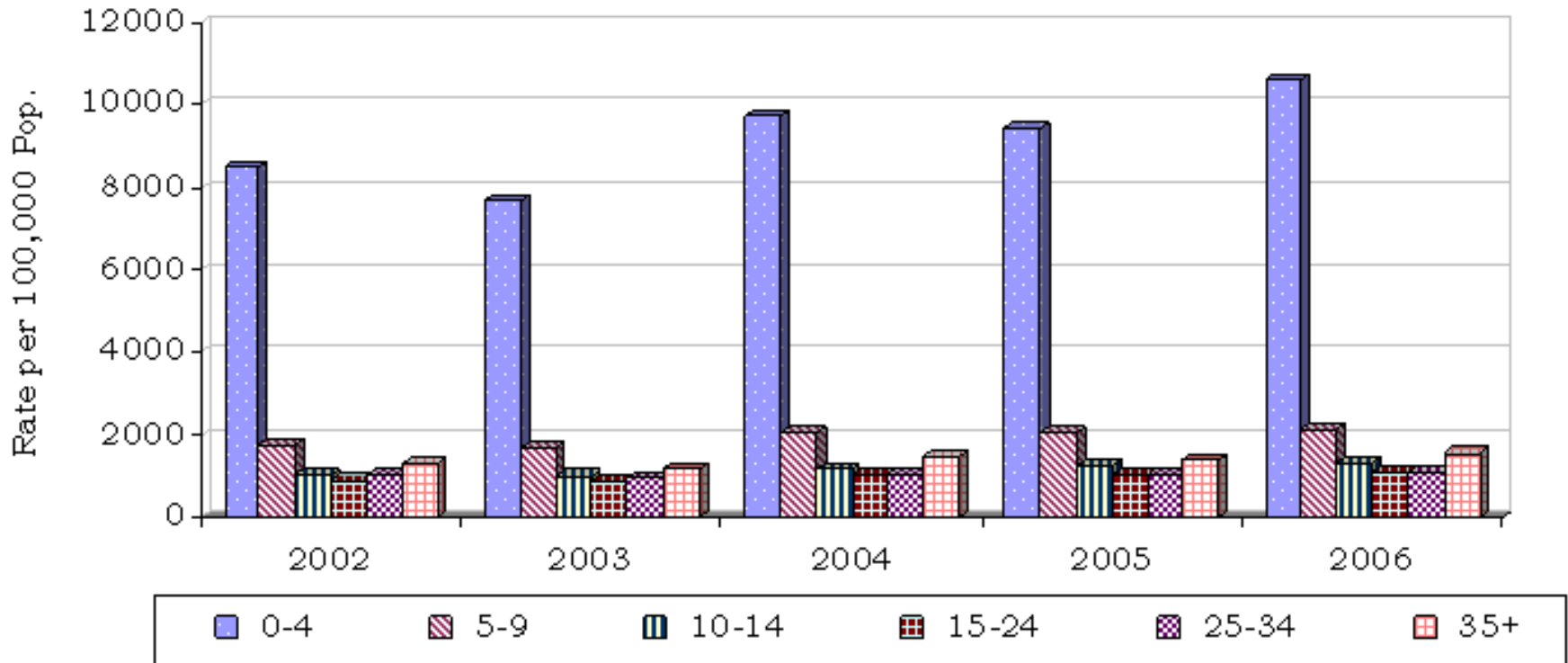
Fig 3 Reported Cases of Diarrhoea per 100,000 Population , by Age-group, Thailand, 2008





Acute Diarrhea

Fig. 6 Reported Cases of Acute diarrhoea per 100,000 Population, by Age-Group, Thailand, 2002-2006





สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Diagnosis of Acute Diarrhea

- Identify cause of diarrhea by
 - Hx, PE, LAB
 - Incubation period
 - Number of patients
 - Kind of food
 - Fever / Abdominal pain
 - Stool examination
 - CBC / Blood exam



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Assess severity for supportive and specific treatment

- Level of dehydration
 - Mild 3-5%
 - Moderate 5-7%
 - Severe 8-10%



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Treatment

- Supportive
- ORS
- Antibiotics
 - Cholera Tetracycline, Furazolidone, Erythromycin
 - Shigellosis Ampicillin, Bactrim
 - Amoebiasis Metronidazole



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Complicated Diarrhea

1. Severe dehydrate diarrhea
2. Mucous-bloody diarrhea
3. $BT > 38.5$
4. Diarrhea with abdominal pain longer than 48 hours
5. Diarrhea in elderly > 50 with MI
6. Diarrhea in elderly > 70
7. Diarrhea in immunocompromised host



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Preventions and Controls

- Hygiene and sanitation
- 5 F's": feces, fingers, flies, food, and fluids.



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Controlling Transmission.

- (1) Good food service sanitation, including the careful selection, education, and daily inspection of food handlers.
- (2) Personal cleanliness, particularly washing the hands after each visit to the latrine and before eating or otherwise handling foods.
- (3) Careful selection, inspection, and protection of food supplies.
- (4) Strict supervision of the handling, preparing, cooking, and storing of foods to include proper temperature control.



สำนักงานแพทย์ สำนักงานสนับสนุน สำนักงานปลัดกระทรวงกลาโหม

Office for Medical Services of The Permanent Secretary for Defence (OMSPSD)

Controlling Transmission

- (5) Sanitary disposal of human and other wastes.
- (6) Effective fly and rodent control and the protection of foods against fly and rodent contamination.
- (7) Purification and protection of the water supply. (NOTE: All water is to be considered dangerous unless it has been properly treated. This is also true of ice from questionable sources.)
- (8) Avoidance of unapproved food and water sources.

Immunization