Unnecessary antibiotic use for mild acute respiratory infections among children in rural Vietnam – Urgent need for an intervention

Nguyen Quynh Hoa, PhD, Pharmacist
Vietnam Cuba Hospital, Hanoi, Vietnam

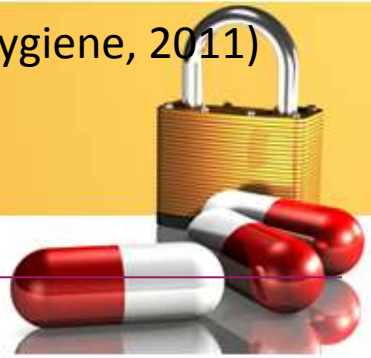
Acute respiratory infections

- Leading causes of mortality and morbidity
- Majority are common colds: self-limiting viral illness
- IMCI guidelines: don't need antibiotic for mild ARI
- Role of healthcare providers
  - ✓ In the front line against antibiotic resistance
  - ✓ Drug dispensers provide advice along with medicines

Unnecessary antibiotics use for children during 28-day period

- Antibiotic use: inappropriate use
  - ✓ 62% children (513/823), 843 courses, in 1,790 days
  - ✓ 63% antibiotic courses for mild ARI
  - ✓ 82% antibiotics for ARI recommended by healthcare providers (HCP)
- Unnecessary antibiotic use when seeking health care

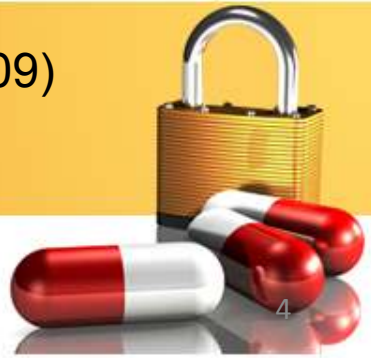
(Hoa N.Q et al., Transaction and Royal Society of Tropical Medicine and Hygiene, 2011)



HCPs' knowledge and practice

Percentage of antibiotic use	**Knowledge**	**Practical competence**	**Reported practice**
Non febrile cough	21%		
Febrile cough	79%	81%	90%
Pneumonia	91%	87%	87%

(Hoa N.Q et al., Tropical Medicine and International Health, 2009)

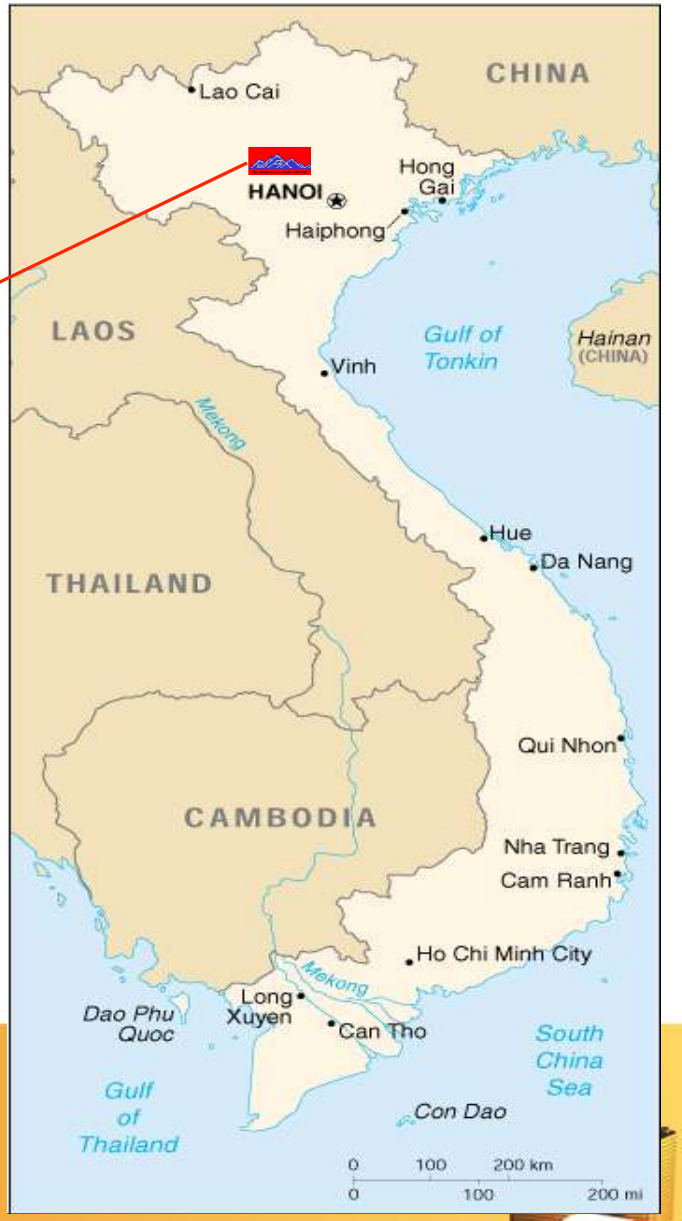


Intervention to improve antibiotic use

- **Main aim:**
  - ✓ Develop, implement and evaluate context appropriate intervention in relation to antibiotic prescribing/dispensing for ARIs among children under five.
- **Subjects**: HCPs at community level
  - ✓ Prescribers: health commune stations, private clinics
  - ✓ Dispensers: drug stores, private pharmacies

Study setting

Bavi district, Hanoi, Vietnam



60 km west from Hanoi

410 Km^2, 32 communes

90 licensed private clinics

Study design:

Two-armed quasi-experimental controlled design

ARI intervention

- ARI management - Knowledge education
- ARI case scenario management
- Poster distribution

Prescribing/ dispensing form collection

1st Questionnaire collection

2nd Questionnaire collection

3rd Questionnaire collection

Prescribing/ dispensing form collection

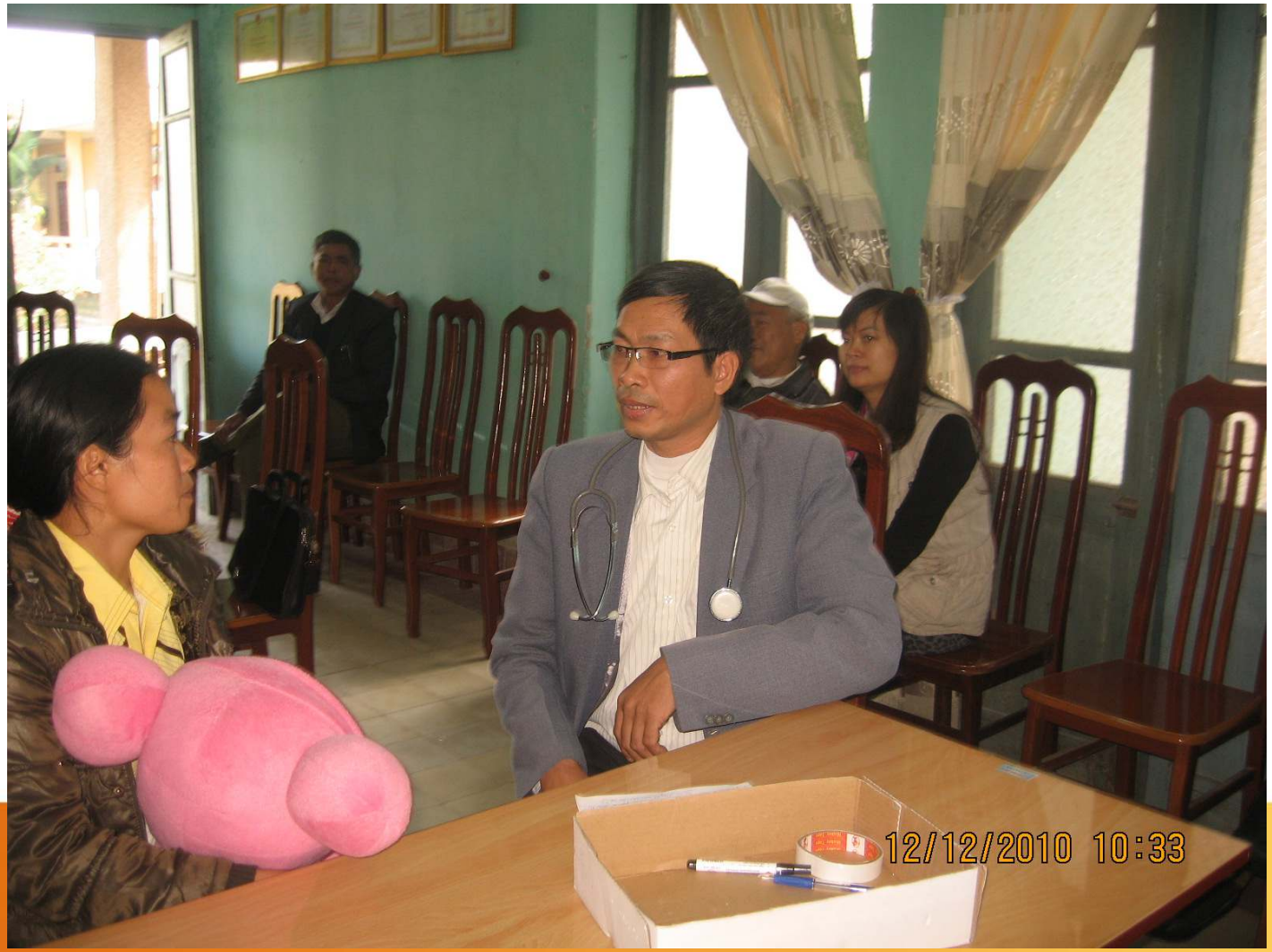
Controlled group

- STD/STI management education
- STD/STI case scenario management
- Poster distribution

1st intervention: ARI management and antibiotic resistance

1st intervention: ARI management and antibiotic resistance

2nd intervention: ARI case scenario management



3rd intervention: Poster distribution

- Keep body warm
- Good feeding and drinking
-Return immediately if sicker

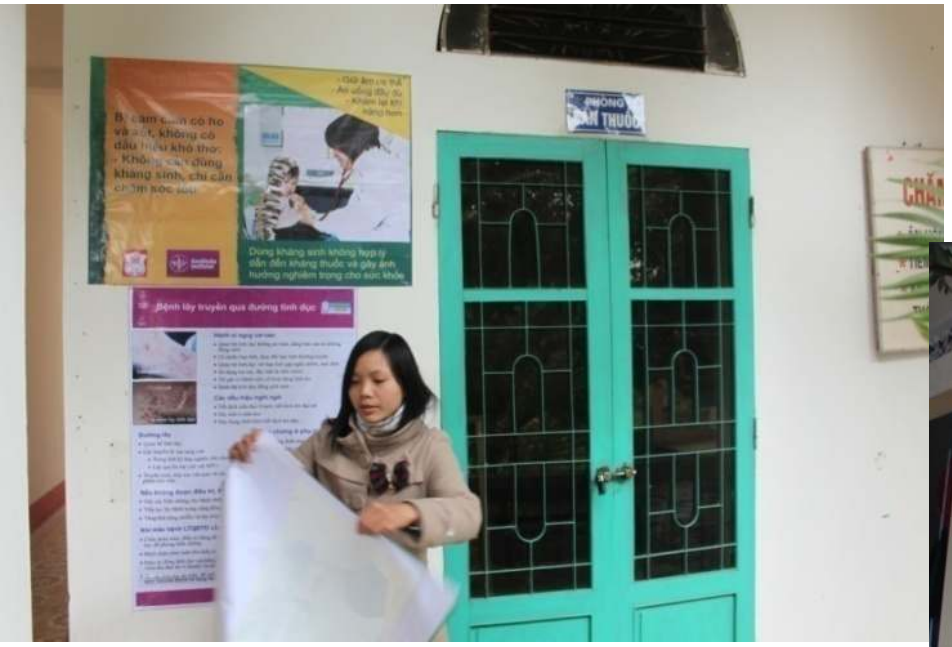
Got a cold with cough and fever, no difficult breathing:
- Don't take antibiotics, take care of yourself!

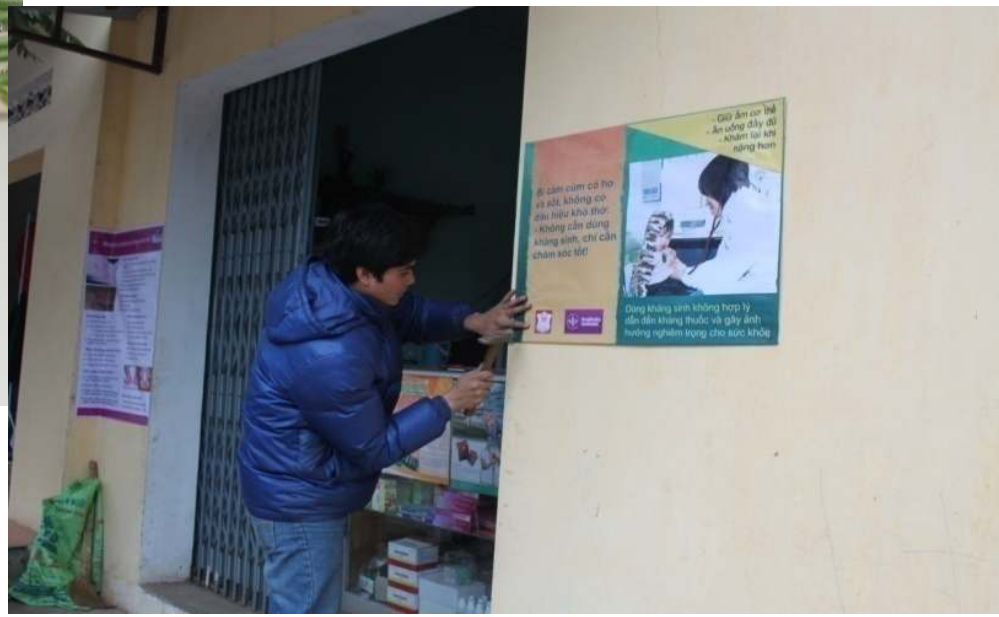
TRƯỜNG ĐẠI HỌC Y HÀ NỘI

Karolinska Institutet

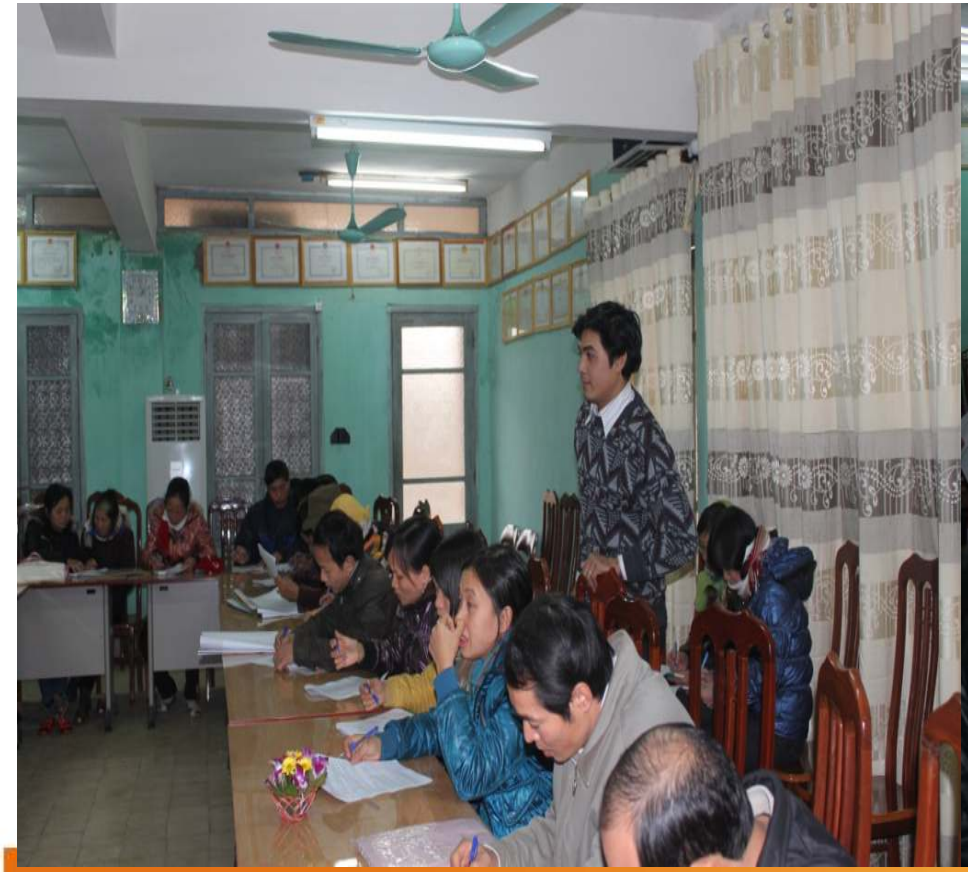
Irrational antibiotic use is leading to bacterial resistance and severe consequences for community.

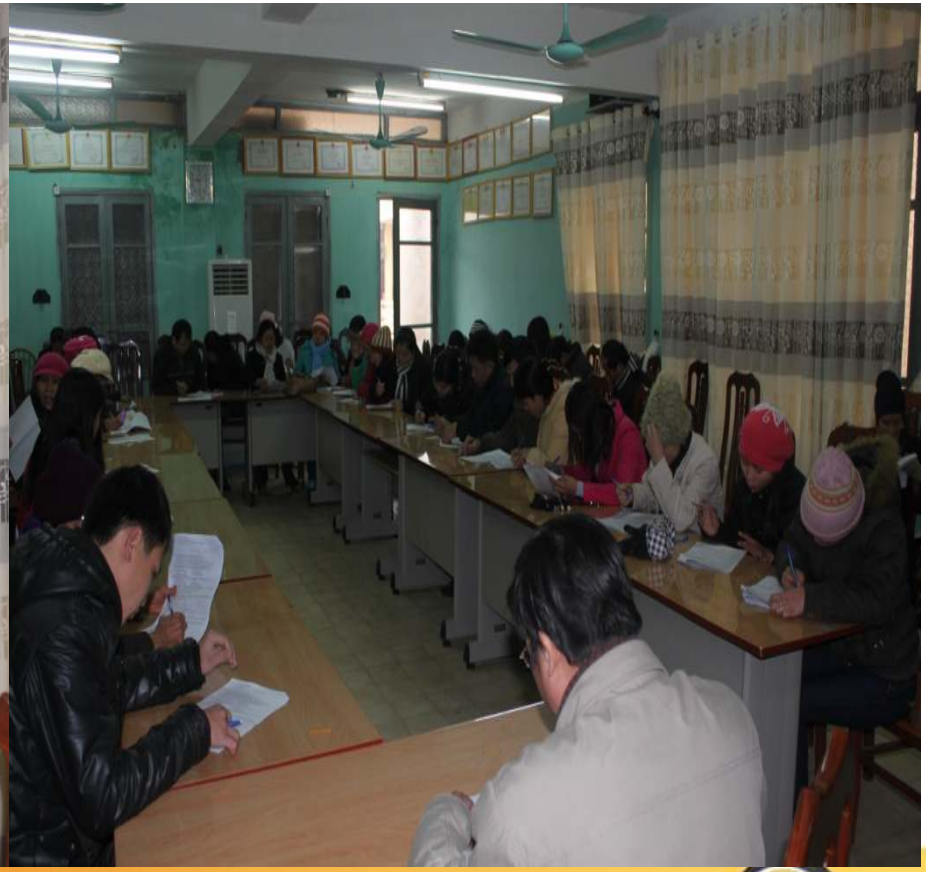
3rd intervention: Poster distribution





Questionnaire collections: Before and after intervention Sep 2010- April 2011





Preliminary results

Professional background	No	%
Doctors	10	8
Assistant doctors, nurses	61	48
Assistant pharmacists	22	18
Basic pharmacists	18	14
Village health workers	15	12
Total	126	100

Preliminary results

HCPs' knowledge on the etiology of ARIs and antibiotic use

Causal agents	Before intervention		After intervention	
	No	%	No	%
Bacteria	60	48	35	28
Virus	26	20	66	52
Use antibiotic for mild ARIs	68	54	12	10

Preliminary results

HCPs' knowledge on the differentiation mild ARIs and pneumonia

Signs	Before intervention		After intervention	
	N	%	N	%
Cough	6	5	9	7
Fever	4	3	3	2
Fast breathing, chest in-drawing	62	49	75	60
Runny nose	9	7	13	10
All above signs	45	36	26	21

Preliminary results

HCPs' practical competence on antibiotic use for treatment

Scenario	Before intervention		After intervention	
	No	%	No	%
Non febrile cough	47	47	34	31
Febrile cough	84	67	60	48

Preliminary results

HCPs' reported practice: Children with ARI symptom and antibiotic prescribed/dispensed

	Before intervention (n=217)		After intervention (n=343)	
	No	**%**	**No**	**%**
Mild ARIs	182	84	246	72
Severe ARIs	18	8	71	21
Antibiotic prescribed/ dispensed	198	91	220	64

Reflections

- Knowledge and behavior can be changed with efforts
- Specific intervention for private healthcare providers
- Sustainability the changes and getting more improvements

Thank you for your attention!