ICMR/DHR Government of India, network (of registries, institutions, investigators) for drug utilization and pharmacoepidemiology

Proposal prepared for ICMR by

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Work in progress

Presentation to ENCePP,12 Nov 2013

Outline

- Need for drug utilization ,pharmacoepidemiology network in India
- Proposal
- Progress till now
- Request suggestions, collaboration from ENCePP EMA Members

Pharmacoepidemiology : Scope

- Drug utilization
- Pharmacoeconomics
- Efficacy
- Safety
- Genetic variation
- Rational use

Need

- Medicines/ devices form 15-50% of health budget / expenditures

- Its access, quality, safe, effective, rational use for all, is Government of India's12th plan (20012-2017) agenda.

Need in India

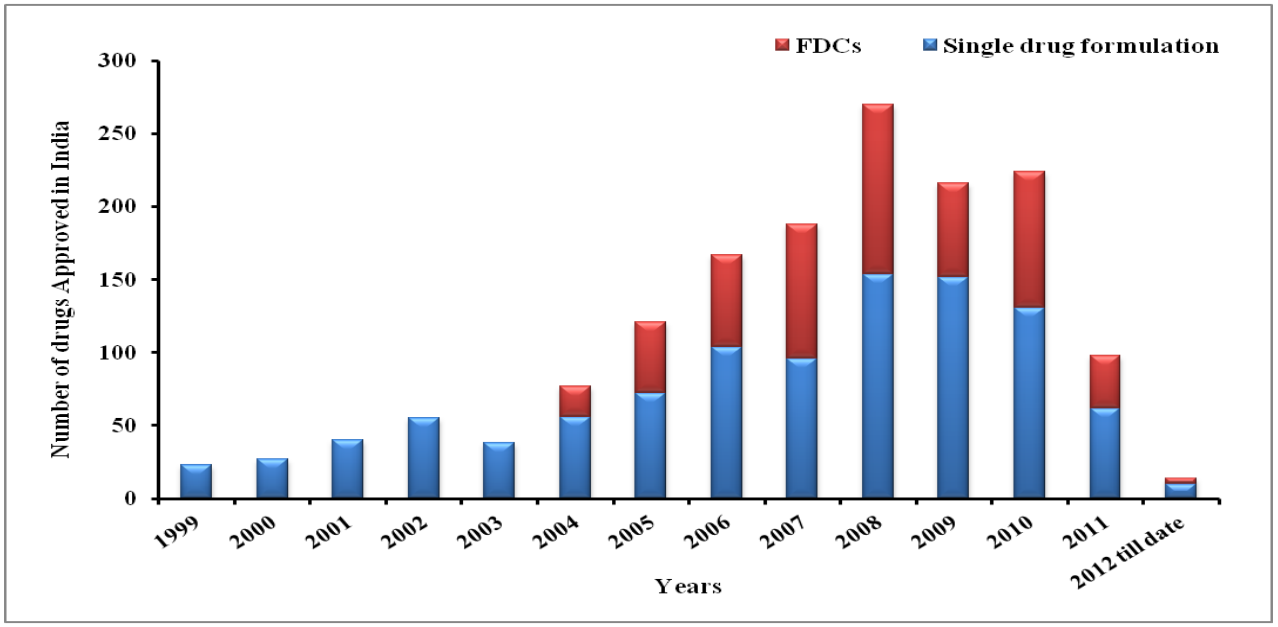
- For policy ,action , evaluation of action
- Need studies with old ,generics and new drugs
- Evaluating risk , cost benefits and availability
- In real life situation
- Across various parts of country
- In various healthcare setting
- In population with various risk factors (age, co morbidity, genetic variation)
- Need experts, trained researchers, investigators, good practices, methodologies, data sets for such studies .

Lacunae

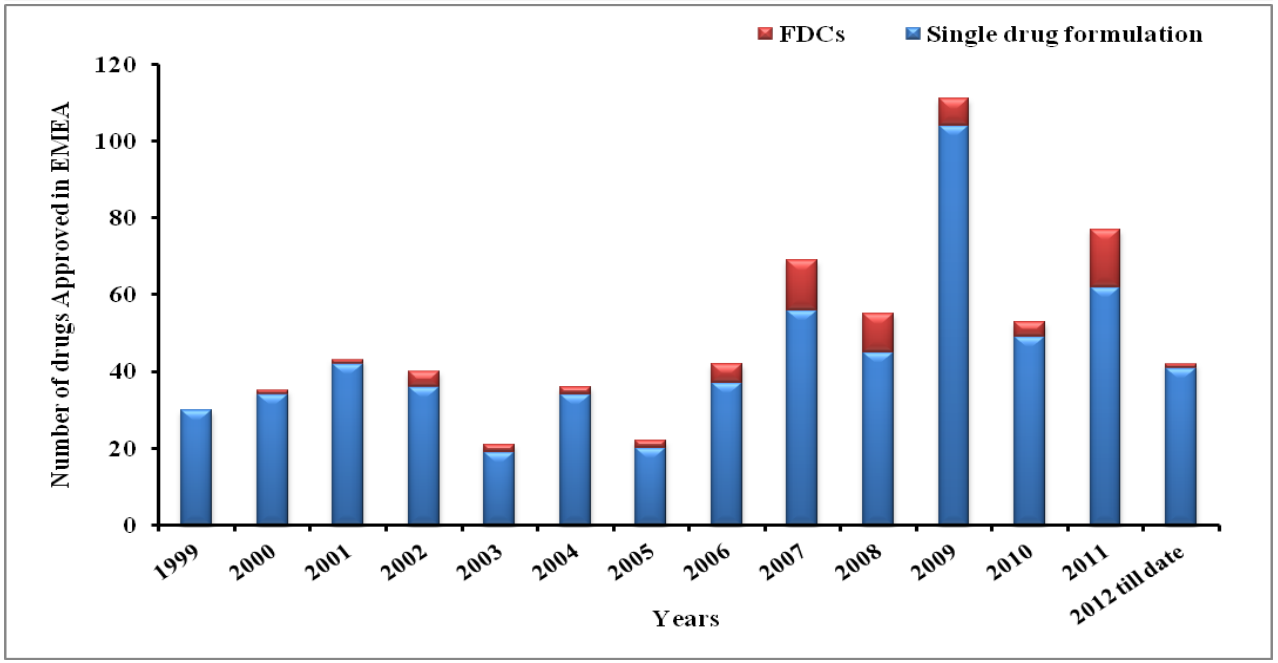
- Despite some excellent researchers
- Lacunae in publications ,
- Inadequate representative data /analysis
- Regulatory decisions often delayed
- Issues of over the counter use
- Alternative systems of medicine use complicating the scenario

Drug approved in India and EMEA from 1999-2012

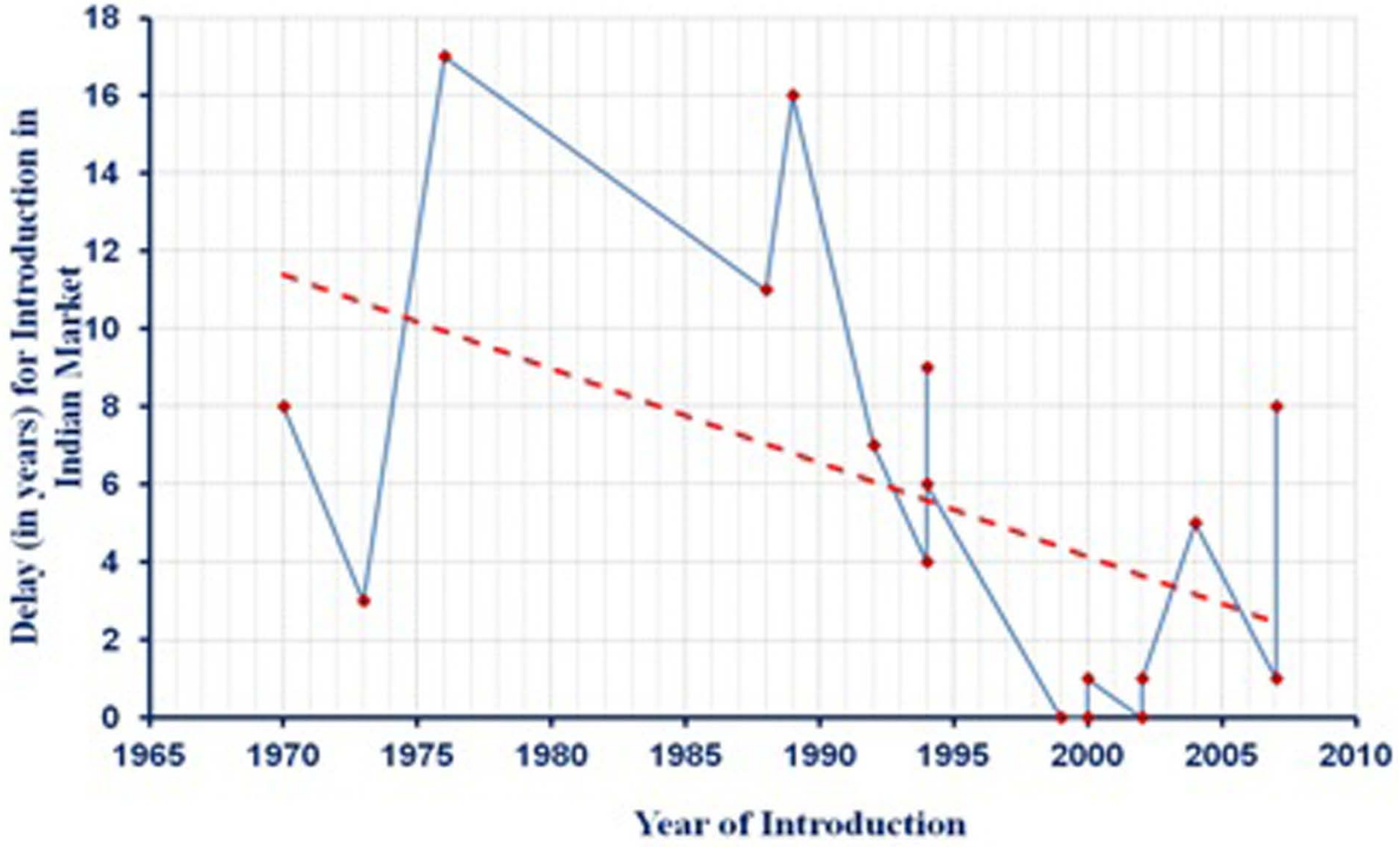
India



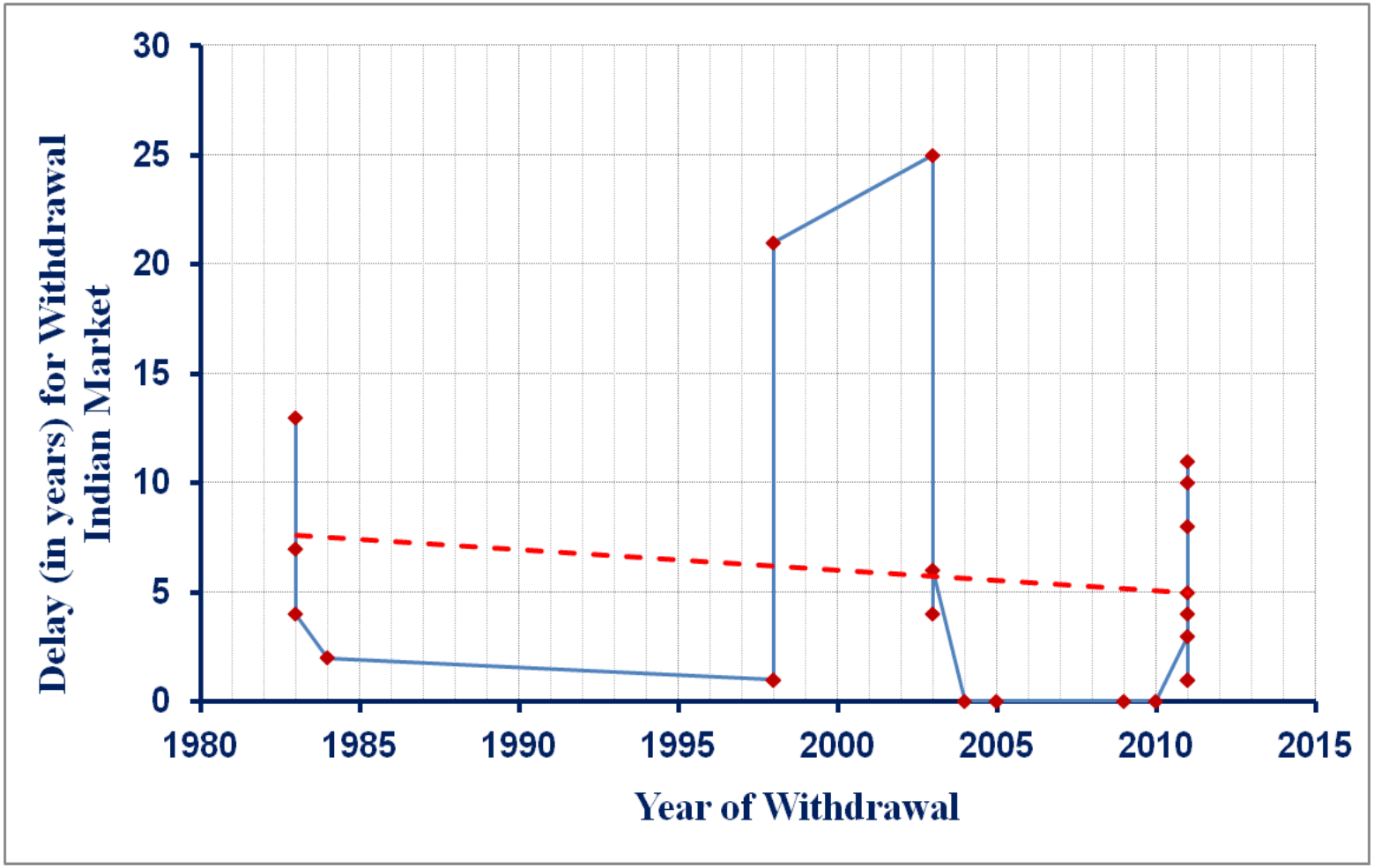
EMEA



Lag time for Introduction



Lag time for withdrawal of Drugs in India compared to International



Nimesulide

Data for EMA assessment

	Nim	**PCM**	**Diclo**	**Ibu**
A) Vigibase				
Total cases of liver injury	257	597	101	177
Cases per 10 million DDDs sold	0.38	0.27	0.09	0.15
B) Retrospective cohort and nested case control study (ALI)				
Admissions	16		8	2
Events per 10000 person years.	33.1		22.4	44.6
C) Case population study				
ALF cases	8		5	10
Cases per billion DDD	5.9		3.3	8.2

Drug utilization IMS data for Europe

2005-2007

	Nimesulide	Diclofenac	Ibuprofen	Total NSAIDs
Number of DDDs (Million)	1356	1514	1219	8461
Number of treatment years (Million)	1.4	1.1	1.7	7.7

Nimesulide

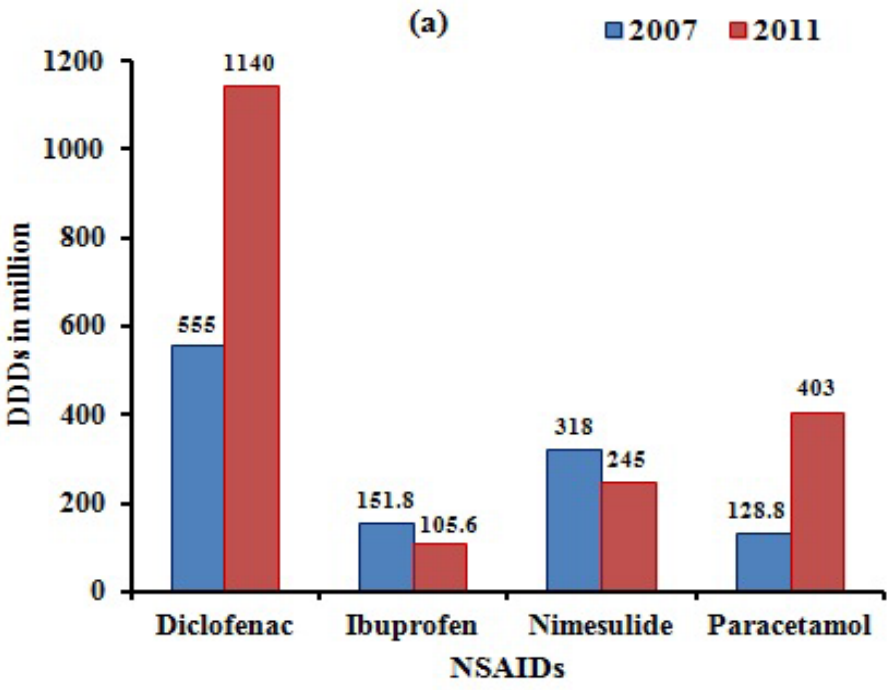
Data for Assessment in India

	Nim	**PCM**	**Diclo**	**Ibu**
Vigibase				
Overall reported cases	129	485	373	150
Liver injury	0	2	1	0

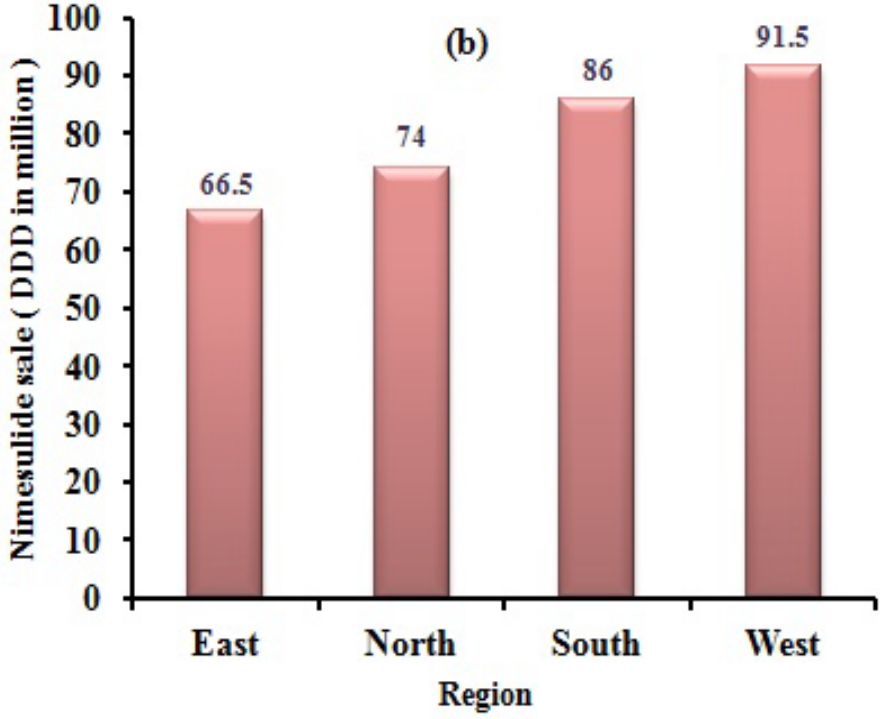
Publications :

- 10 case reports
- 14 case series
- No epidemiological studies
- 2 case series on drug induced liver injury

Drug utilization IMS data for India 2007 and 2011: not representative



DDDs in million for diclofenac, ibuprofen and nimesulide for 2007 and 2011.



Region wise distribution for nimesulide in 2007 in India in DDD in millions.

Publication from India in Pubmed (Chandy,Sarojini,Balaji,Abraham,Kshirsagar 2013)

Sr. No.	Publication Area	% of Publications	
		USA	India
01	Total Biomedical	17.51	0.91
02	Clinical trials/ Clinical Studies	32.2	1.2
03	Outcome research	29.29	1.35
04	Pharmacovigilance	18.2	1.42
05	Prevention of Infection and control	25.33	0.92
06	Antibiotic stewardship	45.72	0.58
07	Antibiotic policy	17.25	2.65

Outcomes Research Resources in India

- Registries------- 62
- Databases-------23
- Medical records—3
- Electronic medical records-----2
- Hospital Information system---1

- Ref :Shah , Pawaskar , Kumar , Kshirsagar 2013

Outcome research in India: using registries and databases Shah, Pawaskar, Smit, Kshirsagar 2013

Disease	
Oncology	44
Cardiovascular (Hypertension, Stroke, MI)	11
Diabetes	4
HIV AIDS	2
Others Hearing loss, Kawasaki, Leprosy, Rheumatic, delirium, renal disease, mental disorder, vitiligo, epilepsy, haemophilia	30
Total	91

Outcome research studies in India using registries
Geographical Distribution

- Maharashtra - 20
- Tamil Nadu - 11
- Karnataka - 7
- Kerala - 8
- Delhi - 7

Most studies in capital city.

International with Indian participation

e.g. – South Asian registry for chronic diseases
– PHARMACHILD

Healthcare setting involved in publications on DUR from India (values indicate number of publications/studies)

Variable		WHO SEARO (% out of 318)	India (% out of 215)
Study Design*	Prospective	282 (88.7%)	198 (92.1%)
	Retrospective	39 (12.3%)	19 (8.8%)
Healthcare settings*	Community	52 (16.4%)	36 (16.7%)
	PHC	28 (8.8%)	19 (8.8%)
	Hospital-OPD	175 (55.0%)	116 (54.0%)
	Hospital-IPD	72 (22.3%)	44 (20.9%)
	Hospital-OPD and IPD	26 (8.2%)	21 (9.8%)

Methodology used in the publications on Pharmacovigilance

Sr. No	Methodology used	Number of Publications
1	Spontaneous reporting	33
2	Case control	6
3	Cohort study	31
4	Survey	6
5	Evaluate methods/forms	3
6	Secondary data analysis	4
7	Laboratory testing	7
8	Case report	62

State wise distribution of Number of Publication on Pharmacovigilance in India

State	No of publications
Andhra Pradesh	5
Bihar	1
Chhattisgarh	4
Goa	3
Gujarat	14
Haryana	3
Himachal Pradesh	4
Karnataka	31
Kerala	4
Maharashtra	44
New Delhi	27
Punjab	24
Pondicherry	8
Rajasthan	1
Tamil Nadu	7
Uttar Pradesh	19
Uttarakhand	1
West Bengal	9
WHO	1
other	12
Total	**222**

Missing information

- Inadequate spontaneous reporting
- Publications mainly prospective studies,
- From certain states,
- From hospitals rather than community
- Case studies, series rather than epidemiological analytical
- Registries for disease prevalence,regional
- Data is not representative
- Collation, analysis, insufficient, difficult

Proposal :

Network of registries, institutions, investigators for drug utilization and pharmacoepidemiology

1) Managed by ICMR, funded by ICMR/DHR and ? other Government of India departments.

2) In partnership with NABH, MCI, NBE,IDMA, IMS health

3) Stakeholders – Government of India, DCGI, Ministry of health and family welfare, Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers,
Healthcare providers, Health professionals/educators, Pharma Industry
4) International organizations ?WHO, LSHTM,DSRU ENCePP, EMA

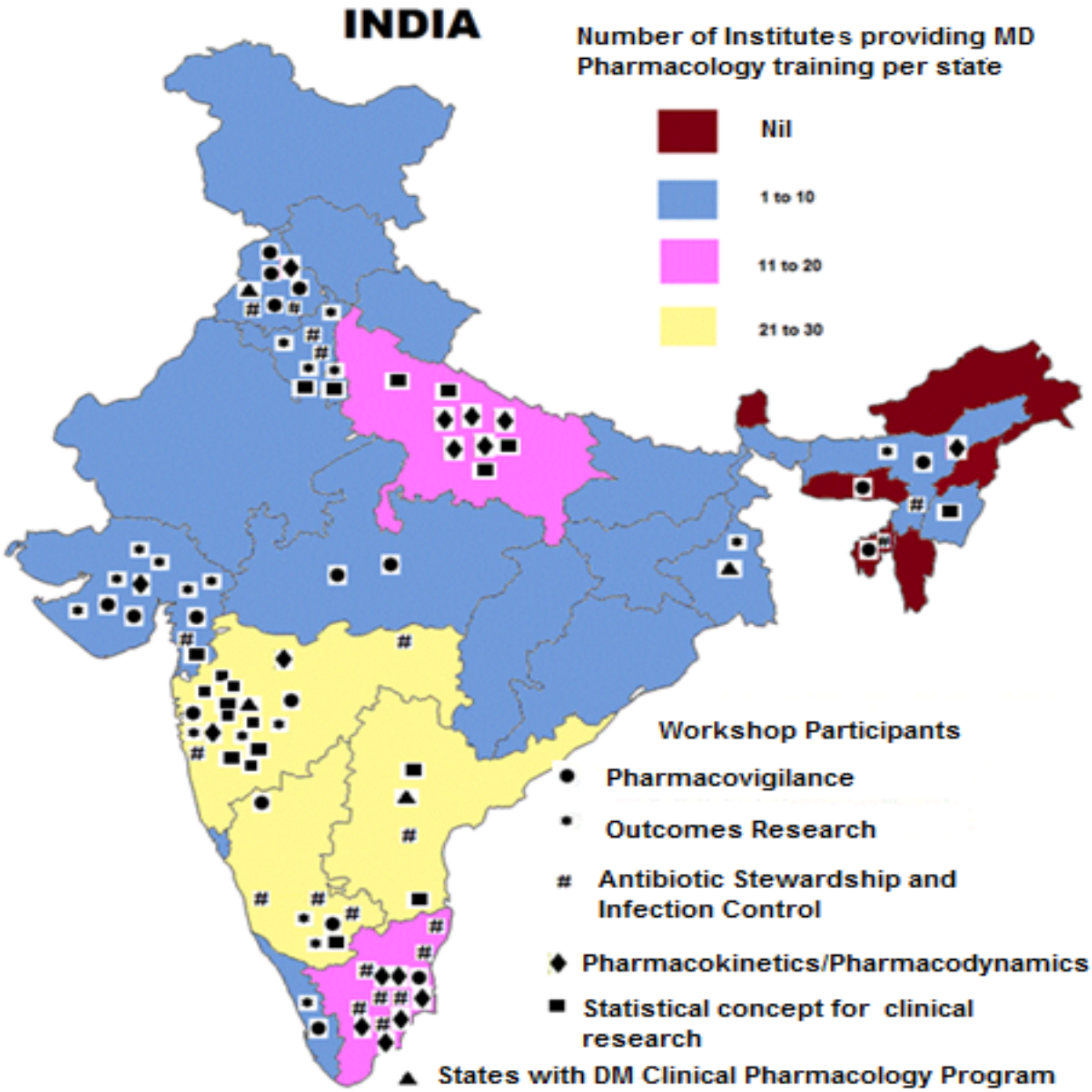
Proposal(cont)

- Representative data
- Identified priority areas
- Capacity building
- Tools
- Administrative structure
- Funding

Capacity building:Progress

- ICMR workshops on outcomes research, antibiotic stewardship, pharmacovigilance, statistics, 2012-2013
- WHO Workshop on ATC DDD and drug utilization 2013
- Proposed pharmacoepidemiology workshop in 2014 April collaboration with DSRU/WHO/DIA/LSHTM

ICMR workshops in Clinical Pharmacology in 2012



Indian Council of Medical Research – Workshop on Pharmacovigilance (2012-13)

Dr. Shanti Pal (WHO) with Workshop participants and faculty

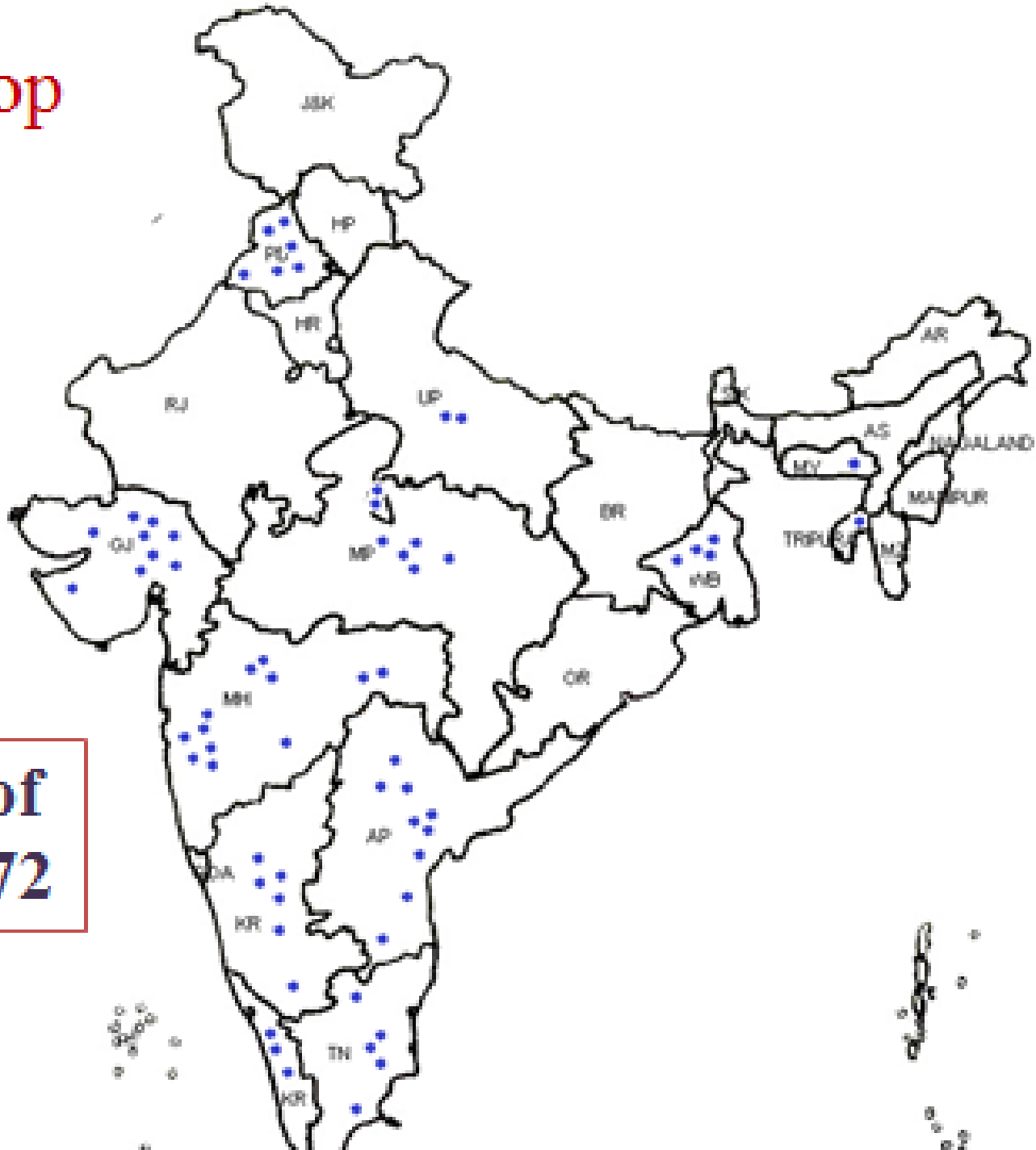
ICMR workshops: 2012

Multicentric studies

extrapulmonary TB,severe P vivax,care of relatives of diabetics,KAP Pharmacovigilance,metabolic syndrome with antipsychotics,ADRs to snake venom,antibiotic use in intensive care ,antibiotic prophylaxis before surgery

WHO Workshop participants with Organizers and faculty

WHO Workshop participants distribution



Total number of participants = 72

PROGRAM DETAILS

"Preconference Workshop"

By WHO Collaborating Centre for Drug Statistics Methodology, Oslo (Norway)

Training in the "WHO ATC/DDD Methodology and Drug Utilization Research"

Day 1: Friday, 19th April 2013

8.00-9.00	Registration/ Breakfast	
9.00-9.30	Welcome	Dr. Nilima Kshirsagar
9.30-10.00	Introduction and historical background	Hanne Strøm
10.00-11.15	ATC classification	Hanne Strøm
11.15-11.30	Tea	
11.30-12.30	The concept of the Defined Daily Dose (DDD)	Christian Berg
12.30-13.30	Lunch	
13.30-14.30	ATC and DDD for combination products	Solveig Sakshaug
14.30-16.00	Working groups: ATC/DDD problems	*
16.00-16.15	Tea	
16.15-16.45	Presentations from the working groups	*
16.45	Closure of the first day	

PROGRAM DETAILS

"Preconference Workshop"

By WHO Collaborating Centre for Drug Statistics Methodology, Oslo (Norway)

Training in the "WHO ATC/DDD Methodology and Drug Utilization Research"

Day 2: Saturday, 20th April 2013

8.30-9.00	Breakfast	
9.00-9.45	Different applications of the ATC/DDD methodology	Hanne Strøm
9.45-11.15	ATC/DDD in drug consumption statistics	Solveig Sakshaug
11.15-11.30	Tea	
11.30-12.00	Drug utilization studies in India	Dr. Nilima Kshirsagar
12.00-12.30	IMS lecture	Swati Chaudhary
12.30- 13.30	Lunch	
13.30-15.00	Procedures for ATC/DDD assignments and alterations including website information	Christian Berg
15.00	Evaluation and closure	-

Challenges

- Remote areas, marginalised population, ASM
- Incomplete data, validation
- Confidentiality, ethics
- Data sharing

Tools

- Coding systems
- Software
- Templates
- Protocols
- Criteria
- Curriculum

Benefits of network/registry: Transparent no conflict of interest

- Database- Live usable
- Network of trained investigators for studies
- Protocol for data collection
- Methodologies standard
- Generate post marketing data on new drugs
- Industry RMP/PAS studies protocol could be vetted by experts of network, conducted by researchers of network.
- *Ad-hoc* research projects on current topics of interest
- Task force on topics of National Importance
- Risk Management Plan, contraindications, drug product inserts, implementations, variation, rational use, off lable use studied.

Progress till now

- Expert group formed, two meetings held
- Presentation, discussion, feedback
- Survey initiated
- Working groups formed will prepare further details
- Collaboration, contribution, suggestion from ENCePP,EMA

Thank you