

“Learning-by-Doing”: An IndiaCLEN Health Research Capacity-Building Initiative

More research is needed for Maternal, Neonatal, Child Health and Nutrition (MNCHN)

WHO defines maternal health as “The health of women during pregnancy, childbirth and the postpartum period.”ⁱ Additional research is needed in the reduction of maternal mortality, near-miss events, pregnancy related illnesses such as pre-eclampsia, and other long-term consequences such as fistula or child-birth related damage to the pelvic structure.ⁱⁱ

Neonatal health refers to the health of baby in the first 28 days of life. Additional research areas in neonatal health include the main causes of neonatal death, such as preterm delivery, congenital malformations, asphyxia, sepsis/pneumonia, and tetanus.ⁱⁱⁱ

Child Health and Nutritional status of infants and children beyond 28 days of age through 18 years of age influences disease, disabilities, and psychological and functional development.^{iv} Additional future research in child health may include pneumonia, diarrhea, HIV/AIDS, malaria and measles.^v

Building capacity for MNCHN research

There is scarcity of qualified professionals using the appropriate methodology to conduct research in the area of MNCHN in India. Few researchers have received adequate formal training in research methodology and biostatistics. India’s poor doctor-patient ratio, in addition to other administrative and teaching assignments, has left overburdened medical professionals little time to pursue research. Lack of adequate infrastructure, as well as a lack of prioritization of research by department heads, has resulted in insufficient research being completed.^v

It is necessary to understand the need and existing gaps among medical faculty members in India for undertaking quality research in MNCHN area that has public health relevance. This questionnaire is an attempt in this context.

The results of this questionnaire will form a base for developing training content and suitable methodology aimed towards building the research capacities of medical faculty members in MNCHN area.

Objective of this questionnaire

The objectives of this questionnaire are to identify across the state of India:

- Gaps in Knowledge, Skills, and Attitude of researchers in the field of MNCHN
- Gaps in the Research Resources needed by MNCHN researchers
- Ways to address these gaps

Completing this questionnaire will take about 20 minutes. Thank you in advance for your time.

Use pencil/black ball pen only for filling the questionnaire.

Respondent and Name of Institution will be kept confidential.

The findings of this will be used for research purpose only.

For further clarification: Please contact Prof. Narendra K. Arora (Principal Investigator), Advisor-IndiaCLEN Capacity Building Project and Executive Director, INCLEN, F1/5, 2nd Floor, Okhla Industrial Area, New Delhi-110020. Phone: 011-47730000

**Gap Analysis Tool on Research Capacity Building of Maternal,
Neonatal, Child Health and Nutrition (MNCHN)**

Unique ID:

Date

Name of Institution

Type of Institution (Please write the response number within the box.)

[1] Government [2] Private [3] Other (Please specify below) <input type="text"/>	<input type="text"/>	[1] Teaching [2] Non-Teaching	<input type="text"/>
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State **City**

Respondent Information (Please write the response number within the box.)

Designation: [1] Head of Department [2] Professor [3] Additional Professor [4] Associate Professor [5] Assistant Professor [6] Lecturer	<input type="text"/>	Number of Years as a Faculty Member [1] 0-5 Years [2] 6-10 Years [3] 11-15 Years [4] > 15 Years	<input type="text"/>
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Department:

There are four broad categories in the Gap Analysis Tool

I. General Information

II. Research Resources related to MNCHN (e.g: Funding, Human Resources, Mentorship, Continuing Education, Research Logistics, etc.)

III. Research Competencies

IV. Constraints, Benefits and Future Research

SECTION A: GENERAL INFORMATION

1. What would you describe as your primary area of work/specialization?

- [1] Gynaecology
- [2] Paediatrics
- [3] Community Medicine/Public Health
- [4] Nutrition
- [5] Neonatology
- [6] Biostatistics
- [7] Social Sciences
- [8] Other professions related to MNCHN

2. How would you characterize your level of professional experience?

- [1] Senior-Level Faculty with research experience
- [2] Senior-Level Faculty without research experience
- [3] Mid-Level Faculty with research experience
- [4] Mid-Level Faculty without research experience
- [8] Refuse to Answer
- [9] Don't Know/Not Sure

[Senior Level Faculty: *more than 10 years of academic experience, after finishing Post graduation.*
Mid-Level faculty: *between 5-10 years of academic experience.*]

3. Are you currently involved in research activities?

- [1] Yes
- [2] No
- [8] Refuse to Answer
- [9] Don't Know/Not Sure

If 'No', please
move to
question 4

3.1. If yes, is your research related to MNCHN?

- [1] Yes
- [2] No
- [8] Refuse to Answer
- [9] Don't Know/Not Sure

3.2. If yes, please specify type of research activities you are involved in?

*Please tick **all** that apply:*

- Qualitative
- Quantitative
- Both Quantitative and Qualitative
- Other (Please Specify):
- Operational Research
- Clinical Trials

MNCHN research refers to:

- *Maternal Health & Nutrition: The health and nutritional status of women during pregnancy, childbirth, and the postpartum period.*
- *Neonatal Health: The health and nutritional status of the baby during the first 28 days of life.*
- *Child Health & Nutrition: The health and nutritional status of infants and children beyond 28 days of age through 18 years of age, influencing disease, disabilities, and psychological and functional development.*

4. What are your areas of research interest?

Please Describe

5. How many years of experience in MNCHN research do you have?

6. In your professional career, how many of your research projects been funded, where you were the team leader or Principle Investigator?

(The funding source may have been from an external funding source such as USAID, ICMR, DST, DBT, WHO, UNICEF, or an internal funding source (in-country organizations such as ICMR, Government (national or state) or other local donors, such as a research award secured from your institution. *Please exclude doctoral research projects and postgraduate projects.*)

7. Do you have publications related to MNCHN?

- [1] Yes
- [2] No

- [8] Refuse to Answer
- [9] Don't Know/Not Sure

7.1. If yes, whether they are in

- [1] National peer reviewed journal
- [2] International peer reviewed journal

- [3] Refused to answer
- [4] Don't Know/ Not sure

8. Have you received research methodology training in any of the following forms?

*Please tick **all** that apply:*

- | | |
|---|---|
| <input type="checkbox"/> Workshops | <input type="checkbox"/> Continuing Medical Education |
| <input type="checkbox"/> Seminars | <input type="checkbox"/> "On the Job" Training |
| <input type="checkbox"/> Online Courses | <input type="checkbox"/> Bachelors Degree |
| <input type="checkbox"/> Distance Education Programmes | <input type="checkbox"/> Postgraduate Diplomas |
| <input type="checkbox"/> Short-Term Courses (< 3 Months) | <input type="checkbox"/> Masters Degree |
| <input type="checkbox"/> Long-Term Courses (\geq 3 Months) | <input type="checkbox"/> PhD. |

No Research Methodology Training Has Been Completed.

Other (*please specify*):

Section B: Research resources related to MNCHN

The following section refers to the Resources necessary to conduct research. Such resources include financial resources (i.e., grants or scholarships), human resources (i.e. research assistants, administrative staff, financial managers, etc.), mentoring relationships, opportunities to pursue further education, logistical resources (i.e. adequate infrastructure, access to current literature, necessary technology, transportation, etc.), and protected time for researchers to pursue research.

B.I Financial Resources:

For this subsection of questions, Financial Resources refers to grants, fellowships, educational scholarships, and other sources of monetary support for research activities.

9. Who (all) funded your last research project/study while working in this institution?

10.	Financial Resources within Your Institution		
10.1	Does your institution provide funds in the form of research grants or educational scholarships?	[1] Yes [2] No [8] Refuse to Answer [9] Don't Know/Not Sure	
10.2	Does your institution assist/facilitate researchers in seeking out external funding sources?	[1] Yes [2] No [8] Refuse to Answer [9] Don't Know/Not Sure	

11. Does your institution have a research cell/designated official unit responsible for the management of research projects?

[1] Yes
[2] No

[8] Refuse to Answer
[9] Don't Know/Not Sure

(A Research Cell is a part of the institution responsible for administering research grants, managing human resources and finances, and monitoring the research projects.)

B.II. Human Resources:

The following sub-section refers to Human Resources, which includes Research Assistants, Administrative Staff, Technical Staff, Financial Managers, etc.

12. In your experience, what specific activities this research cell perform to facilitate research?

Please list.

13.	Institutional Access to Human Resources:		
13.1	Does your institution have Human Resources available to assist researchers?	[1] Yes [2] No [8] Refuse to Answer [9] Don't Know/Not Sure	
13.2	Does your organization have a mechanism to assist researchers with the hiring and training of Human Resources?	[1] Yes [2] No [8] Refuse to Answer [9] Don't Know/Not Sure	
13.3	Does an external partnering agency, governmental or non-governmental, assist researchers with Human Resources?	[1] Yes [2] No [8] Refuse to Answer [9] Don't Know/Not Sure	

14. Does your organization teach (teach what- Perhaps research methodology??) any of the following types of students or trainees?

Please tick all that apply:

- | | |
|---|---|
| <input type="checkbox"/> House Surgeons/Interns | <input type="checkbox"/> Pharmacy trainees |
| <input type="checkbox"/> Undergraduate Medical Trainees | <input type="checkbox"/> Public health trainees |
| <input type="checkbox"/> Postgraduate Medical Trainees | <input type="checkbox"/> Technician trainees (e.g. lab worker) |
| <input type="checkbox"/> Researcher trainees | <input type="checkbox"/> Health care administrator trainees |
| <input type="checkbox"/> Nursing trainees | <input type="checkbox"/> Masters students (Biomedical Sciences) |
| <input type="checkbox"/> Midwifery trainees | <input type="checkbox"/> Doctoral students (e.g. PhD, M.Phil) |
|
 | |
| <input type="checkbox"/> Don't Know/Not Sure | |
| <input type="checkbox"/> Other (Please Specify): | |

Section B.III: Mentorship

Mentorship is a relationship in which “faculty with useful experience, knowledge, skills, and/or wisdom offers advice, information, guidance, support, or opportunity to another faculty member or student for that individual’s professional development”, and is a voluntary relationship.^{vi}

“A *mentor* is a person who helps a more junior person develop professionally through a combination of advising on projects, skills development, creation of opportunities, and personal growth in an intensive manner over an extended period of time.”^{vii}

A *mentee*, the person with less knowledge and experience in the mentorship relationship, works with a mentor for career development purposes (“coaching, challenging assignments, protection, sponsorship, exposure, and visibility”) as well as psychosocial functions (“counseling, acceptance, role modeling, and friendship”).^{viii}

15. Are you (have you ever) involved in a mentorship relationship?

(Please include only academic mentorship, and exclude clinical mentorship.)

[1] Yes, in the role of an experienced mentor.

[8] Refuse to Answer

[2] Yes, in the role of a mentee.

[9] Don't Know/Not Sure

[3] No

15.1. If yes, please explain both the *activities (please clarify what exactly we expect here)* and the *person with whom you have the relationship*:

Activities:

With Whom:

16. Are you getting some technical guidance/mentoring support from senior experienced researchers within your Institution?

[1] Yes, Always

[8] Refuse to Answer

[2] Yes, Sometimes

[9] Don't Know/Not Sure

[3] No

Section B.IV: Opportunities to Pursue Further Education in research

17. What mechanisms exist within your institution to encourage researchers to pursue further education aimed at enhancing their research capacities?

Please tick all that apply:

Workshops/Trainings

Research Assistantships

Educational Scholarships

Exchange Programmes with other universities

CMEs (Continuing Medical Education)

Online Courses/Virtual Campuses

Research Fellowships (National)

Distance Education Programmes

Research Fellowships (International)

No Formal Opportunities Exist

Don't Know/Not Sure

Other (Please Specify):

Section B.V: Logistical Resources

18.	Are the following logistical resources available to you as a researcher within your institution?		
18.1	Adequate Infrastructure, i.e. building space, electricity, etc.	[1] Yes [2] No [8] Refuse to Answer [9] Don't Know/Not Sure	
18.2	Adequate access to current literature related to MNCHN (e.g. library, access to web-based literature search such as PubMed, Medline, Cocrane etc)	[1] Yes [2] No [8] Refuse to Answer [9] Don't Know/Not Sure	
18.3	Adequate technology, i.e. computers, laboratories, investigational facilities, etc.	[1] Yes [2] No [8] Refuse to Answer [9] Don't Know/Not Sure	
18.4	Adequate Transportation/ mobility facility if required by research staff.	[1] Yes [2] No [8] Refuse to Answer [9] Don't Know/Not Sure	

Section B.VI: Protected Time for research

19. What mechanisms exist within your Institute to ensure that researchers have time set aside from other clinical duties to pursue MNCHN research?

*Please tick **all** that apply:*

- Sabbatical/Leave Programmes
- Protection or exemption from clinical/ academic responsibilities
- Protection or exemption from administrative / committee assignments
- Scheduled weekdays off from clinical duties
- Researchers allowed to take part of their salary from projects/allowed honorariums

No Formal Mechanisms Exist Don't Know/Not Sure

Other (Please Specify):

20. What mechanisms exist in your institution/department to encourage research?

*Please tick **all** that apply:*

- Salary or honorarium benefits
- Promotions
- Incentive mechanism
- Fewer administrative responsibilities
- Attendance of Conferences/Seminars/Meetings-(*National*)
- Attendance of Conferences/Seminars/Meetings-(*International*)
- Work with experienced researchers

- No Formal Mechanisms Exist
 Other (Please Specify):

Don't Know/Not Sure

Section C: Research Competencies

21. In your opinion, what health research competencies do you have?

*Please tick **all** that apply:*

- | | |
|--|--|
| <input type="checkbox"/> Project conceptualisation | <input type="checkbox"/> Writing research proposal |
| <input type="checkbox"/> Data analysis | <input type="checkbox"/> Report writing |
| <input type="checkbox"/> Writing for publication | <input type="checkbox"/> No research competency |
| <input type="checkbox"/> Others: (please specify) | |

22. Are you aware of any research project being undertaken in your institute or your institute is part of?

- [1] Yes
[2] No

- [8] Refuse to Answer
[9] Don't Know/Not Sure

22.1 If yes, what are the natures of these research projects?

*Please tick **all** that apply:*

- | | |
|---|--|
| <input type="checkbox"/> Clinical Trials | <input type="checkbox"/> Public health research |
| <input type="checkbox"/> Health Systems Research | <input type="checkbox"/> Implementation/Applied/Operational Research |
| <input type="checkbox"/> Program Evaluation | <input type="checkbox"/> Community Survey/ Population Survey |
| <input type="checkbox"/> Health Technology Assessment | <input type="checkbox"/> Don't Know/ Not Sure |
| <input type="checkbox"/> Qualitative Research | |
| <input type="checkbox"/> Others (Please specify) | |

23. Does your Institute have adequate resources for undertaking research and training in Research Methods?

- [1] Yes
[8] Refuse to Answer

- [2] No
[9] Don't Know/Not Sure

23.1 If yes, in which of these areas, the resources are available?

*Please tick **all** that apply:*

- | | |
|--|--|
| <input type="checkbox"/> Literature in Library | <input type="checkbox"/> Report writing |
| <input type="checkbox"/> Access to Literature via Internet | <input type="checkbox"/> Development of Research Proposal |
| <input type="checkbox"/> Budget Planning | <input type="checkbox"/> Study Implementation/Management |
| <input type="checkbox"/> Data Analysis | <input type="checkbox"/> Availability of Hardware & Software |

- Dissemination and Publication
- Others (Please specify below)

Don't Know/Not Sure

24. Does your Institution teach any of the following topics related to *Basic Research Methods*, either within the course curriculum or in additional workshops/training sessions?

Please tick all that apply:

- | | |
|---|---|
| <input type="checkbox"/> Project Conceptualization | <input type="checkbox"/> Use of Computers |
| <input type="checkbox"/> Development of Research Proposal | <input type="checkbox"/> Dissemination of Research Findings |
| <input type="checkbox"/> Budget Planning | <input type="checkbox"/> Report Writing |
| <input type="checkbox"/> Literature Search | <input type="checkbox"/> Submitting for Publications |
| <input type="checkbox"/> Protocol Development | <input type="checkbox"/> Presentation Preparation and Delivery |
| <input type="checkbox"/> Research Instrument Construction | <input type="checkbox"/> Translation of Research Findings into Novel, Evidence-Based Programmes and Policies (Advocacy) |
| <input type="checkbox"/> Methodology | |
| <input type="checkbox"/> Study Implementation/Management | |
| <input type="checkbox"/> Data Analysis and Statistical Software | |

No Basic Research Methods are Taught.

Don't Know/Not Sure

Other: (Please Specify)

25. Does your Institution teach any of the following topics related to *Advanced Research Methods*, either within the course curriculum or in additional workshops/training sessions?

Please tick all that apply:

- | | |
|---|--|
| <input type="checkbox"/> Biostatistics | <input type="checkbox"/> Economic Evaluations |
| <input type="checkbox"/> Clinical Research Trials | <input type="checkbox"/> Implementation/Applied/Operational Research |
| <input type="checkbox"/> Qualitative Research | <input type="checkbox"/> Health Technology Assessment |
| <input type="checkbox"/> Health Systems Research | <input type="checkbox"/> Randomized Controlled Trial |
| <input type="checkbox"/> Quality Improvement | <input type="checkbox"/> Case-Control Study |
| <input type="checkbox"/> Adverse Events | <input type="checkbox"/> Retrospective Cohort Study |
| <input type="checkbox"/> Root Cause Analysis | <input type="checkbox"/> Prospective Cohort Study |
| <input type="checkbox"/> Intervention Effectiveness | <input type="checkbox"/> Cross-Sectional Study |
| <input type="checkbox"/> Outcomes Research | |

No Advanced Research Methods are taught.

Don't Know/ Not Sure

Other (Please Specify)

26. In your opinion, what would be your preferred mode/method of learning about research methodology and MNCHN research?

*Please tick **all** that apply:*

- | | |
|---|---|
| <input type="checkbox"/> Workshops | <input type="checkbox"/> Involvement in Research Projects |
| <input type="checkbox"/> Seminars | <input type="checkbox"/> Certificate / Diploma |
| <input type="checkbox"/> Online Courses | <input type="checkbox"/> Bachelors Degrees |
| <input type="checkbox"/> Short Courses (< 3 Months) | <input type="checkbox"/> Postgraduate Diplomas |
| <input type="checkbox"/> Long Courses (≥ 3 Months) | <input type="checkbox"/> Masters Degrees |
| <input type="checkbox"/> Continuing education | <input type="checkbox"/> PhD. |
| <input type="checkbox"/> “On the Job” Training | |
| <input type="checkbox"/> Don’t Know/ Not Sure | |
| <input type="checkbox"/> Other (Please Specify): | |

Section C: Constraints, Benefits and Future Research

27. In your opinion, what are the perceived benefits of research to an individual and the institution?

28. In your opinion, within your institutional settings, what are the constraints preventing researchers from pursuing research?

[Empty response box for question 28]

29. In your opinion, what relevant research still needs to be conducted in your area of interest?

[Empty response box for question 29]

Thank you for your participation.

ⁱ Maternal Health. Available from http://www.who.int/topics/maternal_health/en/. Last accessed on July 22, 2009.

ⁱⁱ Filippi V, et. Al. Maternal health in poor countries: the broader context and a call for action. *The Lancet*; 2006; 368; 1535-1541.

ⁱⁱⁱ Bryce, J et.al. WHO estimates of the causes of death in children. *The Lancet*; 2005; 365; 1147-1152.

^{iv} Halfon N, DuPlessis H, and Inkelas M. Transforming The U.S. Child Health System. *Health Affairs*; 2007; 26, no.2: 315-330.

^v Thatte UM, Bavdekar SB. Clinical Research in India: Great expectations? *J Postgrad Med*; 2008; 54; 318-323.

^{vi} Berk R, et.al. Measuring the Effectiveness of Faculty Mentoring Relationships. *Jan2005, Vol 80, No 1, p66-71 (p67)*.

^{vii} Luckhaupt S et al. Mentorship in Academic General Internal Medicine. *JGIM: Journal of General Internal Medicine*; Nov2005, Vol. 20 Issue 11, p1014-1018.

^{viii} Byrne MW and Keefe Maureen R. Building Research Competence in Nursing Through Mentoring. *Journal of Nursing Scholarship*; 2002; 34:4, 391-396.