



**In 2022 we counted 8 billion people across the world
of whom 2 billion + were children**

1.5 billion children were affected by the COVID 19 Pandemic

I dedicate this oration

and our commitment, our knowledge repositories, our creative outreach,
our collaboration, our collective work for children during the COVID 19 Pandemic
and every day to a teacher and a leader
who has shaped the lives of a million children and an entire city!

OUR dearest Dr.M.R



26th Professor Arnold H. Einhorn's endowment oration

Role of

**IMPLEMENTATION SCIENCE IN PREVENTIVE PAEDIATRIC CARE
in a world coming out of the covid 19 pandemic**



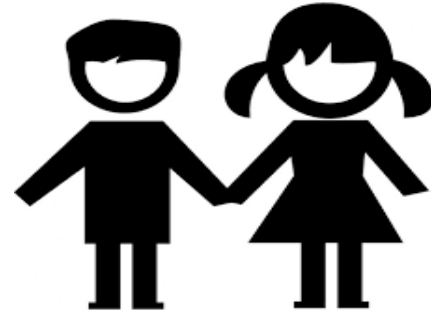
Dr. Kezevino Aram

President, Shanti Ashram

Founder, International Center for Child and Public Health (ICPH)

What I hope to share with you today:

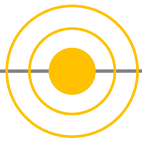
- Make a case that : **'The story of India is the story of her children'**
- Review: **'whether we as health care professionals have made a difference to the growth development trajectory of our children in India?'**
- Revisit the impact of the 21st century commitment to **'Evidence'** based health care
- Introduce **'Implementation Science'** and its viewing of evidence
 - Definition
 - Components
 - Visualized contribution to 'Effective' health care
 - Re-imagined spaces to integrate implementation science
- How can the integration of implementation science make **preventive paediatric care more effective?**
- **Giving our children a healthy start to life!**



The story of India is the story of her children

47,20,00,000 children in India

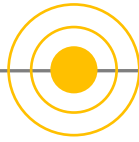
2,50,00,000



Total number of
births a year



908



0-18 years
sex ratio

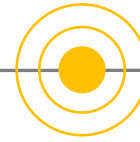


VS

943

Overall sex ratio
(2011 census)

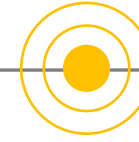
18%



% of children with
low birth weight



62%

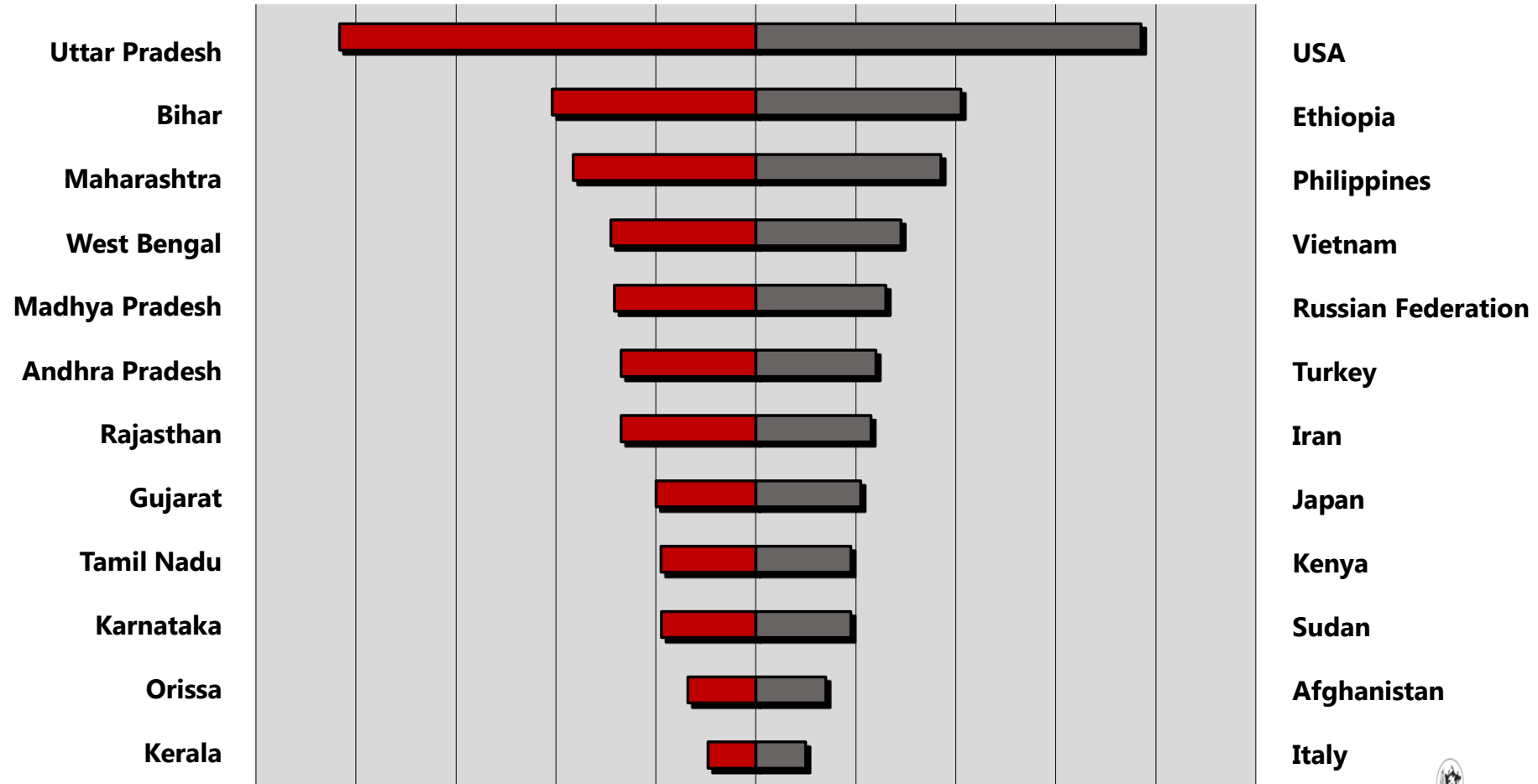


Immunization coverage
for 12-23 month olds



India: The scale of things

Many states have child populations similar to the child population of large countries





THEIR SIGNIFICANT PRESENCE

- At birth and the neonatal period
- Through early childhood
- In middle childhood
- And in the Adolescent age-group

THEIR LIVED EXPERIENCE

ARE WE AS HEALTH CARE PROFESSIONALS
MAKING A DIFFERENCE
TO THE GROWTH DEVELOPMENT TRAJECTORY
OF OUR CHILDREN?



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YES! HEALTHIER CHILDREN

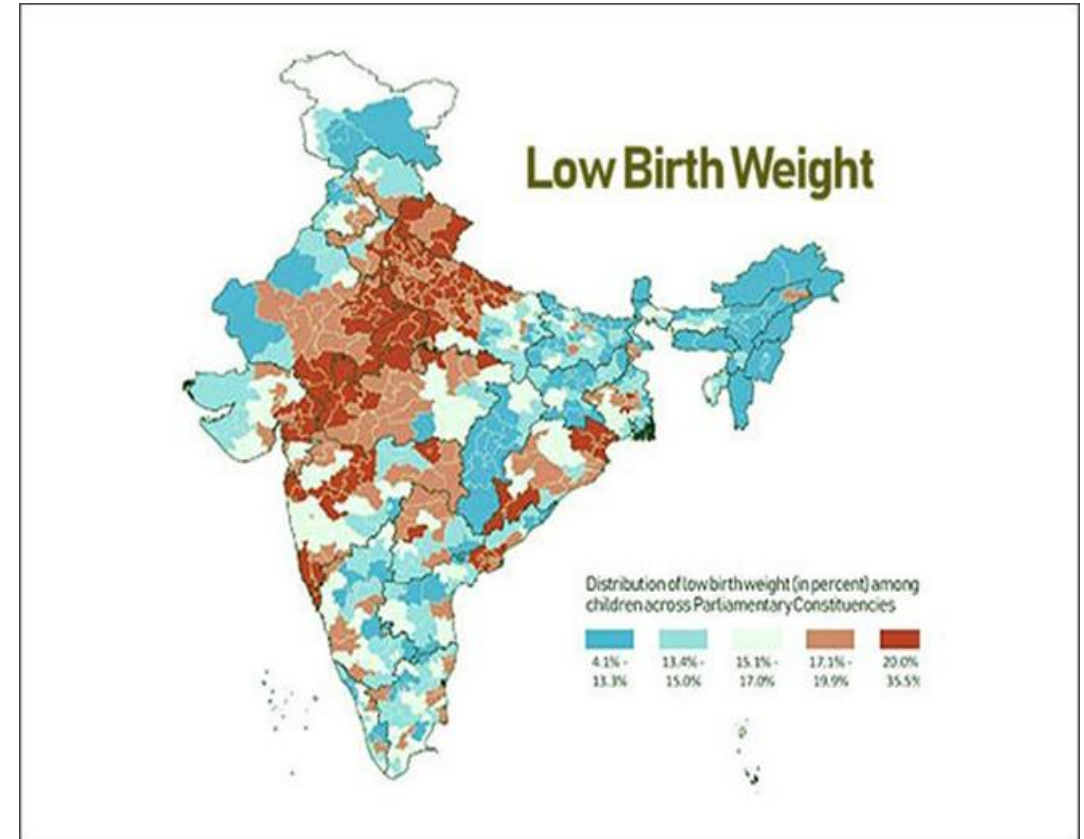
therefore the reference to the
**DEMOGRAPHIC
DIVIDEND**

- **Mortality** : a rare experience
- **Epidemiological Transition** : a reality
- **Double Burden of Disease** : the current experience
- **Wellbeing** a concrete possibility for a section of India
- **Epigenetics** : actively influenced across the different socio-economic strata

All this in the backdrop of an :

- Unequal society
- Widening social distance
- Preventive Paediatric Care making up just a fraction of the total health budget
- Quality Paediatric care : access & affordability still some distance to go
- Rehabilitation & Services for Children with special needs a distant dream for most

THAT DATA REVEALS IT'S A CHANGING **INDIA**



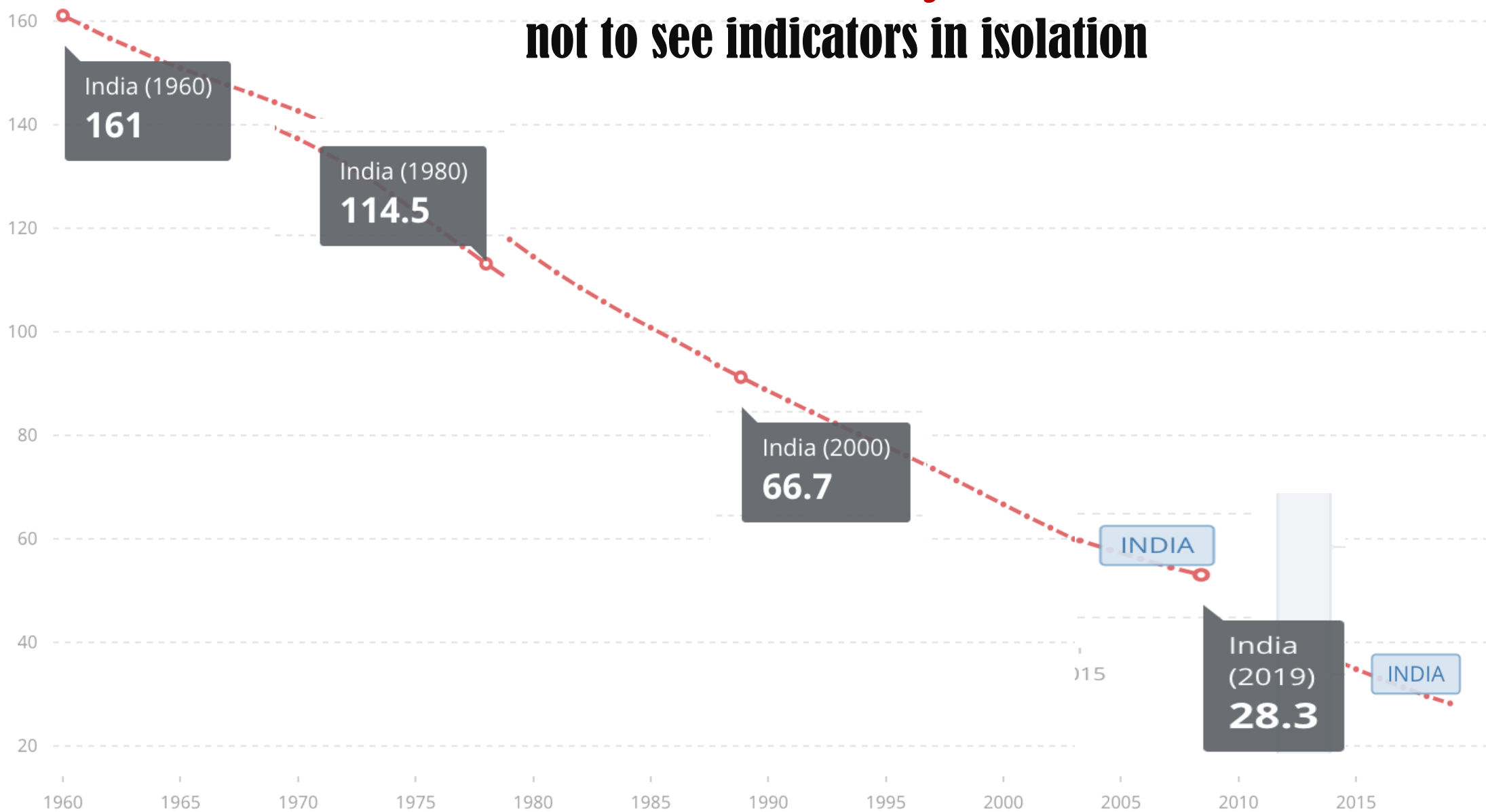
India's population stands at 1.36 billion with 22% below the poverty line

Source: NITI Aayog - Experts group of estimation of poverty



Infant Mortality Rate

not to see indicators in isolation



Source: World Bank data



Healthcare Allocation as a Percentage of GDP



11%

Germany



4%

India



17%

US



4%

Malaysia

THE 21ST CENTURY COMMITMENT TO 'EVIDENCE BASED HEALTH CARE'

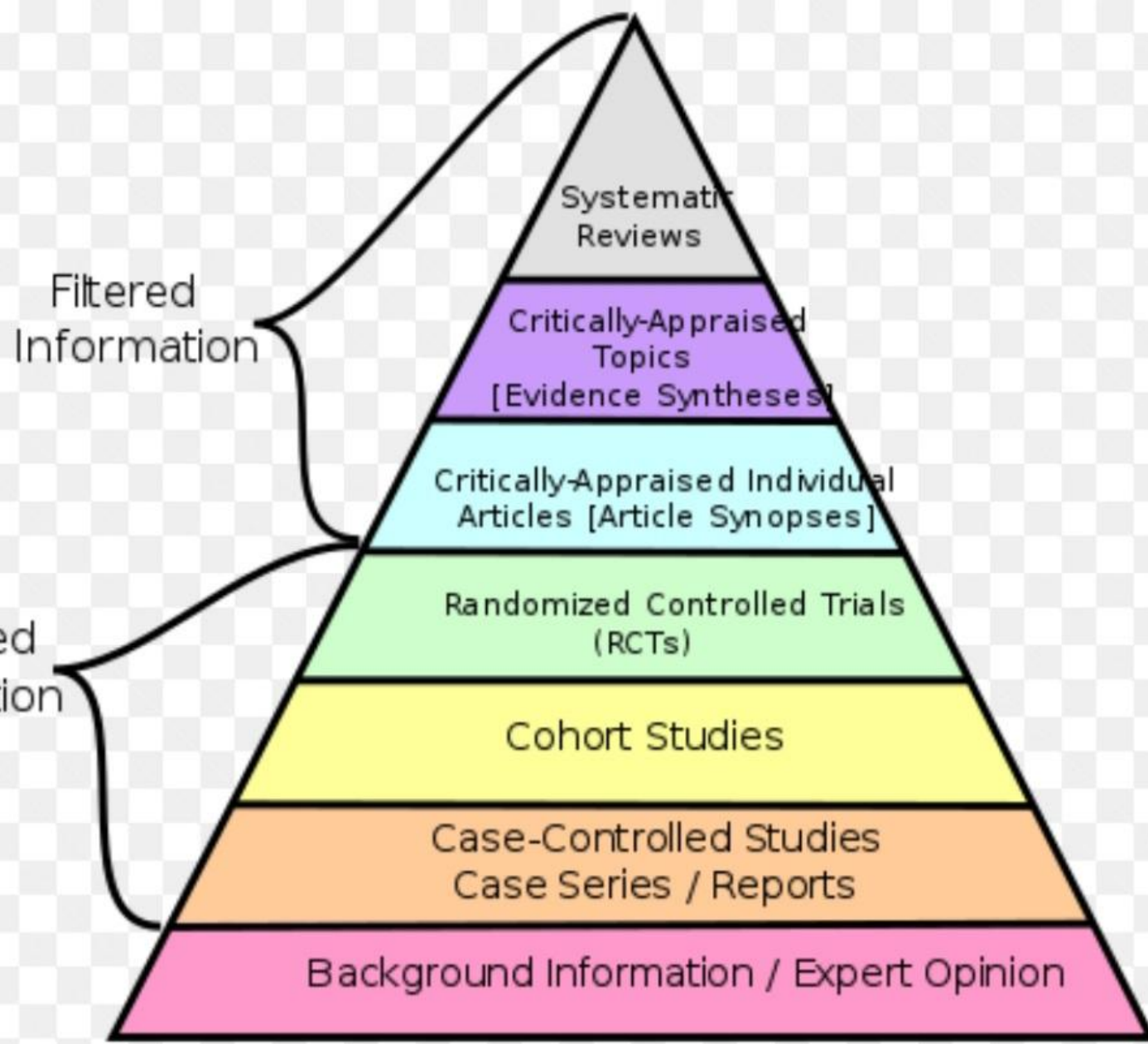
EVIDENCE

It has been widely reported that **evidence-based practices** (EBPs) take on average 17 years to be incorporated into routine general practice in health care [1–3].

Even this dismal estimate presents an unrealistically rosy projection, as only about half of EBPs ever reach widespread clinical usage [1].

SCIENTIFIC EVIDENCE

The facts, signsthe tangibles that makes you believe that **something is true!**



**And how
do we
generate
the
evidence?**

The Levels of Scientific Evidence

HISTORICALLY, THIS RESEARCH-TO-PRACTICE GAP HAS NOT BEEN THE CONCERN OF ACADEMIC CLINICAL RESEARCHERS.

- Payers for biomedical re- search have been concerned over the lack of public health impact of their research dollars [4]. Moreover, decreasing research funding world-wide has led to debates over the trade-offs between investing in more conservative projects with predictable results versus more innovative research, including projects involving more real-world samples that could result in greater public health impact [5].
- Recognition of the need for research that more directly impacts public health has broadened the academic mindset somewhat, from an exclusive emphasis on efficacy studies to more broadly generalizable effectiveness trials (Table 1) [6].



And does it affect the routine paediatric care of a child?

Does it influence preventive paediatric care and the burden of disease, deprivation and disease?

How does it affect entire communities of children or PUBLIC HEALTH?



Implementation Science



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WHAT IS IMPLEMENTATION SCIENCE THEORY?

- National Institutes of Health

'Implementation science is the study of methods to promote the **adoption** and **integration** of **evidence-based** practices, interventions, and policies into

- ✓ **routine health care**
- ✓ **public health settings**

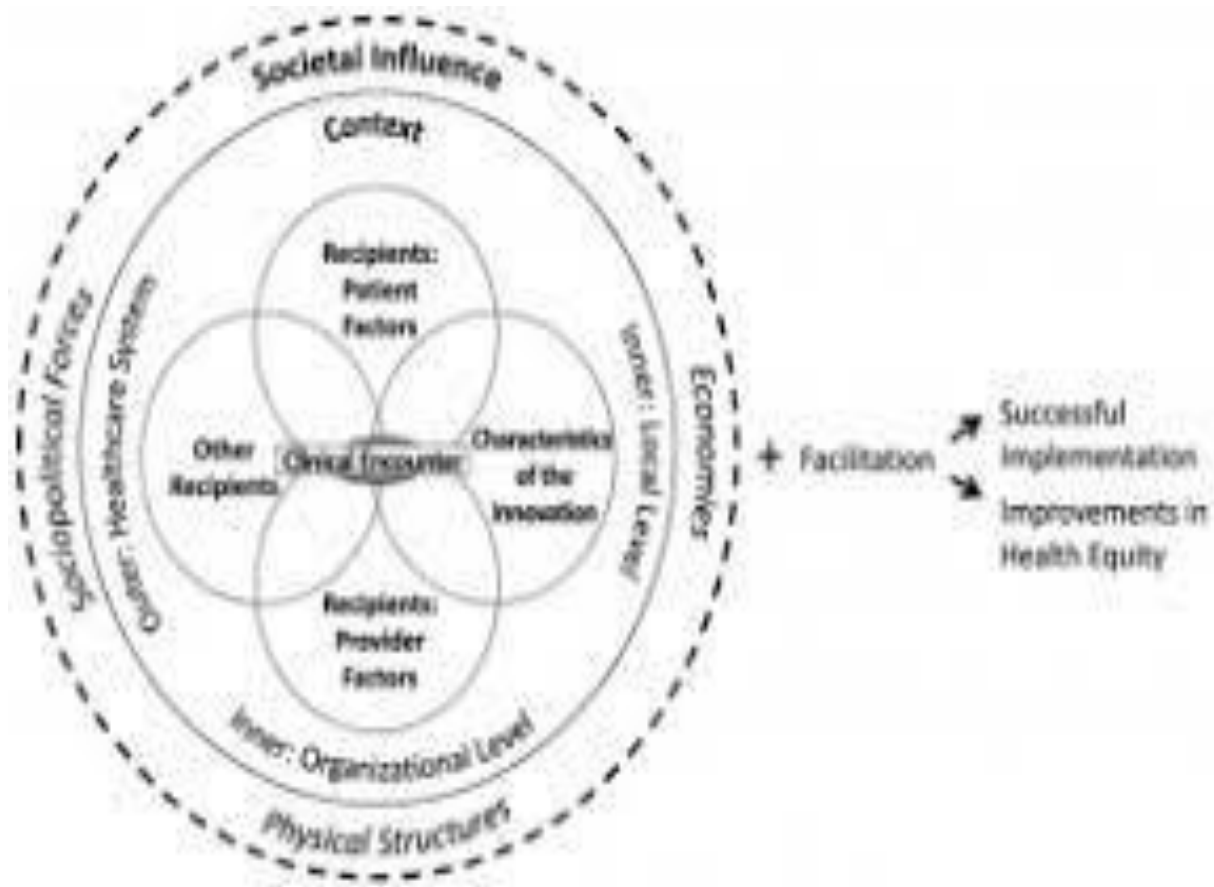
to improve the impact on population health or the health of children at a community level.

IMPLEMENTATION SCIENCE IS

“THE SCIENTIFIC STUDY OF METHODS TO PROMOTE THE SYSTEMATIC UPTAKE OF RESEARCH FINDINGS AND OTHER EBPS INTO ROUTINE PRACTICE, AND, HENCE, TO IMPROVE THE QUALITY AND EFFECTIVENESS OF HEALTH SERVICES.”

- Implementation science is distinct from, but shares characteristics with, both quality improvement and dissemination methods.
- Implementation studies typically employ mixed quantitative-qualitative designs, identifying factors that impact uptake across multiple levels, including **patient, provider, clinic, facility, organization, and often the broader community and policy environment.**

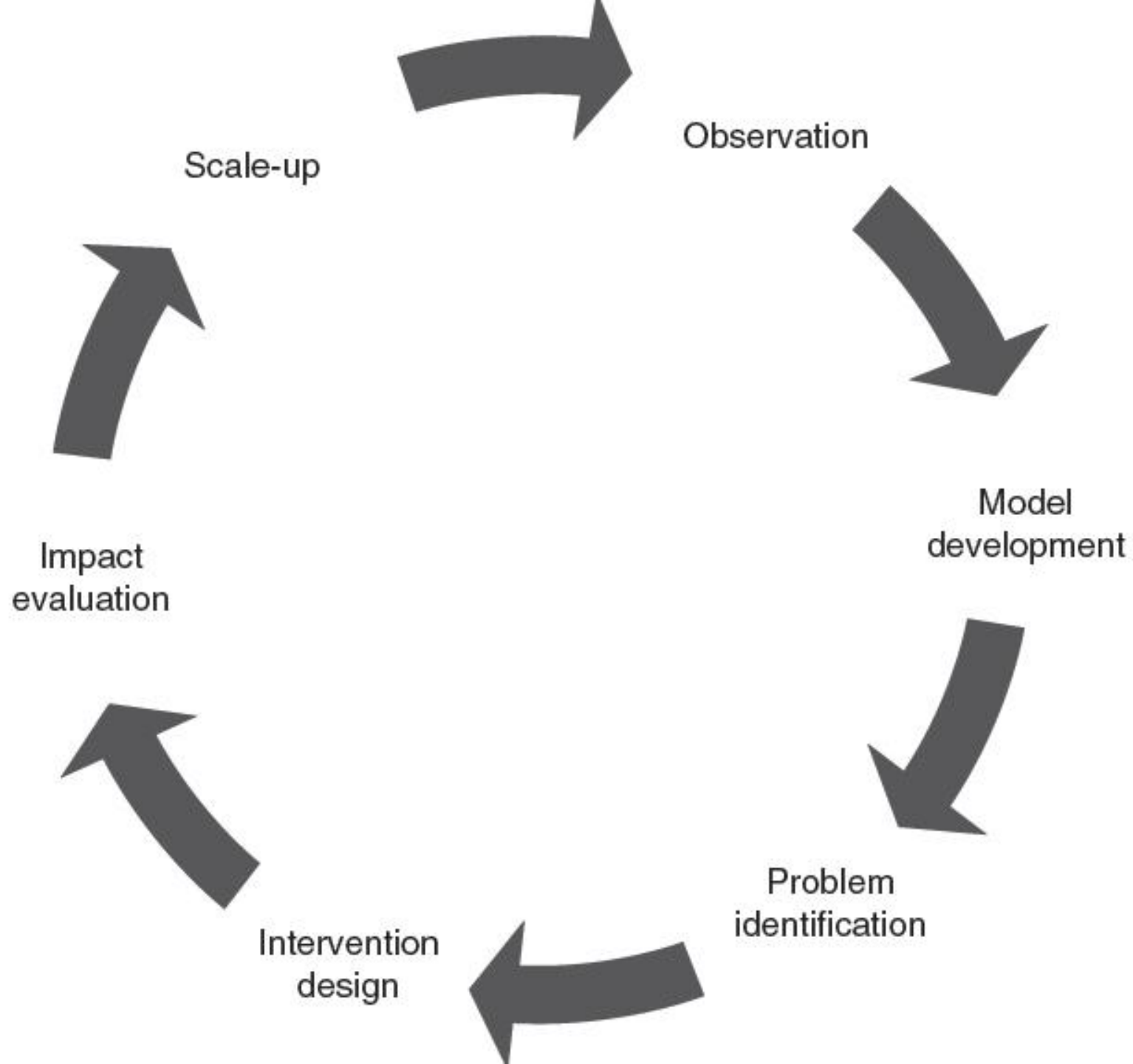
IMPLEMENTATION SCIENCE DOMAINS?



The five domains defined by the framework include:

- 1) the intervention,
- 2) inner setting,
- 3) outer settings,
- 4) individuals involved, and
- 5) the process for accomplishing the intervention.

The intervention is defined as the core characteristics of the planned implementation, without being adapted to a specific context.



WHAT THIS SETS IN MOTION?

Is generation of evidence across the implementation domains.

EVIDENCE

EVIDENCE

In 'Implementation Science' **evidence-based practices** (EBPs) can come from the traditional '**research**' spaces and the '**implementation**' spaces thus making the model dynamic, care-centered, culturally sensitive and directly in touch with the research uptake architecture.

SCIENTIFIC EVIDENCE

The facts, signs ...the tangibles

that makes you believe that **something is true!**

Something that can affect routine care!

Something that can change communities health!

Implementation Science

**How can the practice of implementation science
make preventive paediatric care more effective ?**



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INTEGRATION OF IMPLEMENTATION SCIENCE into preventive paediatric care

- Firstly implementation science requires a solid grounding in theory and the involvement of trans-disciplinary research & practice teams.
- Some examples : From the ICU to the community clinics!
 - Implementation Science in Pediatric Critical Care – Sedation and Analgesia Practices as a Case Study Youyang Yang*, Alon Geva, Kate Madden and Nilesh M. Mehta – Mini Review – Published by Frontiers in Pediatrics July 2022
 - Review Article Implementation Science of Paediatric Palliative Care in Lower Middle-Income Countries in Southeast Asia: An Integrative Review Jestoni D. Maniago¹ , Floreliz V. Ngay-an published by Indian Journal of palliative Care – Jan- March 2022
 - Making Implementation Science Work for Children and Adolescents Living With HIV – Supplement Article Published by Wolters Kluwer Health Inc -15th August 2018
 - Research in the sciences of improvement, implementation, and pediatric patient safety Peter I. Lachma – Published by International Paediatric Research Foundation Inc January 2018
- The movement of evidence-based practices (EBPs) into routine clinical usage is not spontaneous, but requires focused efforts. The field of implementation science has developed to facilitate the spread of EBPs, including both psychosocial and medical interventions for mental and physical health concerns.

STATE HEALTH INDEX

TABLE 2.1 Categorization of States and UTs

Category	Number of States and UTs	States and UTs
Larger States	21	Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, West Bengal
Smaller States	8	Arunachal Pradesh, Goa, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura
Union Territories	7	Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Delhi, Lakshadweep, Puducherry

STATE HEALTH INDEX

HEALTH OUTCOMES MEASURED

AND INTEGRATED INTO THE RANKINGS

- NMR
- U5MR
- LBW
- SRB
- Full immunization coverage
- Institutional deliveries
- TB case notification
- Treatment success rate of new microbiologically confirmed TB cases
- Proportion of PLHIV on ART
- TFR



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HOW CAN THE INTEGRATION OF IMPLEMENTATION SCIENCE MAKE PREVENTIVE PAEDIATRIC CARE MORE EFFECTIVE?

- Generating EVIDENCE beyond the lab and the research units to active working spaces
- Developing frameworks, study questions and study teams
- Setting up research enabling infrastructure
- Mindfully creating a link with the research uptake architecture
- Tracking the evidence
- In integrating it in 'Routine Paediatric Care'
- Defining 'Denominators' in care settings
- Studying the impact of our care

ICPH – ARAVIND PARTNERSHIP 2022-23

JUNE 2022 – JAN 2023

26 SCHOOLS : 9945 children

National Projection for Myopia : 20%

Our findings in 22-23: 2.8%

Additional findings : Referral Barrier



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A MICRO STUDY ON THE GOVERNANCE IMPACT ON NUTRITIONAL SECURITY OF RURAL CHILDREN THROUGH THE NOON MEAL SCHEME IN COIMBATORE DISTRICT

There is a **definite increase in reverse migration of children** as evidenced by school enrollment.

The average increase is 18%. The national projection on November 2021 was 8%. The range being 13% to 65%.

This indicates migration from private schools to government schools. The percentage varied from The increase in enrollment was marginally higher in boys (19%) than girls (17%) therefore not showing a gender gap.



Corresponding to the increase in enrollment there was an even more pronounced & significant increase of children taking noon meal scheme

The average increase is 31% . The range being 10% -158%

The boys taking noon meal scheme (39%) is more than the girls (24%)

Implementation Science

Lessons to take forward

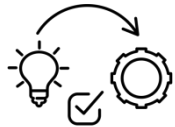
Composite Solutions that can **'Work'** and build on **'EVIDENCE'**



Policy



Research & Academia



Practice



**Private sector
contribution**



Citizens Engagement



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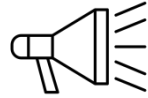
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Lessons to take forward as a consequence of Implementation Science findings

Affect Routine Care
Impact Public Health



Speak about HEALTH



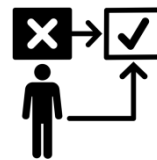
Build Partnerships



Strengthen Health Systems



Increase Health Investments



**Focus on behaviour
modification**

IMAGINE.....

- Imagine a world in which every child would be able to go to school.
- Today, 130 million children do not have this opportunity.
- The world's failure to educate our children not only deprives the girls and boys who don't go to school, it undermines our ability to achieve economic security, political and social justice, and health and happiness world-wide.
- It is a crime against children today. It is a crime against humanity tomorrow.

UNESCO : Report on Education



RE-IMAGINE.....2023

- Imagine a world in which every child would be able to have a healthy start to life
- Today, 60% of India's children do not have this opportunity.
- The world's failure to ensure our children that every child benefits from the evidence we generate for better health...the delay in integrating evidence affects children's health directly!
- **By giving them a healthy start to life....** our ability to achieve economic security, political and social justice, and health and happiness world-wide comes to real time numbers...not one's that count deficits but one that counts healthy children!
- Disease and Deprivation, is indeeda crime against children today, a violation of their humanity.



**GIVING OUR
CHILDREN A
HEALTHY START
TO LIFE!**

Serving
70,000
Children

Partners
112
National & Local

INSPIRED BY
MAHATMA
GANDHI
TO ENABLE THE
PROGRESS OF
ALL



INDA CARES
A Reflective Space Focused on Indias Children

Giving every child a healthy start to life

ICPH is an innovative model of integrating primary care with public health, where the best of global knowledge steers our comprehensive interventions for children



Primary Care | Public Health Practice |
Academic & Capacity Building Programs | Research & Policy



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