

Institute of Child Health, Kolkata, 1956-2022

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Institute of Child Health, Kolkata is an iconic pediatric institution of India, which had its inception as one of the first pediatric hospital of the country. Pediatrics, as a separate branch of medicine, different from the principles and practices of adult medicine, was conceptualized and materialized in India by the founder of this institution, who is referred to as one of the Father of Indian Pediatrics, Dr. Kshirode Chandra Chaudhuri. This article portrays the journey of ICH, the popular acronym of the famed Institute, through the last seven decades from 1956 till the present, trying to capture the initial years of its establishment in the late 1950s, followed by its gradual evolution to an institution of central importance in pediatric healthcare, medical education, research and development, and service to the society, particularly in Eastern India.

Pediatrics – as a branch of medicine- was conceptualized in Bengal in India. This was realized by Dr. KC Chaudhuri in Calcutta (now, Kolkata). The movement was promoted by Dr. ST Achar in Madras (now, Chennai) and Dr. G Coelho in Bombay (now, Mumbai) in the early 1950s-60s [1].

THE BEGINNING: 1956-1957

Laying the Foundation of Pediatrics in India

Dr. Kshirode Chandra Chaudhuri, the founder of Institute of Child Health, Kolkata, had been a pioneer and visionary in the truest sense (**Fig. 1**). His experiences in Vienna and Tubingen as a post graduate student of pediatrics motivated him to build a similar institution in India, which would be solely dedicated to the holistic care of children, as well as to introduce teaching of pediatrics as a separate subject of medicine. While these thoughts were maturing, Dr. Chaudhuri founded the *Indian Journal of Pediatrics*, the first pediatric journal in India, in October, 1933, which brought Indian pediatricians in contact with pediatric research from the outside world [2].

Dr. Chaudhuri founded the first Pediatric Society in Calcutta in 1948 and became its first President. The Society worked for the comprehensive advancement of pediatrics and promotion of scientific collaboration amongst its members. In 1950, at the All India Pediatric Conference in Calcutta, a resolution was adopted to establish four Institutes of Child Health in India – Calcutta, Bombay, Madras and Delhi. In May, 1953, the Institute of Child Health Trust with Justice PB Chakrabarty as president and Dr. KC Chaudhuri as secretary, and eighteen founder members, was formed with the objective of establishing an Institute of Child

Health in Calcutta [2,3].

With the help of donations by philanthropists, including even marginalized population residing in remote villages, with subsequent donation of land by Corporation of Calcutta, and grants from Ministry of Rehabilitation, West Bengal government, this Institute was born in 1956. The college section was inaugurated on the first of July, 1956 by eminent historian and educationist, Sir Jadu Nath Sarkar. In less than a year's time, the hospital's outpatient department was attended by over 100 young patients each day. The University of Calcutta recognized the Institute as a postgraduate medical college for higher studies in pediatrics. The first batch of fifteen medical graduates was admitted for training in the diploma course (DCH) of the university. The hospital units of 50 beds were put into operation. In rapid succession, three students were admitted for MD and D.Phil. degrees. Institute of Child Health, Kolkata was officially inaugurated on January 16, 1957, by Shri Jawaharlal Nehru, the then Prime Minister of India (**Fig. 2**). Labelling ICH as a unique institute of India, Pandit Nehru lauded the purpose and objective of ICH in its service to children, who are the beginning of the new India. Srimati Padmaja Naidu, the then Governor of West Bengal and Dr Bidhan Chandra Roy, the Chief Minister of West Bengal, had also graced the inauguration ceremony [3,4].

THE INITIAL YEARS: 1958-1970

The Developmental Phase

By 1959, the Institute had expanded to an area of 40,000 sq ft – notably, the surgical unit had become functional with 15 beds. Dr. UC Chakraborty, father of pediatric surgery in India, set up the pediatric surgery department.

Later, Dr. Godrej Karai was in-charge of the cardio thoracic department. Dr Anjali Mukherjee joined as the chief of Plastic surgery division, Dr GC Dey as chief of ENT, and Dr. BP Ray as chief anesthetist [5, 6].

Dr. Chaudhuri laid appreciable stress on research activities. Soon, the entire third floor of the eastern wing was dedicated to research laboratories, developed and equipped by generous grants from the Rockefeller Foundation, especially for studies in pediatric pathology and pediatric radiology. The department of basic medical sciences was one of a kind in India, helmed by Dr. J Nag Chaudhuri. Novel projects supported by many national and international grants such as from ICMR, Indian Medical Association, CSIR and Lady Dufferin Scholarship were carried out [6]. The Institute library was built to provide access to knowledge in the field of pediatrics to the newer generation of pediatricians. The academic progress of the Institute made it known as “*a temple of learning*” by educationists and political leaders of the era [6].

The out-patient department (OPD) special clinics of ICH like child guidance, orthopedics, chest disease and heart diseases and eye diseases were started, catering to 24,667 young patients in 1958. One of the prime focus of ICH was to serve also as a community health center. It was one of the first hospitals in India to start immunization clinic, which along with the Well Baby Clinic, championed the promotion of breast feeding parallel to the WHO dictum, with frequent educational activities [6].

The Preventive department headed by Dr. Momota Chowdhury, catered to the all-round health of the child – both physical and mental health. School Health Service, Infant and Child Welfare service, Day nursery for 8 children, and a Kindergarten school for 16 children were started. Mothers could leave their children and go to work, a continental concept that was new to Calcutta [6].

The number of indoor beds was increased and pathological laboratories, radiology and other facilities were expanded, including the Ultrasonography department. Under the guidance of the biochemist, Dr. AC Majumdar, the department was engaged in preparing pyrogen free infusion fluids as ORS sachets were not in vogue. Another stalwart in the field of Biochemistry was Dr. Kanai Lal Mukherjee. Under his tutelage, ICH offered doctoral program to more than 12 dedicated researchers, including works on nephrotic syndrome by Dr. GK Mehrotra. Research activities on nutritional disorders (kwashiorkor and marasmus, comprising 60% of indoor admissions), physiological development of human fetus, avian malaria, study of apoptosis by immunological works including estimation of in-house insulin assay

developed soon after Yalow and Berson’s observations. Dr. Amala Chaudhuri, wife of Dr KC Chaudhuri, took special classes in Genetics and Endocrinology [6].

To name a few doyens who contributed significantly to pediatrics during their tenure in ICH as great teachers and researchers were Dr. Sisir Kumar Bose, Dr. Naren Banerjee, Dr. SP Ghoshal, Dr. AK Dey (master of medical journalism), Dr. PC Sengupta, Dr. Dilip Mahalanabis, Dr. Ashoke Sengupta, the versatile plastic surgeon and kidney transplant specialist Dr. Amalkanti Das, and Dr. SK Mukherjee [6].

Dr. Sisir Kumar Bose (**Fig. 3**), a Fellow of Boston Children’s Hospital and trained in pediatric radiology, developed one of the best pediatric radiology departments in ICH. Aptly, he was called the Father of pediatric radiology in India. It is interesting to know that Dr. Bose is the nephew of Netaji Subhas Chandra Bose, who drove the car with Netaji in disguise, to help him escape the country during the freedom movement [6].

Prof. SP Ghoshal (**Fig. 4**) was a visionary who was instrumental in building the neonatology program in ICH. In 1988, he discovered the Ghoshal Hematodiaphyseal Dysplasia, a rare autosomal recessive disease, characterized by diaphyseal dysplasia and metaphyseal dysplasia of the long bones and refractory anemia, and associated with a deficiency of an enzyme. Prof. Pratap Chandra Sengupta, a renowned pathologist, and an emeritus medical scientist in the Indian Council of Medical Research, along with Prof. Ghoshal was associated with discoveries such as bilirubin crystals in neutrophils and Noma neonatorum [6].

Prof. Ashoke Sengupta was an orthopedic surgeon whose singular work in cost-effective rehabilitation procedures earned worldwide recognition and his original work on the operations to cure club foot in developing countries earned him a place in the prestigious referral book, ‘Club Foot-The Present and View of the Future’ [6].

The Indian Academy of Pediatrics (IAP) was formed in 1962 with the amalgamation of Dr. Chaudhuri’s Indian Pediatric Society and Dr. Coelho’s Association of Pediatricians of India. The IAP’s official journal, *Indian Pediatrics*, commenced publication in 1964 with its editorial and business office in ICH. Dr. Sisir Bose was its first editor. Later, Dr. SP Ghoshal and Dr. Dilip Mukherjee became the national presidents of the apex body.

In 1965, Smt Indira Gandhi, the then Prime Minister of India, visited the Institute and praised the vision with which ICH had been serving the nation (**Fig. 5**).

THE GROWING YEARS: 1971-2000

The Expansion Phase

Dr. UC Chakraborty became the director of the Institute after the demise of Dr. Chaudhuri. The baton of directorship was later passed on in the able hands of Dr. Sisir Kumar Bose. The later decades of the 20th century saw the emergence of a new and enthusiastic generation of pediatricians who maintained the pace of progress. Outpatient attendance markedly increased from 15,000 in 1961 to 70,000 in 1980. The large number of scientific publications and presentations both in basic sciences and clinical pediatrics from the Institute, at national and international conferences, bear testimony to the volume and range of academic work that was being carried out [9].

Towards the end of 1973, the first fully equipped air-conditioned premature baby unit in Calcutta was established in ICH [9]. Another important development was the establishment of a day care center for handicapped children in 1973, which later, with the support of Ministry of Education and Social Health Welfare, Government of India, procured modern teaching aids and equipment [9].

Intensive care unit for the critically ill children was established in 1975. The department of surgery was upgraded in 1975. Valuable work in microvascular surgery was carried out during these years. The Heart Clinic and another chain of other specialty clinics began in 1976, including clinics for nutrition, kidney (started in 1986, under Dr. G K Mehrotra), allergy, eye, ear-nose-throat and skin diseases. The allergy unit was started as a research project under Prof. S N Choudhury for children from 5 to 12 years but later expanded to include adult care as well. It collaborated with Palynology division of Bose Institute for novel research papers. Apart from skin prick test and spirometry facilities, the unit claimed the necessary drug license in 1999 for preparing vaccines for immunotherapy [9].

Another unique and innovative feature of the Institute was that it had the several mother and child cubicles where the mother stayed with the children under round the clock supervision of the pediatricians. In 1976, the institute launched a pioneering three-year course for training batches of young girls in practical pediatric nursing, who were later absorbed as permanent staff in the Institute as nursing assistants [9].

By the beginning of 1979, following the Great Flood of 1978 in West Bengal, the institute had taken up a bold plan of holistic rural health care program to alleviate the flood hit people. In the Memari blocks of Burdwan district, medical, paramedical and administrative personnel of the institute worked in tandem and motivated the

people of 218 villages to help themselves for their own development. So successful was this holistic Rural Health program that the UNICEF and USAID came forward with the Government of India to help the Institute. UNICEF helped establish a hypochlorite solution manufacturing plant in the Jabui village to provide safe drinking water and control diarrheal diseases during floods. The program became a huge success, and UNICEF later replicated it in many backward countries of the world [9].

The Institute celebrated 25 years of completion in 1981, its silver jubilee celebrations being marked with several academic activities and publications.

In 1993, the day care center evolved in to a new three-storied building called the Centre for Handicapped Children, founded by the dedicated efforts of Mr. Biswaranjan and Ms. Mamata Sarkar (**Fig. 6**). Today, a coordinated team of psychologists, psychiatrists, pediatricians, special educators, physiotherapists, and social workers provide holistic guidance and support to children with special needs. Over the years, the special school has led some of the students to normal schooling and higher education; some have even participated and won medals in state Special Olympics [9,10].

The infrastructure of the hospital was tremendously boosted with serial donations from the Government of Japan in 1994 and 1997, and Child Relief and You (CRY).

THE MATURING YEARS: 2000-2022

The Progressive Phase

In 2001, a new ward of 15 beds was developed and by 2006 there were more than 100 beds functional. New specialized outdoor clinics – Asthma clinic, Neurology clinic, Lactation clinic, Cancer rehabilitation and care, Growth and Dysmorphology, Endocrinology and Cardiology clinics were started. The establishment of a modern auditorium within the Institute opened the floodgates of academic seminars, discourses and deliberations by in-house experts, students and invited academicians. Dr. KC Chaudhuri Memorial oration, Dr. Sisir K Bose Memorial CME Program of pediatric radiology, Dr. SP Ghoshal Memorial post graduate quiz were many of the important calendar events of the Institute (**Fig. 7**). Now, 15th August has been marked as the annual day of the Institute, which celebrates the academic furlongs in pediatrics by deliberations on current issues by national experts and institute faculty, and is attended by approximately 1000 pediatricians of Bengal.

On the occasion of completion of 50 years of service, 'Celebration 50' was marked with the foundation ceremony of the Golden Jubilee Building, which presently

houses the Blood Bank, Maternity wing and the 29-bed state of the art Neonatal Intensive Care units (NICU) with room-in facility for mothers. The NICU has thrived with quality treatment procedures and protocols. The center today is well equipped with modern ventilators, double surface phototherapy, resuscitators; and offers one of the best neonatal intensive cares of the city at nominal costs, and prides in its high success rates. Premature intensive care has been the focus of NICU as it has been specially designed to maintain strict isolation.

In the biochemistry laboratory, analysis became automated in 2012. The lab is a referral center for sweat chloride analysis in eastern India. The state health sciences university recognized ICH as a center for paramedical courses in laboratory technology in the same year. The establishment of molecular biology laboratory gave an impetus to deciphering the etiologies of infectious diseases. Several panels of RT-PCR based diagnostics in respiratory, gastroenterological ailments, sepsis have been devised apart from molecular diagnosis of HLAB27, thalassemia, cystic fibrosis to name a few. Recently, it was accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL).

In 2012, a six-bedded designated ward for kidney patients was started, which has graduated to a 14-bedded unit. Hemodialysis services started in March, 2012. The unit has emerged as an advanced referral center to treat all types of kidney diseases in children from newborn to adolescent kidney problems.

The year 2014 marked the expansion of the modern pediatric intensive care unit (PICU). The tertiary care level 3 services expanded to 14 beds and four isolation. Total bed strength increased to 180, and dedicated areas of clinical research center, department of molecular biology, thalassemia clinic, rheumatology and gastroenterology wards were opened. The rheumatology division and the gastroenterology division have also been upgraded recently. Both departments have started fellowship courses giving unique training opportunities in these specializations.

The clinical research department, under the earnest efforts of senior researchers, has been very active, being involved in several important global and national clinical trials in vaccine, drugs for rare diseases and the pediatric COVID vaccine trial [12]. Academic research, which has been the forerunner of Institute activities since its heydays, continues to be pursued with equal zeal by the faculties and students contributing several high impact publications in international and national journals, only a few of which are cited here [13-15]. Senior faculty

members have contributed to the development of important national guidelines in pediatric infectious diseases [16,17], pediatric nephrology [18,19], pediatric rheumatology diseases [20] and pediatric dermatology [21-23].

The pediatric surgery department has continued to evolve under the able leaderships of many renowned pediatric surgeons. Average number of children seen in surgical out-patient department is 20,000 per year; the average number of operations done is about 2500 per year. The department received accreditation to offer a 6-year DNB course in pediatric surgery since 2016. The pediatric orthopedic surgery division has also flourished simultaneously.

ICH delved into pediatric hemato-oncology care in 2017, with the Mrinalini Cancer Research Centre, started with 11 beds. In 2022, it has 16 beds, with over 2000 patients having been treated in the unit. The Malobika Bagchi Memorial Thalassemia unit takes care of children with various blood disorders like thalassemia and hemophilia.

In response to coronavirus disease 2019 (COVID-19) emergency, especially in the second wave of the pandemic, the ARI ward was developed to treat pediatric COVID-19 infections and cases of multisystem inflammatory syndrome in children (MIS-C).

In 2020, ICH opened its own nursing college with 120 seats, affiliated to the state Nursing Council, with GNM and B.Sc. Nursing courses. Recently, the Institute has been recognized by the West Bengal University of Health Sciences for Ph.D. program in pediatric medicine and molecular biology; it has also got affiliated with Presidency University for non-medical Ph.D. courses in 2022.

ICH is rapidly expanding its academic base and hospital activities, the current footfall of patients in the outdoor department being about 90000/year and annual indoor admissions over 10000/year. It has envisaged construction of a new 300 bed hospital complex to meet its space and infrastructural requirements, the foundation of which was laid down on 11 February, 2021.

The Institute has remained steadfast in its mission to provide the best quality care in pediatrics but at nominal costs, in spite of rising healthcare costs. The administrative machinery gears up to arrange for funds for those families who are unable to afford any treatment costs for their sick child. Many-a-times, the hospital faculty and staff have gone out of the way and contributed at personal levels to buy necessary gadgets for sick kids [24].

THE CORE OF ICH, KOLKATA

The constellations of students, ex-students, professionals, teachers, academicians, researchers, doctors who have been associated with the Institute have grown with the Institute. In turn, they contribute to its everyday growth with their insights and experience.

The Institute continues to proudly uphold the principles of its founders who had for their patients the concern of a parent for its ailing child, and the first-class knowledge and skill to treat and cure. A wonderful concoction of holistically treating the poorest of the poor with compassion is what embodies those who bear the legacy of the Institute.

The journey of ICH has been a long one – having a rich history filled with many landmark events. The mission of ICH is its hallmark: To help cure diseases and offer protection to the physical and mental health of every child regardless of their socioeconomic circumstances; to carry out research programs; to conduct post graduate courses in pediatric medicine and surgery; to offer training to nurses, technicians and social workers; and to help build a healthy population in India.

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Fig. 1 Dr KC Chaudhuri.



Fig. 2 Pandit Jawaharlal Nehru with Dr KC Chaudhuri and founder members.



Fig. 3 Dr Sisir K Bose.



Fig. 5 Prime Minister Mrs. Indira Gandhi visiting ICH in 1965.



Fig. 4 Dr SP Ghoshal.



Fig. 6 Smt. Mamata Sarkar at **Fig. 7** Dr. Sisir K Bose Memorial Quiz awards the Center for Handicapped distributed by Dr G K Mehrotra and Dr Apurba Ghosh. Children.