

Presidential Address – 2021

‘Excellence in Perinatal Care through Research, Training and Audit’

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Sri Lanka being a middle-income country with per-capita GDP of 3852 US\$ in 2019, has indicators that reflect satisfactory overall health status of the population. The infant mortality rate and the maternal mortality rate in Sri Lanka are among the lowest in South East Asian region. For the Year 2019, Neonatal mortality rate (7.0 per 1000 live births), Infant mortality rate (10.5 per 1000 live births), under-five mortality rate (11 per 1000 live births). Maternal Mortality Rate (32.0 deaths per 100,000 live births in 2018) [28.8 deaths per 100,000 live Births in 2019 (Provisional)]. The population growth rate has reached 0.6% in 2019 with a total fertility rate 2.2 per woman which is close to the population replacement level.

In ancient Sri Lanka, the health system that prevailed for safeguarding the health of people was based on the traditional systems of medicine including Ayurveda. According to Mahawamsa, king Pandukabhaya has established lying-in-homes in various parts of the country. King Buddhadasa had mastered midwifery as well and said to have performed a surgery on a woman to deliver her child.

The allopathic system of medicine was introduced by the Portuguese in 1505. The British established military hospitals and dispensaries which provided medical care to the civilian population.

Maternal and Child health services in Sri Lanka has a long history. The first organized effort towards providing care and attention to childbearing women was

made in 1879 with the establishment of the De Soysa Lying-in-home, now known as De Soysa Maternity Hospital (DMH) for women.

The ***Maternal and Child Health (MCH) Department of the Colombo Municipality*** was established in 1906. Since then the number of hospitals with facilities for delivery has increased rapidly. The need for developing preventive and promotive services was recognized by the government as early as 1920's. ***Health Unit system*** was initiated with the establishment of the first Health Unit in Kalutara in 1926. This system provided domiciliary as well as clinic-based services during pregnancy, trained assistance at delivery and domiciliary services for the postnatal mother and the infant. By 1950, 91 Health Units were established and by 2003 there were 280 units, which are termed Medical Officer of Health areas now.

Since 1989, the country's administration has been decentralized with devolution of administrative power to nine Provincial Councils.

There are 6785 PHM areas, and PHMs work as front-line health worker providing domiciliary care to mothers and children within the community. She has a well demarcated geographic area with an average population of 3,000 to 5,000. The PHM is a member of the team providing services at field and institutional clinics and links the domiciliary services to clinics and institutional care.

Parallel to the expansion of the health unit system throughout the country, curative care services were developed through the establishment of a network of healthcare institutions ranging from Central Dispensaries at the lowest level to the General Hospital, now known as the National Hospital of Sri Lanka, in the capital city of Colombo at the highest level. Total number of 192 hospitals units and 6785 number of Primary Medical Care Units in the country at present.

There is no record of the commencement of Premature Baby Units in this country. As far as we know, most of the hospitals with maternity units had a space for premature baby units (PBU). Although it is named as PBU, all low-birth-weight babies, premature and sick infants, asphyxiated and abandoned babies were admitted to these units. All what was offered in these units for the babies was warmth through incubators or other methods, oxygen through head box or hood, IV fluid, NG feeding and IV antibiotics. Regular blood sugar facilities were not available. Hand washing was not done according to universal precautions.

By 1985, around 20% of live births in Sri Lanka were low birth weight. Yet 60-70% of the deaths that occur in this group of low-birth-weight babies, around 50% were pre-term babies. The year 1985 was a landmark for neonatology services in this country. With the establishment of the Medical Intensive Care Unit at Lady Ridgeway Hospital in 1985, mechanical ventilation was started. Before that newborns were sent to the National Hospital for ventilation. Sri Jayawardanapura General Hospital (SJGH) went into commission in the year 1985 and the NICU started functioning in 1987 with the JICA grant. This is the first recorded fully equipped Neonatal intensive care unit in the country.

Respiratory support to the ill newborns was commenced in July 1988 with the availability of the CPAP system and ventilation of babies was commenced in late 1988 with the availability of two Baby Bird ventilators. Technical support was provided by the KEIO University of Japan and local JICA office coordinated this activity. Initially, neonatal care was supported by Japanese nurses for a few years. Dr. D.A. Sonnadara took an untiring lead to establish both NICU's at Sri Jayawardanapura and Lady Ridgeway Hospital. Improvement of Maternal and childcare was not possible without the contribution of local non-governmental organizations like the Perinatal Society of Sri Lanka, Sri Lanka College of Paediatricians, Sri Lanka College of Obstetricians & Gynaecologists and the College of Community Physicians Sri Lanka.

The Perinatal Society of Sri Lanka (PSSL) was inaugurated on 29th April 2001 under the auspices of Sri Lanka College of Paediatricians, Sri Lanka College of Obstetricians & Gyanaecologists, Sri Lanka College of Community Physicians and UNICEF at the Lady Ridgeway Hospital for children in Colombo.

The inaugural meeting was attended by fifty-four participants with the founding President Prof. Indrajith Amarasinghe who I am happy to see you in the audience along with other founding members like Dr. Srilal De Silva. The perinatal society started with nineteen life members and eight ordinary members who joined the society at this meeting. A council representing all specialties involved in perinatal care was appointed. The first annual session was held in 2003 at the Lady Ridgeway Hospital.

Professional colleges of this country has contributed to improve the perinatal care since its inception. In 2005, at the request of the College of Paediatricians, Post-

Graduate Institute of Medicine recognized and commenced in sub-specialization in Neonatology. **Master Training on Neonatal Advanced Life support** was held from the 12th to the 15th of September 2006 at the Lady Ridgeway Hospital the first time in this country, by the Resuscitation council of UK. A workshop of **Master Training on Advanced Neonatal Ventilation** was held on the 7th, 8th, 9th and 10th of April 2008 at LRH Colombo by Prof Ashok Deorari, Prof of Neonatology and his faculty from India. **Workshop on Perinatal and Neonatal Post Mortem** was held jointly by the College of Pathologists and the College of Forensic Pathologists on 23rd of February 2007 to sensitize the memberships about the need for perinatal postmortem.

Many activities were started by the Perinatal society such as neonatal hearing Screening programme in 2008, CPAP ventilation in 2009, ROP screening and treatment in 2008 and Congenital hypothyroidism screening in 2008. Concepts of brain cooling in was introduced at the annual session in 2009 by PSSL and concept of pulse oximetry was introduced by SL College of Paediatricians in 2013 at its annual session.

Members of SLCOG helped to establish MS in Gynaecology and Obstetrics through the PGIM in 1984 which was changed to MD in 2001. With increased intake of the trainees the MS in Obstetric by PGIM has resulted in expansion of services upto to Base Hospital and upwards.

The Safe Motherhood Initiative which was launched in Nairobi in 1987, is being rolled out in outstation hospitals to improve the quality of obstetric emergencies. SLCOG conducted its first Safe motherhood programme in Anuradhapura in 1991. The second in Matale sponsored by UNICEF in 1992. SLCOG has continued to conduct safe

motherhood programmes every year regularly across the country and facilitate the policy dialog with the health administrators at a local level. SLCOG is proud to have sustained a good practice initiated by a Global Programme. The technical and financial support was from UNICEF, IPPF & FIGO in collaboration with Family Health Bureau.

Registration of births and deaths became compulsory as early as 1897, and since 1921 the administrative report of the Registrar General devoted a special section to maternal mortality. The ready availability of statistics facilitated the evaluation of MCH services

The target was to reduce child mortality indicators by 2/3 between 1990 and 2015. Starting at a baseline of 21.5/1,000 live births in 1990, the country has made progressed to 9.6/1,000 live births in 2010, very slightly off track to meeting the goal of 7/1,000 for 2015.

Sri Lanka's initial maternal mortality ratio of 85/100,000 live births in 1990 decreased to 35/100,000 by 2010. This was on track to meeting the MDG target of 21/100,000 maternal deaths by 2015. Unfortunately, these MDGs were not achieved by Sri Lanka. Few countries in the region achieved health indicators of MDG goals

It is interesting to find out why this was not achieved in our country, despite having well-structured health system.

The role of non-governmental international organizations are to support the improvement in maternal and newborn care programmes. They may also decide on strategies, policies, identify bottle necks and minimize inequities in the deprived segment of the service.

They also provides technical support and capacity building to improve perinatal activities in the country.

We are thankful to the Ministry of Health for facilitating Maternal and Newborn Review in 2007. The objective was to identify the gaps and make recommendation for further improvement of maternal and newborn health in the country. This review clearly identified that there is provision to further improvement of maternal and newborn care in the country both at the institutional level and the field level. There is a need to plan for high quality newborn care in all hospitals and at field level to ensure accessibility to quality services in all parts of the country.

Based on these recommendations of Maternal and Newborn Review in 2007, Ministry of Health has implemented almost all these strategies. Over the period, Ministry of Health was able to publish recommendations made by the Maternal and Newborn Review in 2007.

Unfortunately, Maternal and newborn healthcare workers receive ad hoc nature of in-service training. This is one of the barriers for poor quality of the patient outcome. Therefore, this review report recommended to improve the training to these categories

Same is with medical officers and specialist in Paediatrics and Obstetrics and Gynecologists.

Although they are subject specialist their understanding on Maternal and Newborn policy is poor. This is simply because no Maternal and Newborn specialist in this country. Community Physicians obtain their degree by thesis and then specialize the subjects they are assigned to.

The 2030 agenda for Sustainable Development, which has 17 Sustainable Development Goals, was adopted by countries in 2016. Out of the 17 goals, mainly SDG 3 is concerned with maternal and child health. Under SDG 3, there are 13 core indicators and 38 health indicators related to maternal and child health.

According to the updated sustainable development goals, MMR, NMR and under 5 mortality, rates are on track or maintaining SDG achievement. obstetricians, paediatricians and neonatologists have to work hard to achieve these targets.

Over the years we see an improvement of national statistics. Whether it is driven by Ministry of Health or by the Consultants in the respective field or as a college is question that needs to be explored. Anthony Leo quoted, I quote “Healthcare delivery has worked as well as it has developed to date because **clinicians are bright, hardworking, and well-intentioned – not because of good system design or systematic data use**”.

This remark applies in our context, as I strongly feel, members of professional colleges contribute to improve the national statistics. And it is not data driven improvement. The Ministry publish “Maternal and child health policy” and National Strategic Plan documents from time to time. According to the Ministry of Health, “This gives guidance to achieve national goals based on the challenges faced demographically as well as changes in expectation of the people. Such a documented policy provides the much-needed direction to strategic planning, implementation, monitoring and evaluation of MCH programme to address such issues effectively”. Various documents have been published by Ministry of Health, utilizing the resources of donor agencies to improve the national statistics.

In order to reduce MMR, various strategies have been introduced by the Ministry of Health. The following are some activities undertaken by the Ministry of Health towards improvement of maternal and childcare in the country:

- The first ever 5-day Master training course on “Essential Newborn Care” was conducted in Myanmar, organized and sponsored by WHO in 2006. Few consultant paediatricians and community physicians in the FHB participated in this programme.
- The SAARC Development Fund MCH Project is mainly focusing on improving neonatal care. One component of this project is to introduce a training module on “Facility Based Care of Sick Neonate at Referral Health Facility” to improve the quality of care for the newborn.
- The Technical Advisory Committee on newborn and child Health has recommended undertaking this Master training Programme following which, with necessary revisions these modules can be used for in-service training of the neonatal care unit staff. This programme was held in 2012.
- In 2010, Members of the PSSL collaborated with the FHB in development of the Feto-Infant Mortality Surveillance system. The formats developed and are ready for pilot testing. On 21st November 2013 Ministry of Health issued a circular initiated by the FHB (FHB/EH/26/2013) on Pilot Implementation of the Feto-Infant Mortality Surveillance System. The number of equipment needed for Maternal and child care received by SDF/ MCH project were distributed through the Bio-Medical Engineering Service to create a newborn corner in each labour room and make essential equipment available

During the COVID-19 pandemic, there have been substantial shifts in the way that maternity care is delivered. Care provision has had to be modified and maternity units have faced many new issues. The effects of these changes on maternity outcomes have not yet been measured, and it is unclear whether these changes have widened or narrowed existing inequalities.

Health department should take the lead to update the staff and improve the maternal and child health services. Professional colleges should formulate the modules depending on the need. They should play the advocacy role. Clinical leaders with the support of Director of the hospital and quality assurance department should facilitate these modules. All the benefits should go to junior staff in the hospital who needs clinical training and these interventions will support them to improve the quality of care. Team dynamic training is the focus now, not individual training.

Improvement in health care should happen at the institutional level, not at field level. Therefore we as clinicians who are members of the colleges, have a bigger role to play if we are to achieve these targets.

Scientific analysis of morbidity and mortality by the professional colleges by the way of confidential inquiries will help to identify the root cause analysis and to decide on the strategies. Very often these problems are based on geography, hospital based, or unit based. The Ministry should empower the colleges in order to achieve these targets. Regular review meetings should be organized by the Ministry.

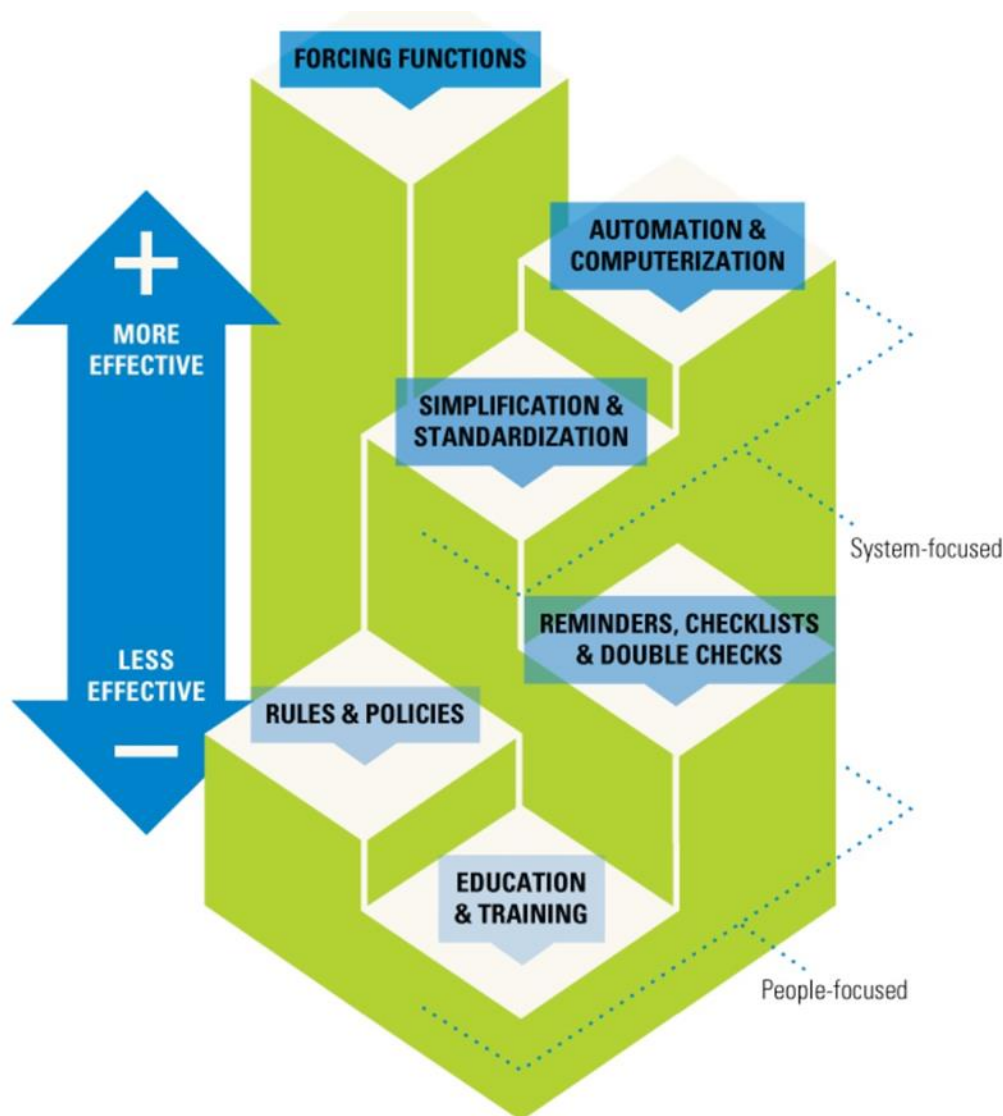


Figure 1: Hierarchy of Intervention Effectiveness

(Source: National center for patient safety, US department of Veterans' Affairs)

I would like to bring your attention now, to the hierarchy of Intervention effectiveness. (Figure 1). This is very important for policy makers, clinicians and politicians. The place occupied by education and training is the foundation of an effective intervention. But in order for it to be effective at the ground level you need to have rules, policies, reminders, check lists and double checks, automation or computerization and forcing functions. Forcing functions are not possible without a strong political commitment. Unless,

clinicians, professional organizations, policy makers together with commitment by politicians, adhere to a hierarchy of effective Intervention, it would not be possible to achieve the SGD goals. Personal egos and boundaries kill this opportunity

Shortcomings in the form of failing to empower the professional colleges and absence of regular review meetings was one of the many reasons we were unable to achieve these Millennium Development Goals.

In 2019, in another Induction Program two game-changing innovative programs were introduced in neonatology by Dr. Surantha Perera, Past President of PSSSL. It is one of the most advanced comprehensive programs to improve neonatal care in Sri Lanka. It was the establishment of Therapeutic hypothermia and Nitric Oxide therapy Program at national level. Already these machines were distributed to the level III Neonatal Intensive Care Units following in house training programs.

PSSSL goals for 2021

- **Strengthening labour room services by providing equipment and 24/7 cover.**
- **Organizing a neonatal life support course and awarding certificates in collaboration with SLCP**

- **Advocacy and promoting the CEMD process**
- **New innovations and advanced care**
- **Strengthening the established hypothermia and Nitric Oxide therapy programmes in level 3 and 3+ NICU units**
- **Promoting research, audit and training in perinatal medicine**

As the 20th President of PSSSL I pledge my fullest support for these advanced programs during my tenure and I will help to launch these at national level.

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