

Hridayam in Kerala

Introduction

HRIDYAM is a web-based solution for system management of care of children with Congenital Heart Disease (CHD). The website can be used as web-based registry for CHD cases across Kerala, monitoring the progress of program envisaged for management of children with CHD, identify the bottlenecks for implementing the protocols established at any point, understand the case status and response time for systems in place and ultimately the outcome of the program is one of the major reasons for the fall in Kerala's IMR to 5.6.

To reduce the IMR level which has been stagnated at 12 for the past few years, Government of Kerala came with a **state-of-the-art** initiative to reduce the response time to treat children with CHD.

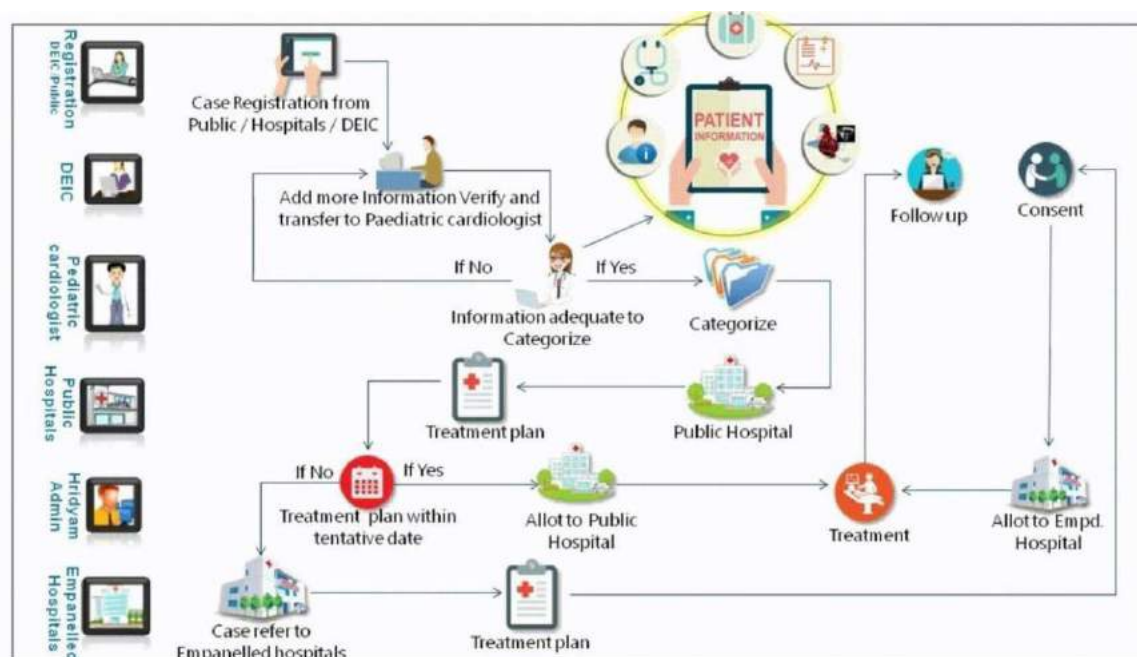
Key stakeholders

- Government of Kerala
- NHM
- Empanelled Private Hospitals
- Beneficiaries: All the children of Kerala with CHD

Implementation of the practice

- Hridayam.in website is a liaison to do case registration for public, Hospitals and (District Early Intervention Centre) DEIC. The case can be registered for babies after birth, during foetal development and any kid in Kerala under the age of 18.
- Foetal heart registration is also provided in case if CHD is detected before birth. This helps to plan the child delivery and **pediatric** heart surgery of the child.
- Once the case is registered by any target beneficiary. The case will be notified to concerned DEIC of the district where the child lives. During case registration immediately on filling in the basic information, the child will get an automatically generated unique registration number which will be used as Case Number for the case.
- On getting alert on case registration DEIC will check whether all forms are filled. On completion of registration (completing all five steps of registration and verification by DEIC) the case will be categorised primarily into categories 1,2 or 3 and will be reflected on the table put in the dashboard.
- Five Paediatric Cardiologists are identified across Kerala who will give the opinion on cases online reviewing the case findings, investigation reports including ECHO findings as video and seeing the patients directly in case if the forwarded information is not enough.
- Pediatric Cardiologists will categorise cases based on the diagnosis, clinical condition and urgency to do the case as per the predefined categories. Category 1 (a-g), Category 2 A (1-3) primary and category 2B (1-3) staged procedures and category 3 Medical Follow up, so that surgery dates may be fixed by the institutions.
- Pediatric cardiologist will give opinion on individual cases and forward the same to SCTIMST or MCH Kottayam. These institutions will give surgery dates to individual cases as per the set protocol for each category.

- In case if the paediatric cardiologist is unable to reach a conclusion based on the available data, the child will be called for a review and the DEIC concerned will facilitate the same.
- Those cases clinically sick and severe will be put in the category 1a class automatically and this will be done by capturing six current clinical parameters. After categorising these cases, Paediatric cardiologist will forward all cases to SCTIMST or MCH Kottayam to get dates for surgery. They will review the cases, Diagnosis put by paediatric cardiologists, documents available, and will give dates which is the earliest for them. The system is set in such a way that these institutions can give dates that are within the timeline specified under the categorisation and the dates start from the date of birth.
- If the allotted dates are beyond the permitted dates, cases will be automatically referred to empanelled hospitals. All empanelled hospitals have individual login ids and they can see all the documents and reports so that they can allot the slots which are the earliest for them. All the empanelled hospitals will provide dates for any single case and the selection of facility will be based on the choice of the family.
- This process will be visible to DEICs and State level admin. DEICs will facilitate the process of referral to Empanelled hospitals by coordinating with the family that includes getting the choice of the family to go to which facility. Based on all these procedures state level admin will give a preauthorisation to the empanelled hospitals to take up the case with them.



- Resource utilization: This project requires a website and electronic health record management system have been developed. The rest of the project uses Information Communication Technology (ICT) to eliminate the bottleneck in the administration and to provide faster and timely treatment for the children with CHD. Empanelling Private Hospitals using PPP model enables increase in the capacity whenever required.

Results of the practice

- Kerala being one of the forerunners in public health care registered a new record of infant mortality rate to 5.6 (according to NFHS-4 report) from 12. This program is one of the major interventions for the reduction of Kerala's IMR level approaching to a developed nation.

Lessons learnt

- Creating awareness of the program was difficult, so for creating public awareness both formal communication like hoardings at public hospitals, newspaper ads etc. and for easy informal communication like a Facebook page Hridyam, a separate WhatsApp number and a twitter account Hridyam are used.

Conclusion

- This program has an easy replicability with the current developments of Information and Communication Technology in India. This program majorly identifies the bottlenecks, eliminates it with the help of technology and makes use of the existing resources proficiently.

Further Readings

- i. <https://hridyam.in/hridyam.php>
- ii. <http://rchiips.org/nfhs/NFHS-4Reports/Kerala.pdf>