



Cartula

CARTULA HEALTH INTERNATIONAL

DIGITAL MATERNAL
HEALTH SOLUTION



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ABOUT CARTULA

Cartula was founded in Australia by a group of healthcare clinicians and IT professionals with the goal to improve health outcomes using innovative technology. The adoption of technology by Health compared to that of other industries such as Banking, Telecommunications, Transport and Insurance shows that Health is lagging and Cartula's aim is to address this.

The Cartula Health team has a breadth of relevant experience to build useful products that make a difference to the way healthcare services are delivered. In summary, the team's capabilities are:

- **Medical experience** in large hospitals both at the clinical and leadership level and senior roles in the development of health and technology;
- **Running and maintaining large hospital systems**, at the CIO level, for a world class hospital in Australia, and IT deployment skills across private hospitals, public hospitals and large government departments;
- **Medical experience in Paediatrics**, large hospital expertise both at the clinical and leadership level, and leadership roles in the development of health and technology; and
- **Extensive IT experience** in healthcare, cyber security, large systems, transport, law, corporate risk and government.

Cartula is working with Australian Health services to deploy innovative products – largely through leveraging mobile platforms – to improve clinician productivity and patient access to data in the hospital setting.

Through the international health work by members of the Cartula team, the organisation has expanded to deploy the technology into other countries to broaden the impact of the solutions. As a result, an Indonesian company was formed in Jakarta and a local team of clinicians and technology staff are now in place. There are plans to further extend the footprint of the organisation into other regions to deploy our suite of multi-lingual products.

THE CARTULA MATERNITY SOLUTION

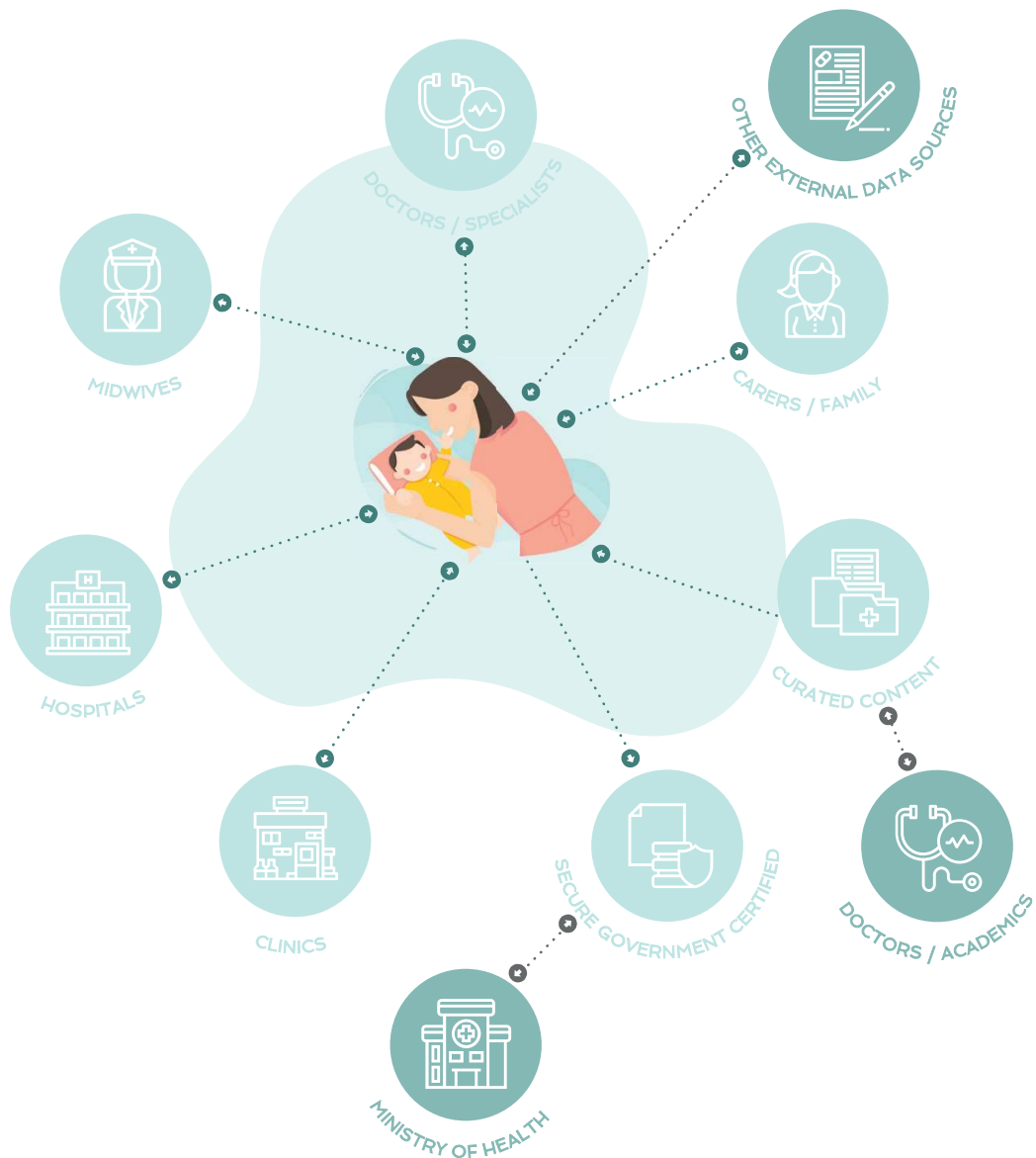
The Cartula Maternity Solution is part of a broader initiative to use digital technology to support patients to better manage their healthcare. This patient centric solution supports the sharing of documents and health information between the patient on their phone and the health service provider. The Maternity Solution is a customised view of this patient centric health platform, initially developed for the Indonesian market, in collaboration with the University of Indonesia.

Death rates of mothers during childbirth and young children are still too high in many regions of the world and have been recognised as a high priority in Indonesia.

The Cartula Health Maternity solution addresses this by better informing the mother and by sharing vital information with the multiple health care facilities where consultations occur throughout the pregnancy, birth and child health activities. Immunisations are a key aspect to protect the health of the child and this is an important aspect of the solution.



www.cartulahealth.com



The Cartula Health App is aligned to best practice published by several global health organisations. There are print based versions of guidelines and our work has been to distil the various sources and produce an engaging phone app to inform the mother and track her progress through pregnancy and allow her to share information with the clinics and doctors supporting her. Our application has been clinically reviewed by our in-house clinical team and the University of Indonesia.

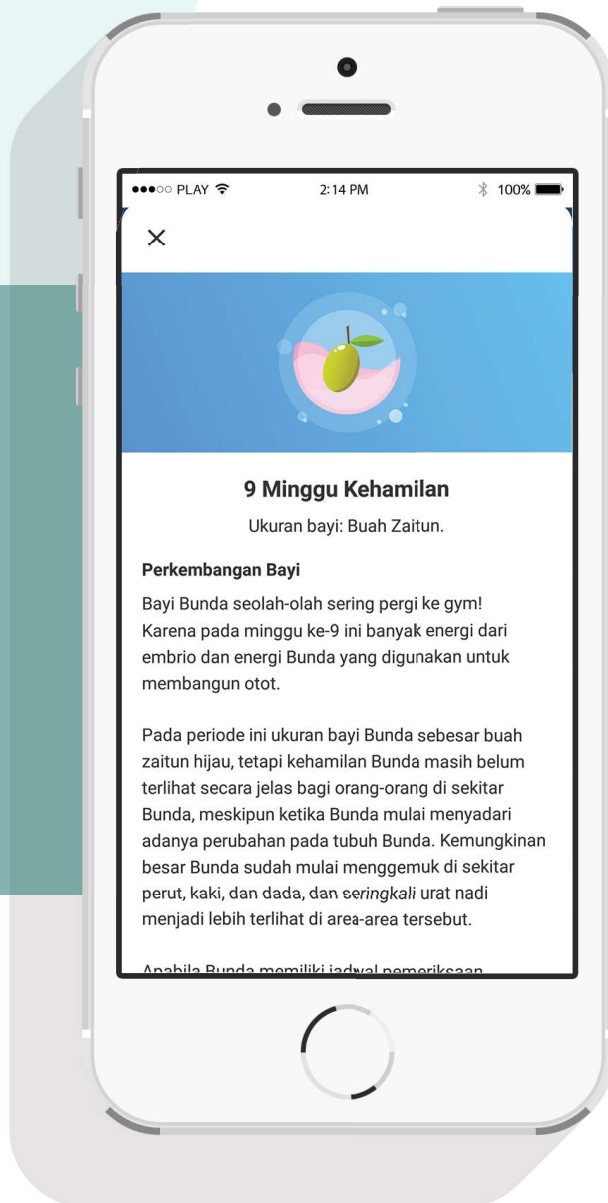
The solution was deployed to a clinic in South Jakarta in September for initial trials and will then be rolled out to a series of Jakarta Maternity clinics.

MATERNITY MOBILE APP

At a high level, the maternity mobile app contains 4 main data components which are easily accessed through the intuitive home page. All the information uses the due date of the baby to drive relevant content to the mother at the required time in her pregnancy:

- 01 Pregnancy Progress:** Information on the status of the pregnancy for each week so the mother understands the changes in the foetus and the changes to her body during pregnancy.
- 02 Timeline:** A series of activities that the mother should perform including consultations, immunisations and preparation activities e.g. test for blood type. Each activity is scheduled to be performed at a specific week in her pregnancy and reminders are activated if the activity is not performed. The patient can create new activities to support their individual circumstances.
- 03 Health Data:** Vital information from each consultation with the doctor / midwife is stored in the app e.g. blood pressure. Additional consultations can be created by the patient to support the varied care arrangements she has with her doctor and health practitioners.
- 04 Education:** Specific content to inform the mother how to improve her health in preparation for birth and the health of the new baby. The mother is prompted to read the content based on the number of weeks of her pregnancy. More general health information is also provided.

PREGNANCY PROGRESS: WEEK-BY-WEEK



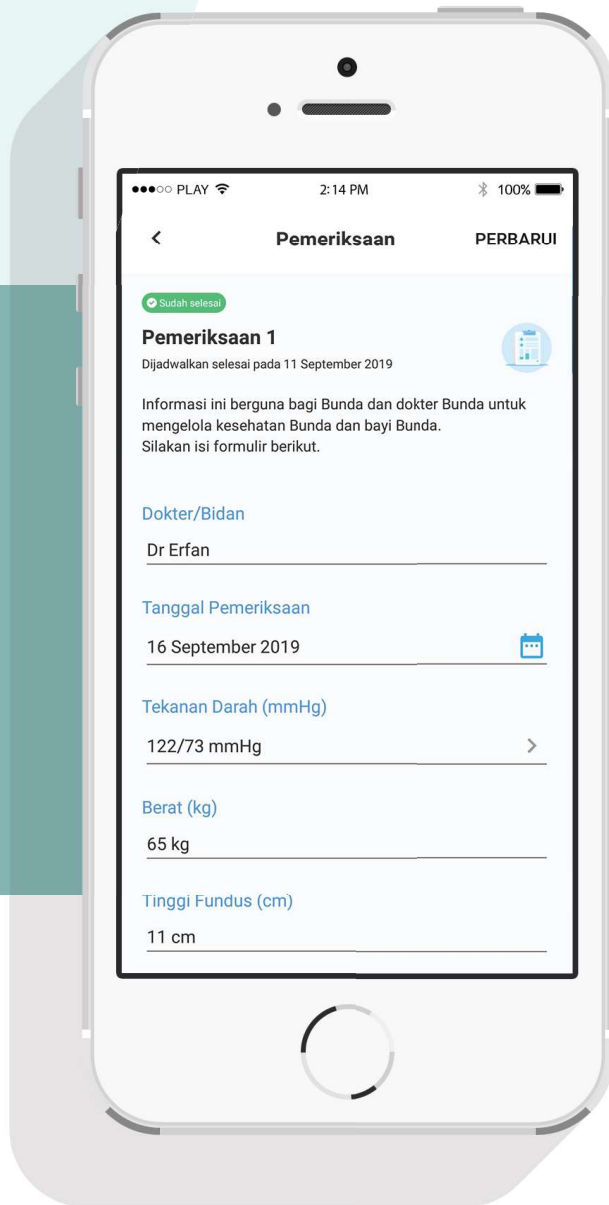
Week-by-week information on the growth of the foetus and the changes to the mother.

TIMELINE



Timeline of activities – sorted by date. Series of Education, Actions and Check-ups which the mother is reminded to complete based on the number of weeks of pregnancy.

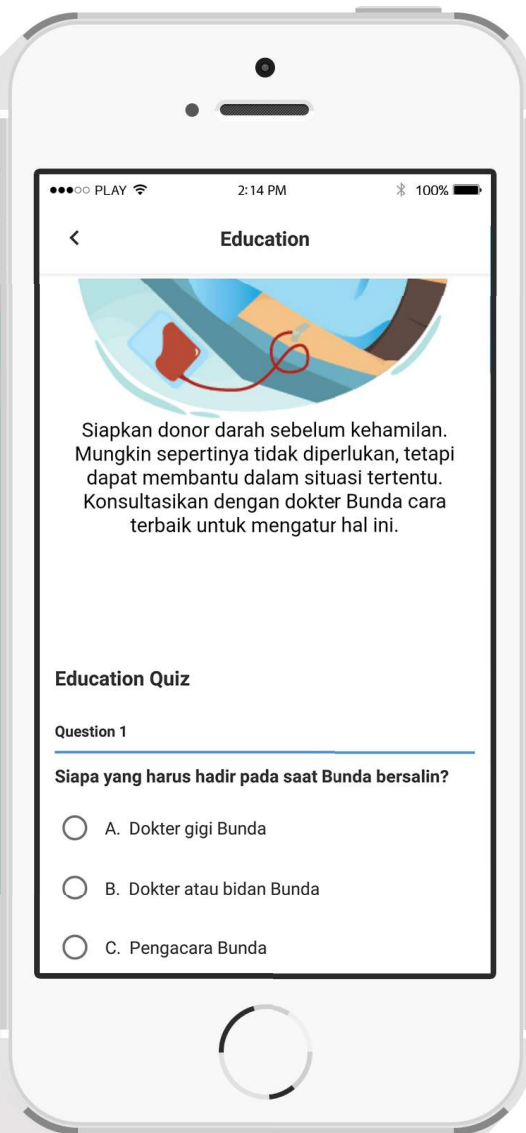
HEALTH DATA



Check-up data that can be entered by the Mother or by the clinician through the connected web app.

This information can be extracted and shared.

EDUCATION



Education content that has been curated by medical specialists and nurses to ensure accuracy and cultural appropriateness.

Also includes a quiz to increase the engagement of the mother.

WEB CLIENT FOR DOCTORS IN CLINICS AND HOSPITALS

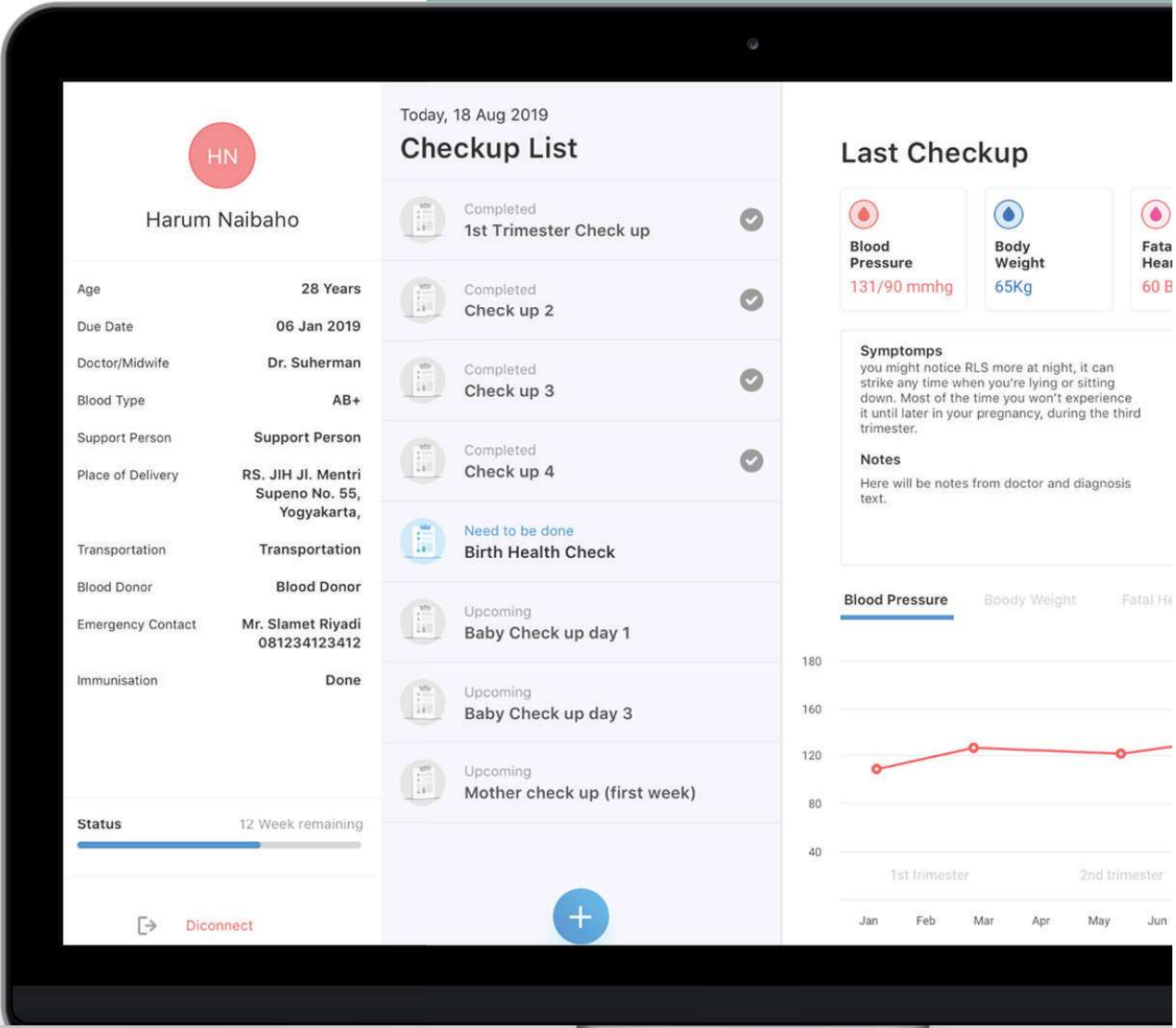
To allow collaboration between patient and health provider, the Maternity solution has a Browser-Based web application component so that at a doctor / specialist / midwife with a laptop, tablet or PC will be able to view and update the information. Updates are automatically pushed back to the mother's phone.

The access to the mother's phone-based record is granted by the mother and the data is pushed to the doctor's web browser. This technology requires zero integration – just an internet or wi-fi connection for the doctor's laptop.

This solution then allows the mother to move from clinic to midwife to specialist to hospital and have all health providers that are delivering care get access to her historical record and provide updates of any changes or additions to the condition of the mother or baby.

In summary, this integration of the phone app with the health provider supports:

- 01 Ability for the patient to **share the information** on the phone with the health provider:
- 02 The doctor can **create new activities**, including additional check-ups, for the patient's care plan; and
- 03 The doctor can **upload health advice documents** to the patient's phone to assist in the patient's education.



GAINS FOR THE HEALTH SERVICE OF PATIENT-CENTRIC CARE

It is widely recognised that putting the patient at the centre of their healthcare journey results in better outcomes for the patient. There are also significant gains for the Health Service as follows:

- Physicians get **access to relevant information** so they can make decisions more quickly;
- **Patient flow** at Hospitals and Clinics is improved – e.g. no longer require paper to be discharged;
- **Provide Research Data** (anonymously) of the visits and activities performed;
- **Makes care more efficient and reduces cost** – reduction in duplicate tests, improve productivity, reduced clinician time as patient information is readily available;
- Health providers **control the type and relevance** of information shared;
- **Sharing of information** with partner health organisations will drive patient loyalty; and
- **Improved Patient satisfaction**

THE FUTURE

The Cartula Patient Centric Health App and Maternity module are game changers in healthcare. The ability for the patient to manage their health, get access to curated information and seamlessly share content with health providers of their choice delivers a new level of health information collaboration.

The current capability is only the start of the journey and an increasing feature set of capabilities will be added to our portfolio of products as we work with patients and the health services to deliver what is most important for them.



Cartula

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