

NEWSLETTER January 2021

Review of busy and troubled COVID time

Despite little NEWS in 2020 on our WEB-site we have been busy behind the scenes. In collaboration with the Association Persis Valais and the University Hospitals of Geneva, we have been able to drive forward different projects. We wish to heartfully thank all our supporters!

*1. Our **collaboration with the Persis Association** has led to a strong bond. The construction of the wonderful new Antonio Bruni maternity hospital following support by our (family) architectural and (hospital professional) functional advice is up and running. We continue to support education in neonatal care. In mid 2019 we have sent some large medical equipment for neonatal care (incubators and monitoring) donated to 4earlylife in Geneva. This was possible by hiring shipping container space in collaboration with the Morija association (www.morija.org)*



Figure 1: Interior court of the Antonio Bruni Maternity in Ouahigouya in 2018

*2. In 2020, we have successfully launched the **miniDNA**, a database recording global neonatal health data in low-income countries with the help of a Master student (Sophia Schumacher) and a young doctor from Burkina Faso (Persis Zala) supported by a Swiss Government Fund for Excellency for a doctoral thesis at the University Hospitals Geneva. Thanks to a 4earlylife financial support of three local data managers, more than 500 newborns have already been recruited in three maternity hospitals of Burkina Faso. This is a big step in setting-*

up a local quality improvement process. Have a look at the executive summary of the project (www.4earlylife.org).

We are working on a secure, cloud-based application to facilitate data entry and recruit more hospitals in French speaking West-Africa and have already secured some funding with a very generous donation of the Max Pfister AG from St. Gallen.

3. With financial support of the Geneva University Hospitals, we have been able to launch a **teaching collaborative project with the Neonatal Unit in Dharan**, in Eastern Nepal, just before the first COVID wave. Together with a teaching nurse we have launched during this field trip a Neonatal resuscitation program based on the Swiss start4neo resuscitation program, started a simulation-based nurse education program in neonatal intensive care and explored together with the Nepali team bottlenecks for further teaching domains. We have also planned and budgeted a teaching and exchange period in Geneva for some of our Nepali colleagues, as soon as COVID allows.

4. **In terms of equipment**, we wish to thank Anandic® and MK-Med® for their generous donation of very valuable medical equipment, incubators, resuscitation tables and phototherapy devices. For economic reasons these are shipped to our African collaborators when container-space sharing becomes available. Our 2019 shipping arrived well but further shipping was suspended by the COVID crisis.



Figure 2: Arrival of incubators at Antonio Bruni Maternity in Ouahigouya in 2019

5. Together with a Master student at Geneva University (Liv Christen) we have made quite a step forward in developing an **ultra-low-cost Bilirubin measurement technique we call BILIFREE**. Bilirubin is a naturally occurring yellow break-down product of blood and increased in up to 30% of newborns as clearance by the liver is still immature. Bilirubin is toxic to the brain. Treatment is relatively cheap and simple with blue light. In low-income countries the high costs of measuring bilirubin prevent diagnosis, thus leading to what is considered one of the highest avoidable causes of handicap originating in the neonatal period.

In essence BILIFREE allows a very small blood sample in a glass tube to be centrifugated or sedimented for visual and smartphone based colour detection. A scientific evaluation will start in early 2021 in the neonatal unit of the University Hospitals Geneva with obtained ethical approval and even some hospital funding.

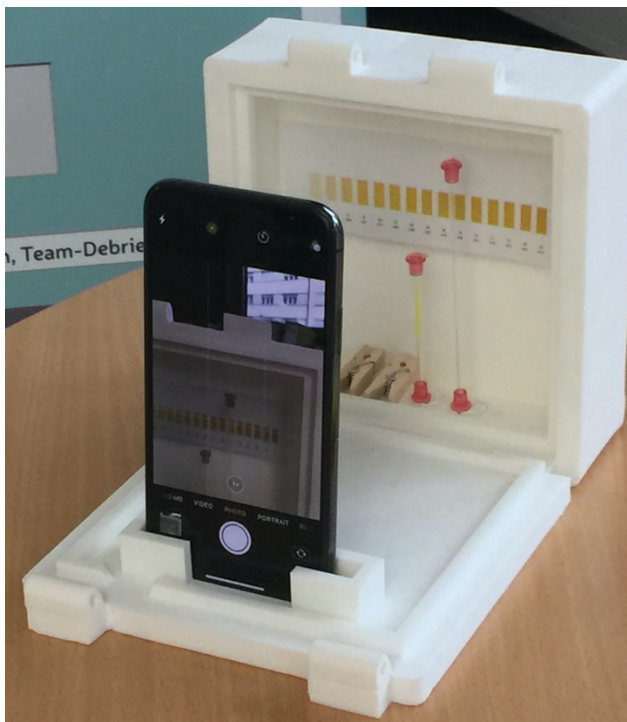


Figure 3: First 3D printed prototype of our very low-cost bilirubin measurement device

We wish to thank all our supports and those that believe in these project for making a difference for newborns worldwide and mostly there, where being born is associate with an incredibly high risk o death and illness.

Cristina Exhenry, president 4earlylife

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