



# IAEA

International Atomic Energy Agency

*Atoms for Peace*

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## ***Preventing and controlling sickle cell disease in Gabon***

### ***The challenge...***

Sickle cell disease (SCD) is an inherited blood disorder. It cannot be cured, but early diagnosis means that life-extending treatment and care can be initiated as soon as possible after birth. Sickle cell disease is a serious health problem in Gabon, and places a severe medical, financial and social burden on the individual and on society. Around 60% of children born with SCD in Gabon die early in infancy due to infections that can include malaria, acute anaemia or acute respiratory syndrome.

### ***The project...***

The project supported the establishment of a systematic neonatal mass-screening programme as part of a Continuous Comprehensive Care Programme in the capital, Libreville, where 50% of the population lives, and Franceville. The screening identifies babies with SCD using nuclear techniques which included high pressure liquid chromatography (HPLC), allowing life-extending prophylactic penicillin and comprehensive care to start. Genetic counselling for parents with affected or carrier newborns is also being provided.

The IAEA partnered with the International Centre for Medical Research of Franceville (CIRMF), the University of Health Sciences, and the Association de Lutte et de Prévention contre la Drépanocytose (ALPD). IAEA support was provided through expert missions, fellowships and scientific visits. Staff from CIRMF and from a local hospital were trained, and equipment including a HPLC Haemoglobin Testing System was provided. The project is contributing to reducing national health care costs in Gabon and has benefited from high level government involvement, including the support of the First Lady of Gabon.



*Screening newborn babies in Gabon.*

### ***The impact...***

- Diagnostic information on newborns and affected adults can now be provided within 10 days.
- To date, 2471 newborns have been screened from various hospitals in Gabon.
- A cost-benefit analysis shows that the costs for early diagnosis and the Continuous Comprehensive Care Programme are €15, whereas costs for later complications and death are €6000.
- The project's awareness raising activities have led to an increase in the number of parents taking their babies for regular check-ups.

*Technical cooperation project GAB/6/004: Establishment of a Neonatal Mass-screening Programme for Prevention and Control of Sickle Cell Disease*