ARTICLES

# THE TICKLER FILE SYSTEM
## AN INNOVATIVE AND LOW-TECH SOLUTION
## TO REDUCE IMMUNISATION DEFAULTERS IN SOUTH SUDAN

### The Challenge of increasing immunisation coverage in South Sudan

**Immunisation** is a crucial public health intervention that has been recognised as one of the most cost-effective methods to reduce childhood morbidity and mortality from illnesses such as diphtheria, pertussis, influenza, measles and tetanus. However, despite the overwhelming evidence of its benefits, several countries worldwide are still grappling to meet the World Health Organization's (WHO) global target of 90% coverage.

**In South Sudan**, children's immunisation schedules are often disrupted due to various challenges, including limited access to healthcare facilities, insufficient vaccine supplies, lack of knowledge, cultural beliefs, nomadic and pastoralist lifestyles, flooding and armed conflict. These barriers all contribute to low immunisation coverage, high immunisation defaulters (or dropouts) and an increased risk of vaccine-preventable diseases among children in the country.

**Maximising immunisation coverage** in South Sudan requires a collaborative effort between the government, healthcare workers, and community leaders and members. This collaboration can help address cultural barriers, boost vaccination uptake, and ensure that no child is left behind.

### The Tickler File System

**In order to improve immunisation coverage** in South Sudan and reduce the incidence of defaulters, innovative and out of the box solutions are needed. Through the Health Pooled Fund 3 (HPF3) programme, Crown Agents has developed the Tickler File System, which is an efficient and effective immunisation defaulter tracing and referral mechanism that ensures all children follow up their immunisation schedule. The outcome ensures they are fully protected against vaccine-preventable diseases.

**Tickler Files** are a defaulter tracing mechanism used to identify and routinely trace children who miss their immunisation appointments at the health facility level. The system keeps a log of when each child is due back at the health facility for their next immunisation. It is used by health workers and vaccination staff to track individual children and plan follow-up activities to recuperate and vaccinate children who have "dropped out" (meaning they don't come back for their next vaccines in the series the month it is due).

**Our pilot study in Juba County** has yielded valuable insights and learnings that will guide the system's further development and countrywide implementation. With the imminent introduction of the Malaria vaccine, which requires multiple doses and poses a risk of defaulters due to the final dose falling outside the regular schedule, the Tickler File System is poised to play a critical role in ensuring complete and comprehensive vaccination coverage across South Sudan.

**Figure 1: Tickler File in use at health facility**



The **Health Pooled Fund (HPF3)** is a five-year, multi-donor initiative led by the Foreign, Commonwealth and Development Office (FCDO), with support from the Government of Canada, the Swedish International Development and Cooperation Agency (SIDA), and the United States Agency for International Development (USAID). The programme's primary objective is to enhance the health and nutrition outcomes of South Sudan, saving lives and reducing morbidity, while also fostering a more robust and resilient healthcare system in the country.
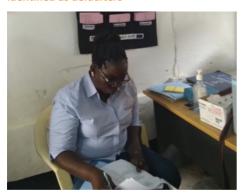
A **key advantage to The Tickler File System** is that it leverages existing systems and tools such as reporting cards, which are kept at the health facility after the child is vaccinated. Typically, Tickler Files are stored in files or folders. However, one of the key challenges identified in South Sudan was the lack of space in health facilities for this storage. To overcome this challenge, Crown Agents developed an innovative wall hanging Tickler File made of fabric which has clearly defined labelled pockets (Figure 1).

### The Tickler File Process

1. The EPI vaccinator regularly reviews the EPI register to identify infants who are overdue for their next dose and ensure they receive timely vaccinations.
2. A tickler file is maintained, where after each immunisation visit, the vaccination card is updated to the month when the next visit is due. This helps keep a track of upcoming immunisation appointments and reduces the number of defaulters.
3. Every month, the vaccinator reviews the cards that have not been moved and generate a list of defaulters. This list helps to identify infants who missed their immunisation that month, allowing for targeted outreach efforts to ensure that they receive the required vaccinations.
4. The vaccinator hands over the cards that have not been moved to the Boma Health Workers (BHW) supervisor to trace children who are lost to follow-up. This ensures that no child is left behind in the immunisation schedule.
5. A functional referral system is put in place, both from the community to the health facility and within the same health facility. This helps to ensure that infants who require additional care are referred to the appropriate healthcare provider, leading to better health outcomes.

By implementing these steps, we can improve immunisation coverage and reduce the number of defaulters, ensuring that every child receives timely vaccinations and stays healthy.

Figure 2: HPF PC Central Equatoria, reviewing children identified as defaulters



## OUR SUCCESSES

In April 2022, Crown Agents launched the Tickler File System pilot programme in 20 health facilities in Juba County, South Sudan. Our pilot programme demonstrated the potential of the Tickler File System as a simple and user-friendly solution to record and reduce the incidence of immunisation defaulters in low-resource settings. Moreover, the program established a closed referral loop between health facility staff and communities. The health facility staff and vaccinators effectively linked up with Boma Health Supervisors to ensure that children return to complete their immunisation schedules. The system's key strength lies in leveraging existing structures and systems, such as the child vaccination card as well as using the Boma Health Workers for defaulter tracing to prevent duplication of work and promote sustainability.

Our coordinated and targeted approach significantly improved immunisation coverage in the region, as evidenced by the following outcomes:

- Between June to July 2022, we successfully vaccinated 8,730 (89%) children under one year with the third dose of the Pentavalent vaccine.

- The immunisation dropout rate for the Pentavalent vaccine, which protects against five deadly diseases, decreased by 7% from baseline to the end of the pilot study.

- Outreaches were instrumental in boosting vaccination coverage, with all health facilities conducting at least one outreach a month during the pilot period (June to November 2022).

- 74% of participants in the focus group discussions acknowledged the Tickler File System as a valuable tool for identifying children who missed their immunisation appointments, making it easier for vaccinators and BHWs to collaborate and ensure timely vaccinations for every child.

- The system enabled better coordination and tracing of defaulters between health facilities and Boma Health Workers at the community level, resulting in more targeted outreaches and a decline in dropout rates from 18% to 11%.

## Our Key Learnings and recommendations

1. Implementing the Tickler File System can be an effective way to reduce immunisation dropouts. The system tracks individual children and plans follow-up activities to ensure that they receive their vaccines on time. By using the Tickler File System, health workers can easily identify children who have missed their immunisation appointments and plan targeted outreach efforts to bring them back into the immunisation schedule.

2. For accuracy and effectiveness of the Tickler File System, it is important to strengthen identification systems at health facilities. This includes regularly reviewing the EPI register to identify children who are overdue for their next dose and ensuring that vaccination cards are properly updated and tracked within the Tickler File System.

3. The Tickler File System can be especially effective when paired with outreach efforts and collaboration with Boma Health Workers. By collaborating with them and health workers at facility level, we can more effectively identify and track children who have missed their immunisations and plan targeted outreach efforts to reach them.

4. Once immunisation defaulters have been identified in communities, tailoring outreach efforts to address the specific challenges and barriers faced by each community is key to effectively increasing vaccination coverage rates.

5. Regularly monitoring and evaluating the effectiveness of the Tickler File System can help to identify areas for improvement and ensure that the system continues to be an effective tool for improving immunisation coverage. By regularly reviewing data on vaccination coverage rates and dropouts, health workers can make informed decisions about how to adjust and improve the Tickler File System.

## Conclusion

The Tickler File System has shown tremendous promise in improving immunisation coverage and reducing dropout rates in Juba County. With its simple and user-friendly design, it has demonstrated that leveraging existing structures and systems can lead to significant improvements in health outcomes, even in low-resource settings. Given its success, Crown Agents is now working towards scaling up the Tickler File System across South Sudan. By implementing this system in other high-dropout counties, we can ensure that more children are vaccinated on time and that we are one step closer to achieving universal immunisation coverage in the country. This effort will be particularly valuable with the upcoming introduction of the malaria vaccine- but we cannot do this alone. It will require the concerted efforts of all stakeholders, including the government, health workers, community leaders and caregivers to ensure that the Tickler File System is effectively implemented and sustained. By working together, we can build on the success of this pilot program and improve the health and well-being of children across South Sudan.

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**Health Pooled Fund donors**