Operational Lessons Learned from Successfully Managing a Clinical Trial on Hypertension Management

High blood pressure (BP) is the leading cause of preventable morbidity and mortality globally. The benefits of BP lowering in reducing cardiovascular (CV) events are well established and there is clear evidence that greater BP lowering confers a greater reduction in CV events [1–3].

Unfortunately, however, despite the availability of safe, well-tolerated, and relatively inexpensive BP-lowering therapies, <14% of adults with hypertension have BP controlled to a systolic/diastolic BP <140/90 mmHg [4]. The **COBRA-BPS** study highlighted the magnitude of uncontrolled hypertension in rural Sri Lanka, with approximately 64% having uncontrolled BP [5].

Combination therapy has the potential to address the aforementioned barrier of under treatment of hypertension with monotherapy as well as physician inertia [6].

RemediumOne is currently managing the Sri Lankan component of a multi-country trial that is evaluating the safety and efficacy of a unique, three-in-one pill for treatment of hypertension. **With 8 participating countries, Sri Lanka has contributed to over 40% of global recruitment**.

Here are the key operational lessons learned from the successful progress of this trial.

- **Selecting the right sites:**

  Sri Lanka's healthcare system, which provides free healthcare to all citizens, is a significant advantage when it comes to selecting appropriate sites for clinical trials.

  - The system ensures that there is a well-established healthcare infrastructure across the country, making it easier to identify and select suitable trial sites.
  - As healthcare is free and accessible to all citizens, there is a higher likelihood of individuals seeking medical attention for a variety of conditions, including those targeted by the clinical trial. This leads to a larger pool of potential trial participants and facilitates recruitment efforts.
  - As the healthcare system is well-integrated and well-regulated, there is a high level of expertise among healthcare professionals, providing the necessary medical oversight for clinical trials.

- **Participants with a high literacy rate, which enables them to follow instructions and adhere to the study protocol:**

  Each participant was provided with a digital BP monitor for home monitoring of BP for the entire duration of the trial. BP readings were encrypted and transferred automatically to the trial database via SIM connection. 97% of BP monitors returned were in good condition and participants were capable of measuring their BP as per the instructions given.

- **Qualified and experienced investigators with an appetite for research:**

  The investigators are board certified medical specialists who have undergone mandatory oversees training and are exposed to clinical trial conduct during their training. Thus, the benefits included:

  - Investigators can analyze the target population for a clinical trial and identify appropriate channels to reach potential participants. For this trial, the investigators were a combination of Cardiologists and General Physicians. Considering the target population, they identified the Visiting physician Out-Patient Department as a suitable channel for recruiting participants at most sites.
  - Investigators helped to streamline the recruitment process by screening potential participants to ensure that they meet the study criteria before they are referred to the clinical trial site. This helped to increase the efficiency of the recruitment process and reduced the burden on site staff.

- **Early site engagement through pre-screening activities:**

  Having a defined pre-screening procedure presented a valuable opportunity to streamline clinical trial screening and enrollment processes, inform recruiting approaches, and maximize the success of trial enrollment.

- **Enroll the right participants:**
  The team continuously monitored recruitment rates and adjusted the recruitment strategy as needed to ensure that enrollment targets are met.
  Engagements with the trial Investigators on eligibility discussions helped in minimizing screen failures, run-in failures and enrollment of ineligible patients.

- **Participant retention through a telephone surveillance system:**
  Apart from the measures outlined in the protocol, the operational team in Sri Lanka set up a telephone surveillance system to ensure that participants were adhering to the blood pressure measurement schedule specified in the protocol. This system allowed the team to monitor participants remotely and ensure that they were complying with the study requirements, which is critical to obtaining accurate and reliable data. The implementation of this system highlights the team's commitment to ensuring the success of the trial and their resourcefulness in finding innovative solutions to potential issues. It also demonstrates the importance of proactive measures to monitor and support participants in clinical trials, which can help to ensure that the trial produces high-quality and useful data.

To explore how RemediumOne can enhance participant engagement and enrollment for clinical trials, get in touch with our Leadership Team or peruse our capabilities in further detail.

Contributors: Anuradha Dahanayaka (Senior Manager- Clinical Operations), Gayan Wijeratne (Project Lead), Zulaiha Liyakath (CRA).

References:

1. Xie X, Atkins E, Lv J, et al. Effects of intensive blood pressure lowering on cardiovascular and renal outcomes: Updated systematic review and meta-analysis. *The Lancet*. 2016;387(10017). doi:10.1016/S0140-6736(15)00805-3
2. Law MR, Morris JK, Wald NJ. Use of blood pressure lowering drugs in the prevention of cardiovascular disease: Meta-analysis of 147 randomised trials in the context of expectations from prospective epidemiological studies. *BMJ (Online)*. 2009;338(7705). doi:10.1136/bmj.b1665
3. Ettehad D, Emdin CA, Kiran A, et al. Blood pressure lowering for prevention of cardiovascular disease and death: A systematic review and meta-analysis. *The Lancet*. 2016;387(10022). doi:10.1016/S0140-6736(15)01225-8
4. Al-Makki A, DiPette D, Whelton PK, et al. Hypertension pharmacological treatment in adults: A world health organization guideline executive summary. *Hypertension*. 2022;79(1). doi:10.1161/HYPERTENSIONAHA.121.18192
5. Jafar TH, Gandhi M, Jehan I, et al. Determinants of Uncontrolled Hypertension in Rural Communities in South Asia-Bangladesh, Pakistan, and Sri Lanka. *Am J Hypertens*. 2018;31(11). doi:10.1093/ajh/hpy071
6. Okonofua EC, Simpson KN, Jesri A, Rehman SU, Durkalski VL, Egan BM. Therapeutic inertia is an impediment to achieving the Healthy People 2010 blood pressure control goals. *Hypertension*. 2006;47(3). doi:10.1161/01.HYP.0000200702.76436.4b