Stanford University Global Supply Chain Management Forum
Executive Summary of Evaluation Plan

Riders for Health (Riders) is an internationally recognized social enterprise dedicated to improving the capacity and efficiency of health care delivery platforms in Africa. Their vision is of a world in which no one will die of an easily preventable or curable disease because of barriers of distance, terrain or poverty prevent them from being reached. Their mission is to strengthen health systems by addressing one of the most neglected , yet vital, aspects of development for the health of Africa—transport and logistics.
Riders has developed a system for managing fleets of motorized vehicles with planned preventive maintenance.

In November 2008 the Bill & Melinda Gates Foundation awarded Riders a grant to strengthen the evidence base for improved vehicle fleet management while scaling up operations and testing further variants of their business model.

Stanford University is partnering with Riders to evaluate the **effectiveness** and **efficiency** of contracting out vehicle fleet management as an approach to strengthening the performance of health delivery organizations. Key evaluation questions include:

- To what extent do Riders' models result in improved vehicle fleet management?
- To what extent does improved vehicle fleet management result in improved health worker productivity?
- To what extent does improved health worker productivity from improved vehicle fleet management result in equitable coverage of critical health interventions?

Small-Scale Quasi-Experimental Impact Assessment to Demonstrate Effectiveness

To demonstrate the effectiveness of the Riders program we plan to conduct a small-scale quasi-experimental impact assessment in Zambia; an Interrupted Time Series design (with control groups) will be utilized where pre-post data is collected at several points throughout the study.

Eight districts in the Southern Province of Zambia are included in the study. Districts have been randomly assigned to be part of the experimental and control groups. The four control groups are: Kazungula, Itezhi-Tezhi, Livingstone, and Monze. The four experimental districts are: Mazabuka, Namwala, Kalomo, and Choma. The experimental districts will receive an intervention (i.e., receive the Riders program). The Riders intervention in the experimental districts will be the Transport Asset Management (TAM) program.

Health worker productivity and health intervention coverage rates will be collected 2 years before (we can pull historical data from Zambia's health information system) and after program implementation. Logistics data is not currently collected by the government, so the "before" data will be collected prospectively. Specifically, vehicle uptime, utilization and other logistics data will be collected 5 months before and 2 years after program implementation. We will rely on both primary and secondary sources of data for the study. Examples of primary data include GPS data, health center interviews, and private

garage interviews. Examples of secondary data include health management information system data, financial data and health outreach activity sheets.

Cost-Effectiveness Analysis to Demonstrate Efficiency

In parallel to the impact assessment, a cost-effectiveness analysis will be conducted, which will examine: 1) incremental costs versus incremental health outcomes (such as quality-adjusted life years) tied to Riders, 2) the cost-per-kilometer (cpk) of a government managed fleet versus a Riders fleet, and 3) incremental costs compared to incremental health outputs such as number of patient visits and coverage of health interventions.

Study Limitations & Future Research Directions

Although the small-scale quasi-experiment can provide compelling evidence that the Riders program improves logistics and health, it has two important limitations. First, because it's being conducted in a relatively small number of districts, it can't provide strong evidence that Riders can successfully expand on a large-scale. Second, we cannot say with certainty that Riders would have a similar impact under different conditions (i.e., there is low generalizability).

Process Evaluations to Provide Evidence of Scalability
To show that Riders can successfully scale-up, process evaluations will be conducted as Riders expands into new locations, assessing if the programs are operating as intended (i.e., they have been successfully implemented in a new province/country). Riders produces detailed program records to answer questions related to program coverage, organizational efficiency, staffing, and other key process measures.

Impact Assessments in Strategic Locations and/or Conditions
To demonstrate that Riders can produce similar results under different circumstances (i.e., generalizability), quasi-experimental impact assessments that rely on higher-level data will be conducted in strategic locations. The smaller-scale quasi-experiment answers the question: Does Riders improve key logistics and health outcomes? Hence, future assessments will focus on showing whether Riders can produce a similar pattern of results; this does not require such detailed data.

Empirical evaluation studies can demonstrate Riders' impact under a specific set of conditions (specific regional characteristics, unique terms and conditions, etc.). But, the effect of the Riders program is likely to vary depending on regional characteristics (typology, population, infrastructure, health work force, fleet size etc.), business model utilized (e.g., terms and conditions of loans, who donates a fleet, incentives provided to key players), and the condition of the existing fleet. Using the data from the empirical evaluations as a starting point, we plan to develop a robust model that includes these parameters and can predict Riders' impact under different conditions. This type of analysis can help Riders successfully scale-up in new countries, reducing the possibility of large-scale failures.