Background and motivation:

Family health challenges, such as infant mortality, fertility, malnutrition and lack of immunization, plague large parts of our planet. For instance, in 2013, the UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UN DESA Population Division) at childmortality.org estimated that for every 1000 births, 20.3 babies out of every 1000 were lost at birth. More than six million children die around the time of birth per year, largely in underdeveloped and developing countries. Most of these deaths are attributed to events that occur during or shortly after delivery. While the death rates have fallen, they are still ten times higher in countries from the Global South such as India, as compared to those in high-income countries.

Thanks to decades of medical research, clinical trials and pilot studies, funded by billions of dollars from agencies such as the United States Agency for International Development (USAID), and private foundations such as Bill and Melinda Gates foundation (BMGF) we now have access to a wide variety of highly effective and inexpensive “technical” interventions to address these health challenges. For instance, there is compelling evidence shown that chlorhexidine is an effective tool to combat the problem of neonatal mortality. Results of a randomized controlled trial by Mullany and colleagues published in 2006 in the journal *Pediatrics*, demonstrated 24% lower mortality among those randomized to chlorhexidine than those in the control group. Replication trials continuously have proved chlorhexidine’s potential.

The challenge then is to scale the adoption of these interventions among health workers in these countries. In 2013, the Bill & Melinda Gates Foundation (BMGF) began to explore the potential of social networks to help implement these changes. Specifically, how could social networks help influence health workers to adopt these changes? This would require mapping the informal social networks among health workers as well as identifying their attitudes towards, and their use of family-health technical and management interventions. BMGF approached a team of researchers to develop a dashboard that would demonstrate the potential of social networks to implement these changes. The BMGF has been partnering with governments in countries such as India. They stood up an organization called the Technical Support Unit (TSU) to help the government implement interventions to support healthier practices (Bihar Technical Support Programme initiatives). These interventions fall into two categories: (1) technical interventions that leverage techniques derived from clinical trials and research and (2) cross-cutting solutions interventions.

Now, you are Randhir Kumar, a block manager in Muzaffarpur. Muzaffarpur is a scale-up district that needs to be influenced to promote innovation. You would like to reach out to a persuader, either affiliated to the TSU or in a nearby innovation district, to send a message to a local influencer in Muzaffarpur to promote the innovation of maternal and newborn health in your own district. You are now using the developed dashboard to identify a local influencer and a persuader, and then determine what message to be sent from the persuader to the local influencer.
How to use the dashboard:

Setup:
- Go to the dashboard: tsudb.soc.northwestern.edu.
- Enter the passcode: tsuindia
- Navigate to the “New Query” in the menu at the top
- Start entering your name and select: Randhir Kumar - Muzaffarpur, Block Manager

Webpage #1:
- Which district would you like to influence? Select “Muzaffarpur”
- What is the nature of the innovation? Select “Maternal and newborn health”
- Do you know whom to persuade in the district? Select “No”

Webpage #2:
- Now you see a list of the most influential individuals (i.e., local influencers) in the selected area in the selected district.
- Based on the impact score %, click on a person that you would like to influence.
- In the pop-up window, click on “Recommend Persuaders.”
- You will then see a list of people who can persuade (i.e., persuaders) the local influencer in Muzaffarpur about maternal and newborn health.
- The confidence score means the extent to which the potential persuaders are to persuade the local influencer. The higher the confidence score, the more chance the persuader has to persuade the local influencer.
- Click on one of the persuaders and look into factors contributing to the confidence score, factors contributing to the impact score of the local influencer, and potential messages to be sent by the persuader to the local influencer.

Breakout room questions (Please use the state map on Page #3 as a reference):

- Local influencer: Who is the person in the Scale Up district (i.e., Muzaffarpur) you would like to influence others to implement change?
- Persuader: Who is the person in the Innovation district or affiliated to the TSU to persuade the local influencer in the Scale Up district (i.e., Muzaffarpur)?
- Message: What message should be used by the persuader in the Innovation District to persuade the local influencer in the Scale Up district (i.e., Muzaffarpur)?

Sample Answer:

- Randhir (You) would like to reach out to the local influencer, Yogendra Ram, who has an impact score of 60.72%. In order to persuade him to promote the innovation of maternal and newborn health in Muzaffarpur, you want to reach out to the persuader, Manish Manjul (with a confidence score of 65.95%), to send a message that conveys the rationale of transparency to Yogendra.
Notes: 11 Scale up districts (dark grey) and 8 Innovation districts (light grey) are part of the (Ananya) project. Observe that the innovation districts were central/core and contiguous and scale up spreads outward in all directions in a centrifuge mode.