1. **Introduction:**
Staff in Zonal Hospital, Mandi wanted to do a better job of identifying and managing women with high-risk conditions during antenatal care visits. They decided to measure one outcome measure and two process measures:

- **Outcome measure**
  - % of women attending the clinic who were identified with high-risk conditions

- **Process measures:**
  - % of women attending the clinic who had their blood pressure measured and recorded
  - % of women attending the clinic who had their hemoglobin measured and recorded

2. **Background:**
Zonal Hospital, Mandi is a tertiary care 300-bedded hospital. The improved team included a medical officer, a nurse-midwife supervisor and three nurse-midwives. The antenatal clinic was a single room just off the hospital’s outpatient department. It was open one half-day a week and was staffed by five nurses who saw an average of 50 patients a day. They were not happy with the care that they were providing. Only 1.4% of women who came to the clinic were identified as having a high-risk condition (the literature suggests that 10-15% of pregnant women will have a high risk condition requiring additional investigations or care). This was because on average only 69% and 42% of women had their blood pressure and haemoglobin measured respectively and this varied considerably week by week. They realized that their current system was very disorganized. All nurses were supposed to carry out all antenatal care activities and there was no queue system. This meant that women had to wait a long time for care and complained. Because of this nurses would sometimes skip different aspects of care. This meant that not all women received the care that they should receive.
3. Testing Changes:
To try to fix the problem, the staff decided that they would assign specific tasks to specific staff and set up a queue system.

- **Change 1:** Assign specific tasks and set up a queue system
  - **Test 1**
  - At the end of one clinic day the team sat and came up with a plan listing all the crucial activities that should happened during an ANC visit, they then assigned them to different staff members and determined the order that women would move from nurse to nurse.
  - They reorganized the room to set up stations for each nurse with all the equipment they required and did a mock walk around between stations to see what it would be like for patients to be in this new system.
  - While doing the mock walk it became clear that not all nurses were sure what to do for the tasks at their station

- **Change 2:** Job-specific training
  - The medical officer reviewed with each nurse the care that they should provide at their station and provided training as required

- **Change 1:** Assign specific tasks and set up a queue system
  - **Test 2**
  - After training, the team was ready to try the new system with patients. They decided to try it for one day to see if patients would follow the queue system, identify if there were any stations that had too much work.
  - When the team met at the end of the testing day the realized:
    - One of the stations had too much work and always had a queue
    - The last station referred women to the laboratory for hemoglobin measurement but most women did not come back to get their results so women with anemia were not getting treated
  - The team decided to refer women to the laboratory during the registration step so the result would be ready when they arrived at the last station where management decisions were made. They didn’t make any other changes and decided to see what happened with the station that had had too much work the first day.
  - **Test 3**
  - With the second re-organization they realized that moving the laboratory to the start of the visit helped identify women with anemia
  - They decided to go ahead and reallocate tasks from the busy station to another station
  - **Test 4**
  - The reallocation helped the busy station but made another one too busy so they decided to reallocate again
  - **Test 5**
  - This worked well. The different stations took roughly the same amount of time and the nurses and patients were happy with the new system.

4. Time Series chart:

These changes led to big improvements in both process and outcome measures.
5. **Questions to be asked to case participants:**

What are the different changes?
What happened during the changes?
What are the different contextual issues which affected the improvement?
What are the different expectations that stakeholders have?
Any other questions you feel will help the reader understand the improvement intervention.
These questions should lead to the conclusion that improvement is not only about what we are doing, but how we are doing and how the intervention interacts with the context.