Figure 3: Flow diagram of SMS messages for the intervention group

**Example 12-hour shift (Intervention Strategy Messages)**

- **15 mins**: Intervention subject receives same text message queries as does the Control Group subject. (i.e., How many hours did you sleep in the past 24 hours?)
- **4 hrs**: Intervention subject will receive additional text messages if he/she reports a high-level (4 or 5 on 0-5 scale) of sleepiness, fatigue, or difficulty with concentration at either of the Start of shift or During shift scheduled text queries.
- **8 hrs**: Additional text messages include the following:
  - No Joke – Being very sleepy or fatigued on duty can increase your risk of injury
  - (e.g., 4 or 5 reported on 'Sleepiness Now' query)
- **11 hrs 45 mins**: One of four strategy messages sent at random
  1. If you can, take a short 20-30 minute nap on duty
  2. Try drinking a caffeinated beverage like coffee to stay awake
  3. Try doing some stretches or other exercise to stay alert
  4. Stay alert by talking to your partner when work is slow

**Flow Diagram:***

- **During your shift, did you take a nap, drink caffeine, stretch or exercise, OR talk to your partner to stay alert?**
  - **Yes**
    - **Good For You! What strategy did you adopt?**
      - **Subject describes**
      - **Did it help reduce your fatigue or sleepiness?**
        - **Yes**
        - **No**
  - **No**

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- **Same text queries as the control group [i.e., How many hours did you sleep DURING your shift? (Example, 0 hours)].**
- **If subject did not receive an intervention message at start of shift, and reports high level of fatigue During shift, he/she will receive an intervention message.**
- **Additional text queries ask about adoption of an intervention strategy and if adopted, did it work/help.**

Intervention subject continues to answer the same text queries as the control subject. (i.e., How difficult is it to CONCENTRATE now (0-5)....)