TackSHS

Tackling secondhand tobacco smoke and e-cigarette emissions: exposure assessment, novel interventions, impact on lung diseases and economic burden in diverse European populations

Measuring for change

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 681040

Problems with current air quality feedback interventions

- Didn't work for our target group!
  - Some participants simply couldn't make the necessary changes due to lifestyle factors
- Labour intensive to deliver
  - Need to simplify method to reduce number of visits
- Time delay between measurements and feedback
  - Complexity means that feedback can be up to 14 days later

Our aims

- To test the feasibility of using internet-connected air quality monitors to record air quality information and upload it for use as part of an educational intervention on the effects of smoking on household air quality.

- To test the feasibility and effectiveness of a smoke-free homes intervention that combines air quality feedback with rapid, remote feedback in deprived populations in four European countries

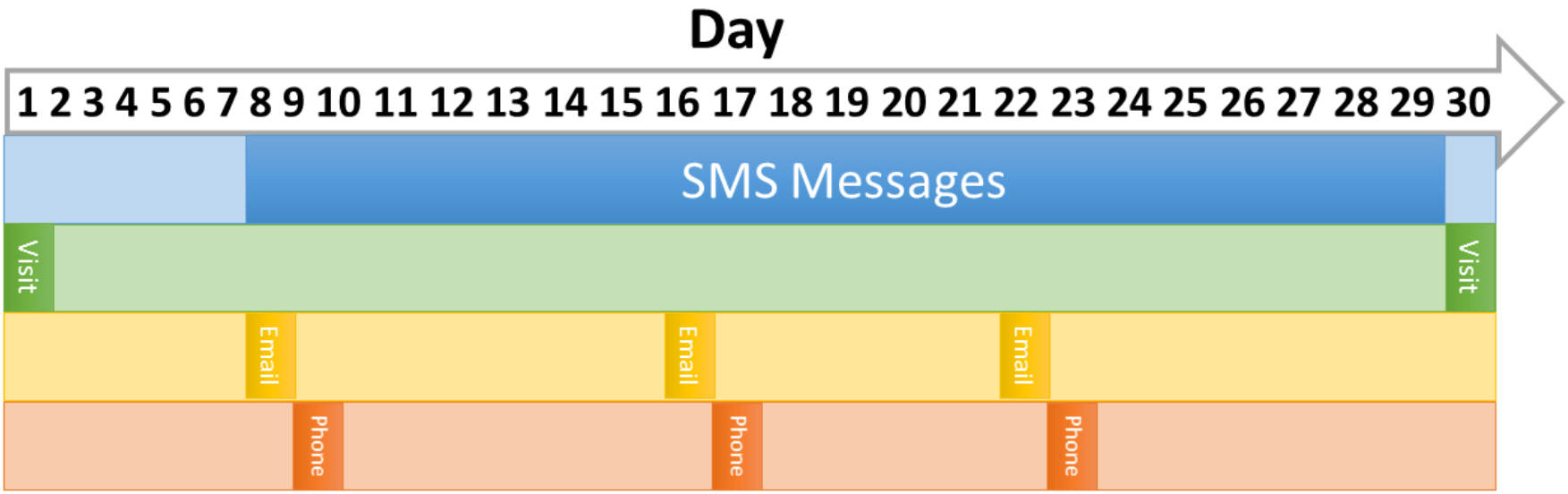
Who are we targeting?

1. Adult who smokes inside their home on a daily basis.
2. Takes care of children in their home once a month or more
3. Lives in 40% most deprived households in their country
4. Does not plan to move home in the next 2 months
5. Believes that creating a smoke-free home within the next 2 months is a realistic action to take
6. Is at the contemplation, preparation or action stage regarding having a smoke-free home
7. Has a personal mobile phone, email address and some form of regular access to the internet (including by smartphone)

A new monitor: Foobot

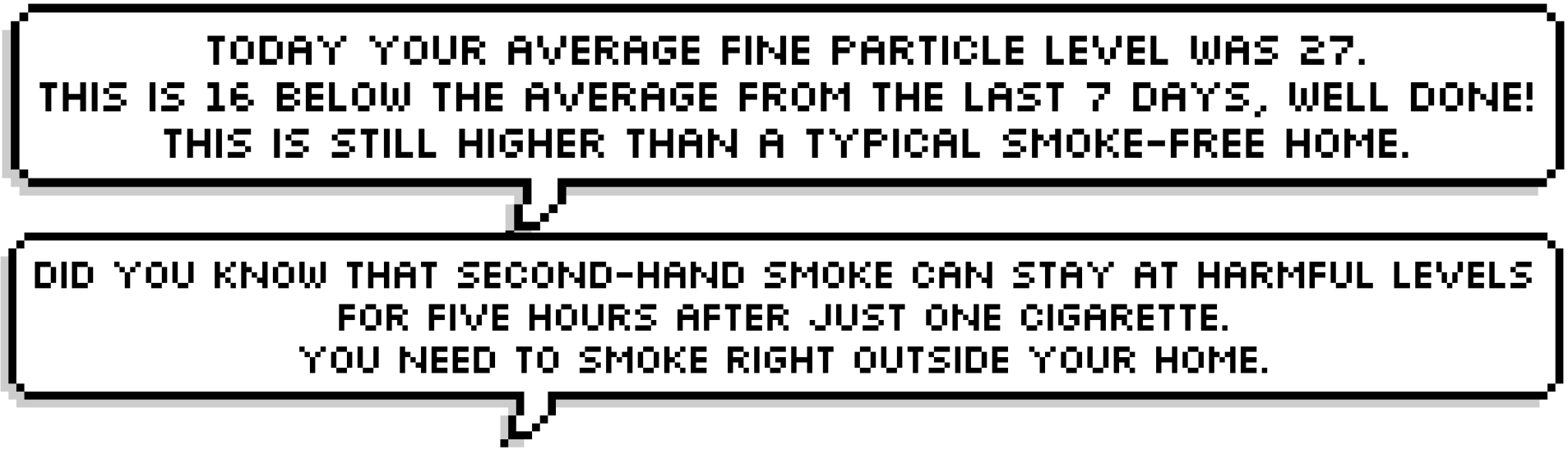
- New technology developing very quickly
- Optical particle counter
- Response similar to Dylos
- Also measures temp, humidity and VOCs
- Transmits 5-min averages over household WiFi
- Provides ability to provide study participants with near real-time feedback

A new study design



- Measure for 30 days
- Primary outcome is $PM_{2.5}$ concentration on day 24-30 compared to baseline (day 1-7)
- Two household visits (day 1 and 30)
- Daily text messages from day 8-29
- 3 emails (day 8, 16 and 22)
- 3 phone calls (day 9, 17, and 23)

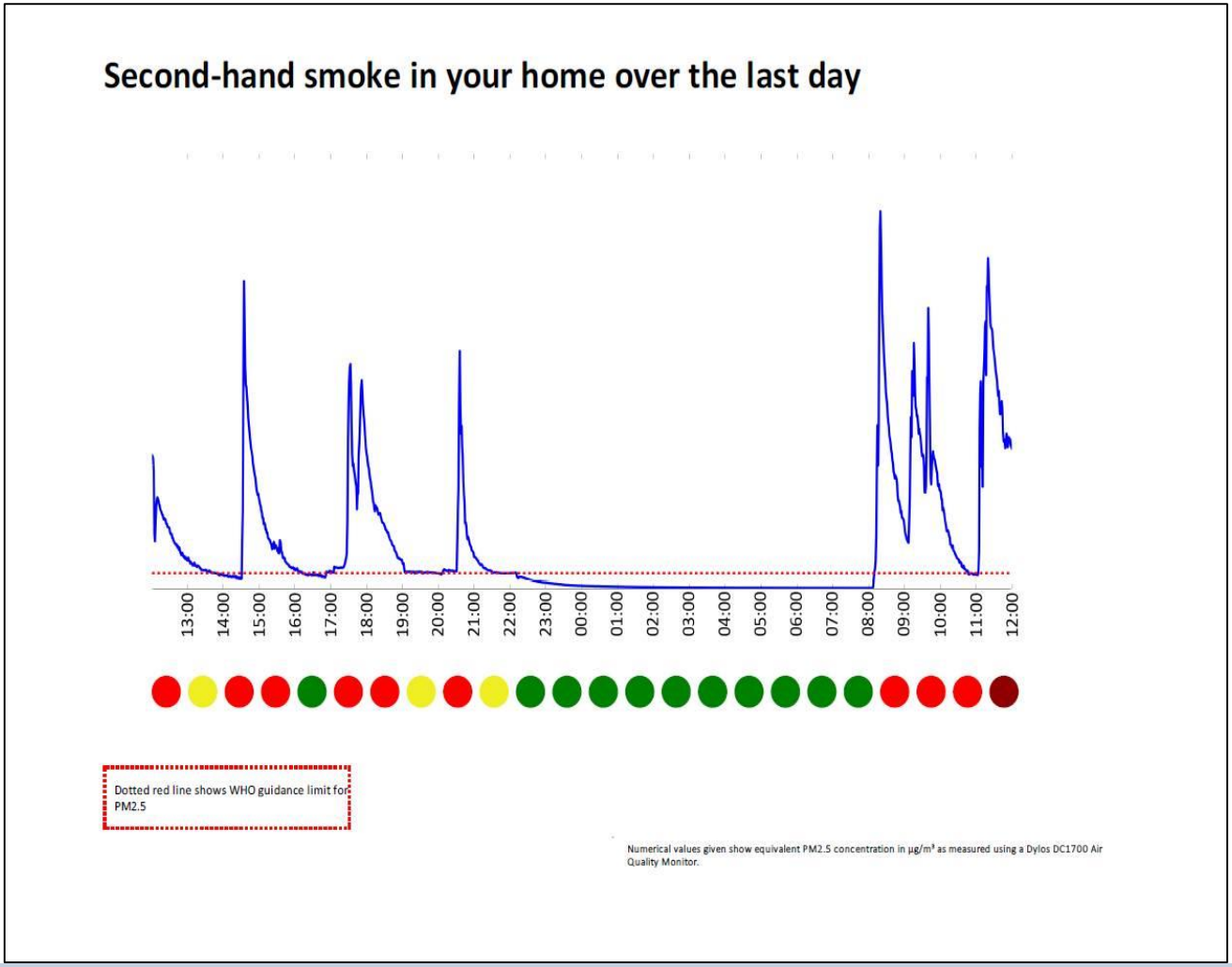
Participant text feedback



Daily text to participant providing

- Average levels from previous 24h
- How does that compare to last 7 days
- Is it higher or about the same as a typical smoke-free home
- Plus some follow-up advice/information

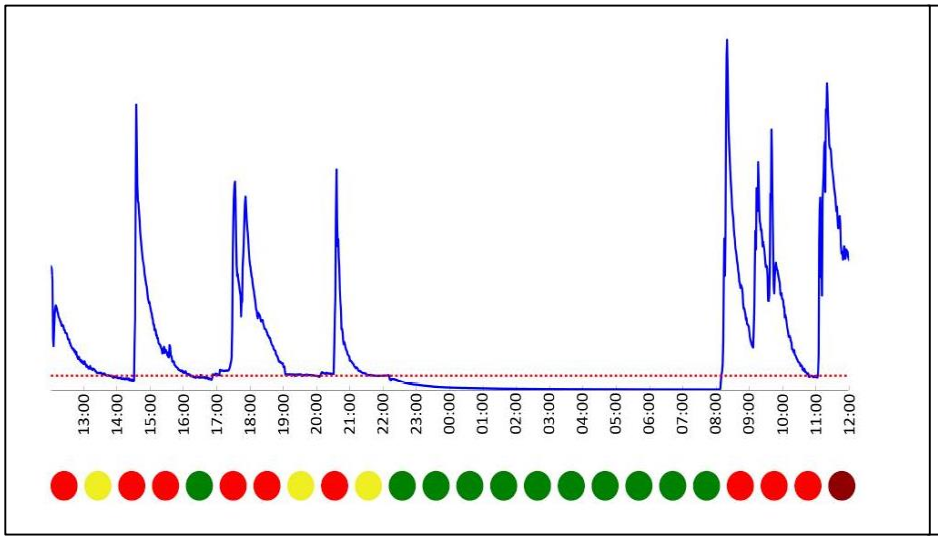
Participant email and phone feedback

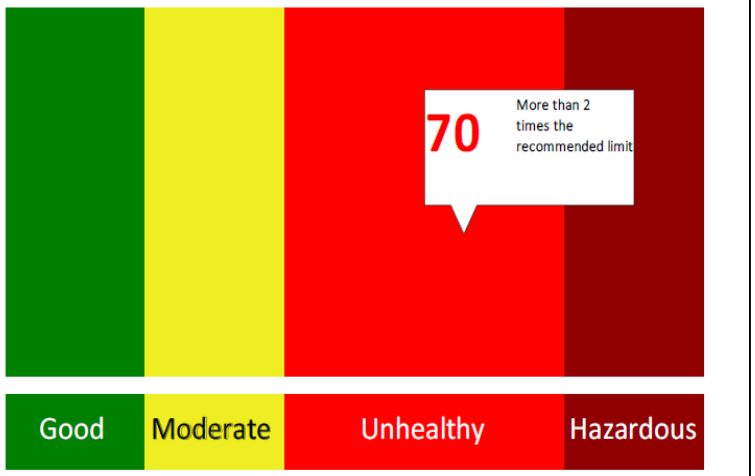


- Email with graph of previous 7 day measurements
- Followed up with phone call - combined with AFRESH module guidance

TACKSHS WP4 protocol – feedback generation

- Text feedback will be partially automated, with texts generated by computer, approved/altered by a researcher, then sent by software
- Email feedback will be generated automatically using previously developed software and visualisations



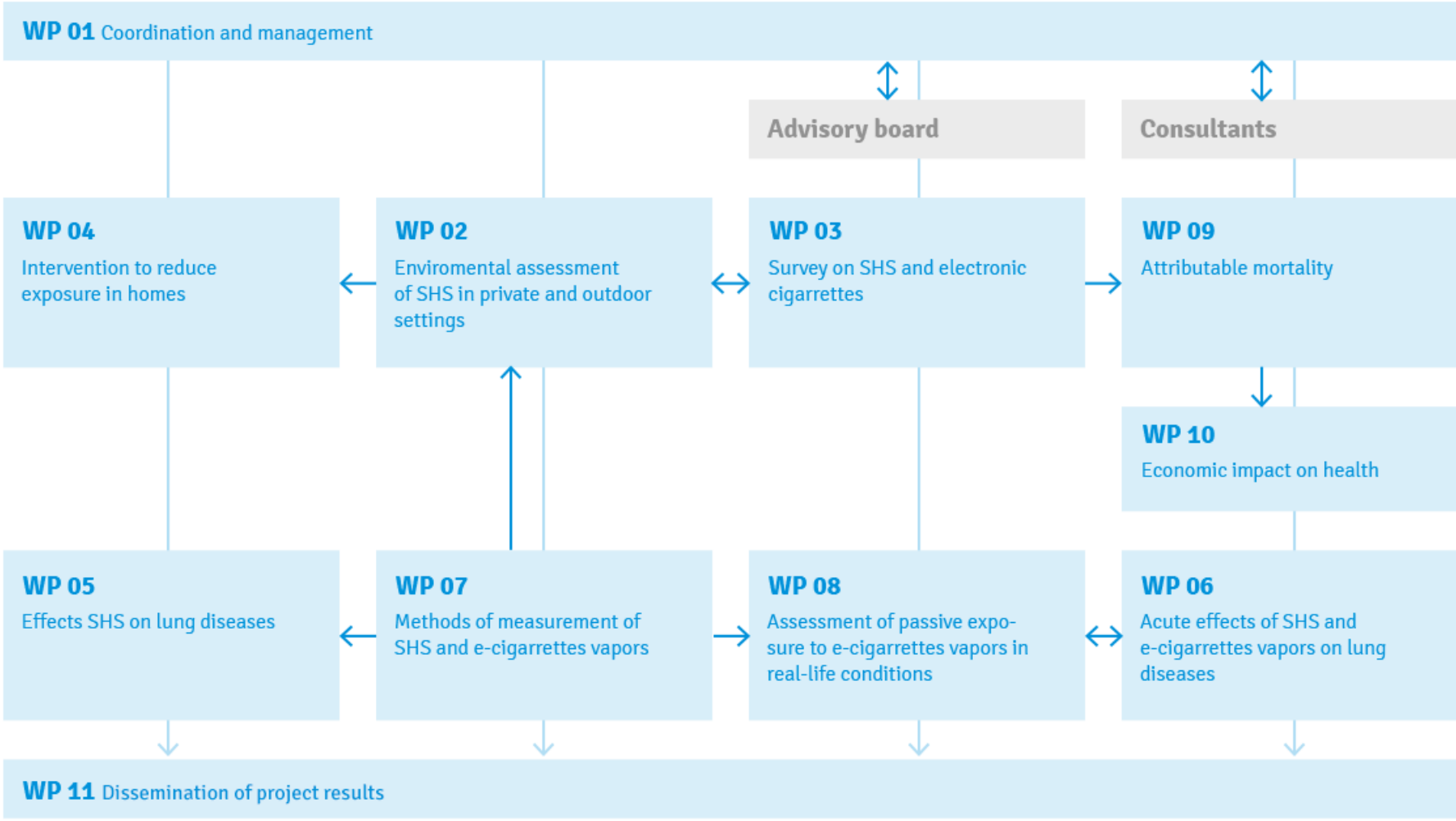


- Records of this feedback will be stored on a secure network drive and displayed when a researcher is contacting a participant

What does this mean for practitioners?

- If you are using air quality monitoring in your practice and you're getting the results you want, that's great!
  - But be aware of the results of FS2SF and be sure that you're happy with your own monitoring of any projects you're running
- This is a study, not a conclusion, so don't feel like you have to run out to buy a bunch of Foobots!

Other work packages



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www.tackshs.eu

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How it works

- The Foobot connects to an available wireless network, set up using an app (available on Android or iOS)
- The Foobot has no battery or internal memory
- The intervention relies on an available wireless internet connection
  - In homes where this is not available, we will supply a personal WiFi (MiFi) mobile hotspot
    - Only the Foobot will be able to connect to it!