
Survey Practice Forum 3 – October 1, 2024

Digitising the Diary Component of the English National Travel Survey

England National Travel Survey (NTS)

One of the UK Department for Transport's flagship statistical series

Started around 1965, data has been collected annually since 1988.

Collects data on the who, how, why and when of personal travel

- **Only source of data** on this topic for England
- Focus on users of transport, what is actually going on, how people behave
- Important resource for transport modellers, academics and consultants

The collage consists of three overlapping images. The top image is a screenshot of the GOV.UK website, specifically the 'National Travel Survey 2022: Key findings' page. The middle image is a tweet from DfT stats (@DfTstats) dated August 28, which includes a Sankey diagram titled 'Flow of travel by mode for multi-modal trips recorded on day 1 of the travel diary'. The bottom image is a screenshot of The Guardian newspaper's front page, dated August 31, 2024, featuring a headline about the NTS showing a shift in travel behavior.

GOV.UK
Home > Transport > Transport planning > National Travel Survey: 2022
Department for Transport
National statistics
National Travel Survey 2022: Key findings

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@robinlovelace
This is a beautiful and informative visualisation of data. If anyone asks about the difference between transport trips and stages, you can now show them this!

DfT stats @DfTstats · Aug 28
6% of trips used more than one mode of transport, and around two-thirds of these multi-modal trips started with walking (60%) and were followed by public transport modes #NationalTravelSurvey #England
gov.uk/government/sta...

Flow of travel by mode for multi-modal trips recorded on day 1 of the travel diary
Data produced by the Department for Transport

The Guardian UK
News Opinion Sport Culture Lifestyle
UK UK politics Education Media Society Law Scotland Wales Northern Ireland
Transport
People in England driving more, cycling less and walking further, survey shows
Department for Transport's annual travel poll shows car or van trips up 8% as Covid-era shift to cycling fizzles away

England National Travel Survey (NTS)

Design:

Household-level survey

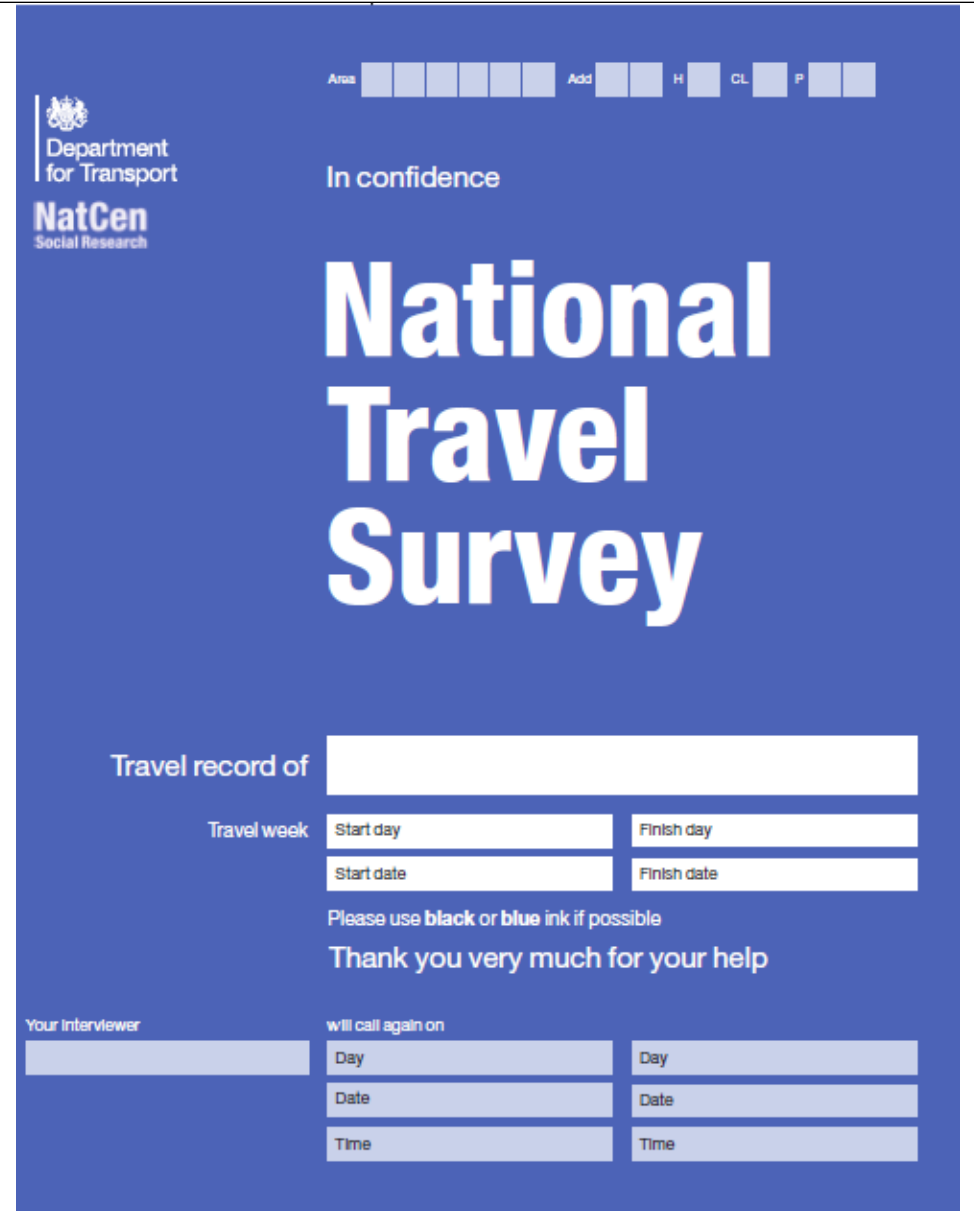
Components:

- 1) A face-to-face and CASI interview (household composition, personal characteristics, attitudes, experiences...)
- 2) A 7-day travel diary (travel behaviour)

Travel diary:

Traditionally administered on paper

→ Transition to online mode in 2025



Area Add H CL P

Department for Transport

NatCen Social Research

In confidence

National Travel Survey

Travel record of

Travel week

Start day	Finish day
Start date	Finish date

Please use **black** or **blue** ink if possible

Thank you very much for your help

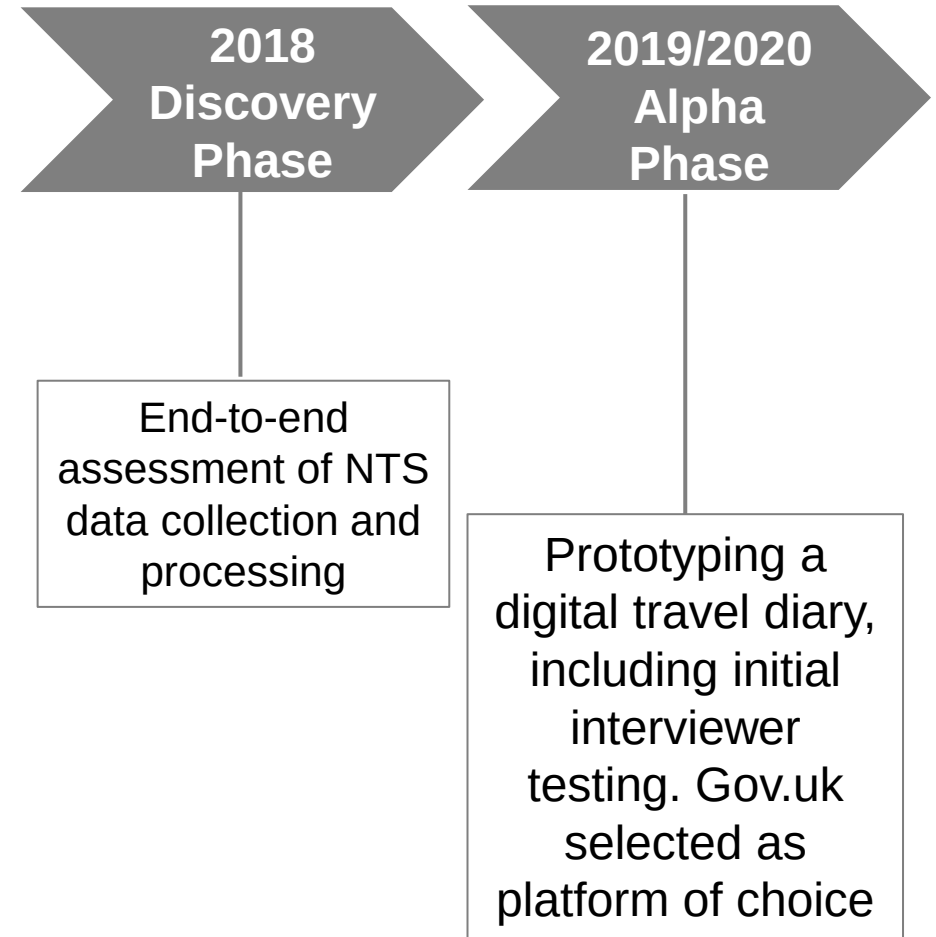
Your interviewer

Will call again on

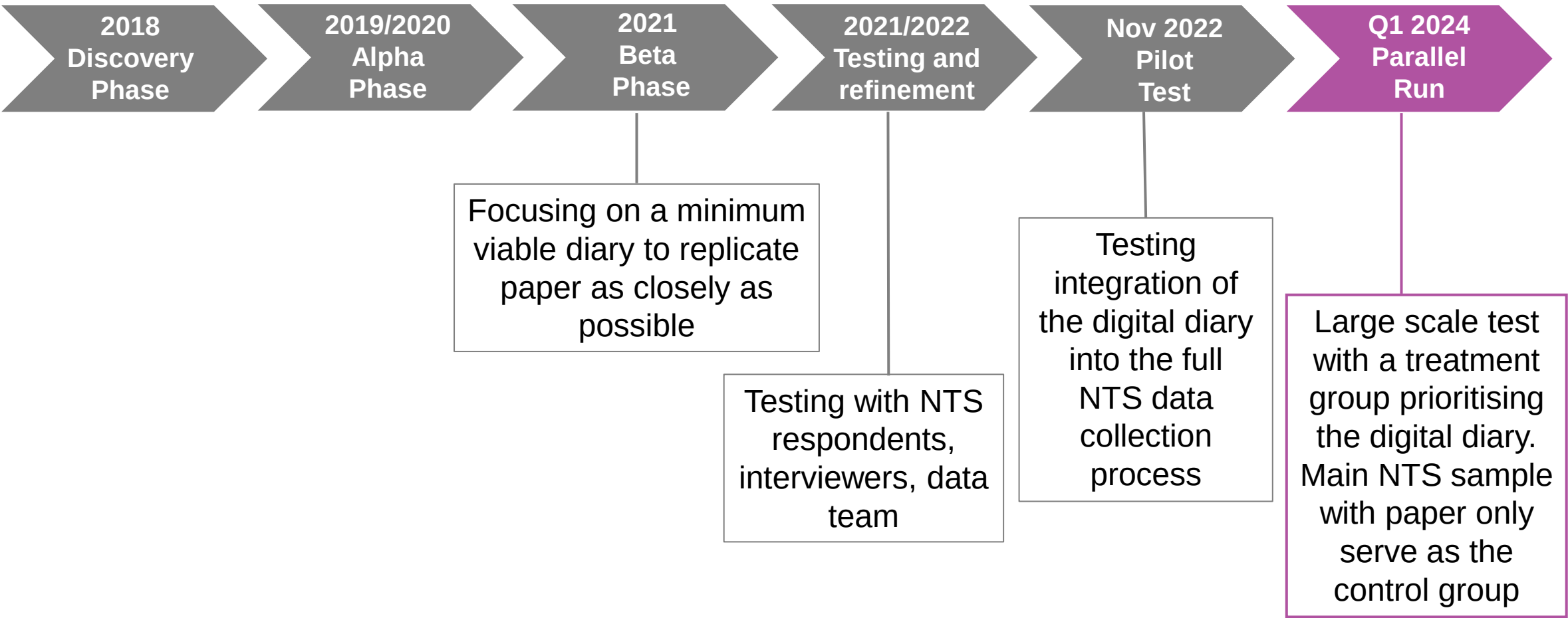
Day	Day
Date	Date
Time	Time

The drive to digitise

- General UK Government drive towards digitisation
- Costs of face-to-face fieldwork
- Declining response rates in the 21st century
- Risks from shock events



Digital diary development



Change in a complex process: reflections

- **Digital world v analogue world**
 - Technical
 - how to create a data collection tool that collects ‘the same data in the same way’ and meets modern digital requirements (security, information assurance, accessibility)
 - how two different systems interact with each other – new bespoke system v older bespoke system based on Blaise
 - Cultural
 - A new component in a well-established system; new ways of working and new learning

Change in a complex process: reflections

- **Navigating relationships with two delivery partners**
 - Contrasting project management styles, agile vs established and fixed delivery routines
 - Establishing a rhythm that works for all
- **The importance of engagement and buy-in**
 - The right people at the right time

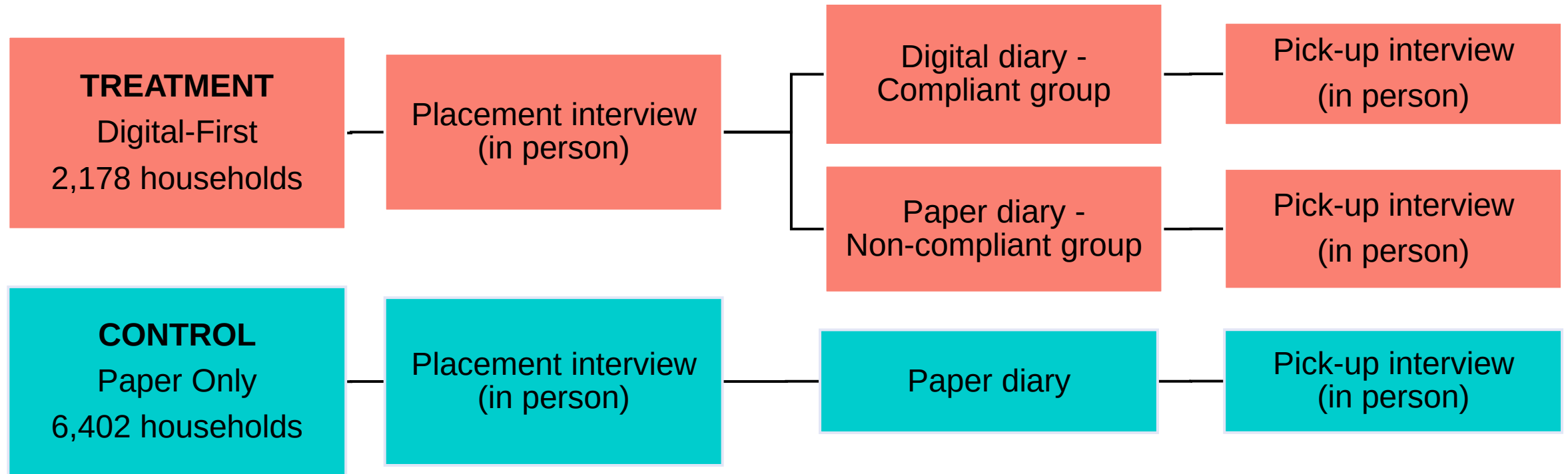
Change in a complex process: reflections

- **The appetite for risk and the value of certainty**
 - Potential impacts and consequences – what do we expect to happen? What are we prepared to accept? Red lines?
 - Creating a safe environment where all parties can bring ideas – collaborative approach
 - Clear lines of responsibility and accountability

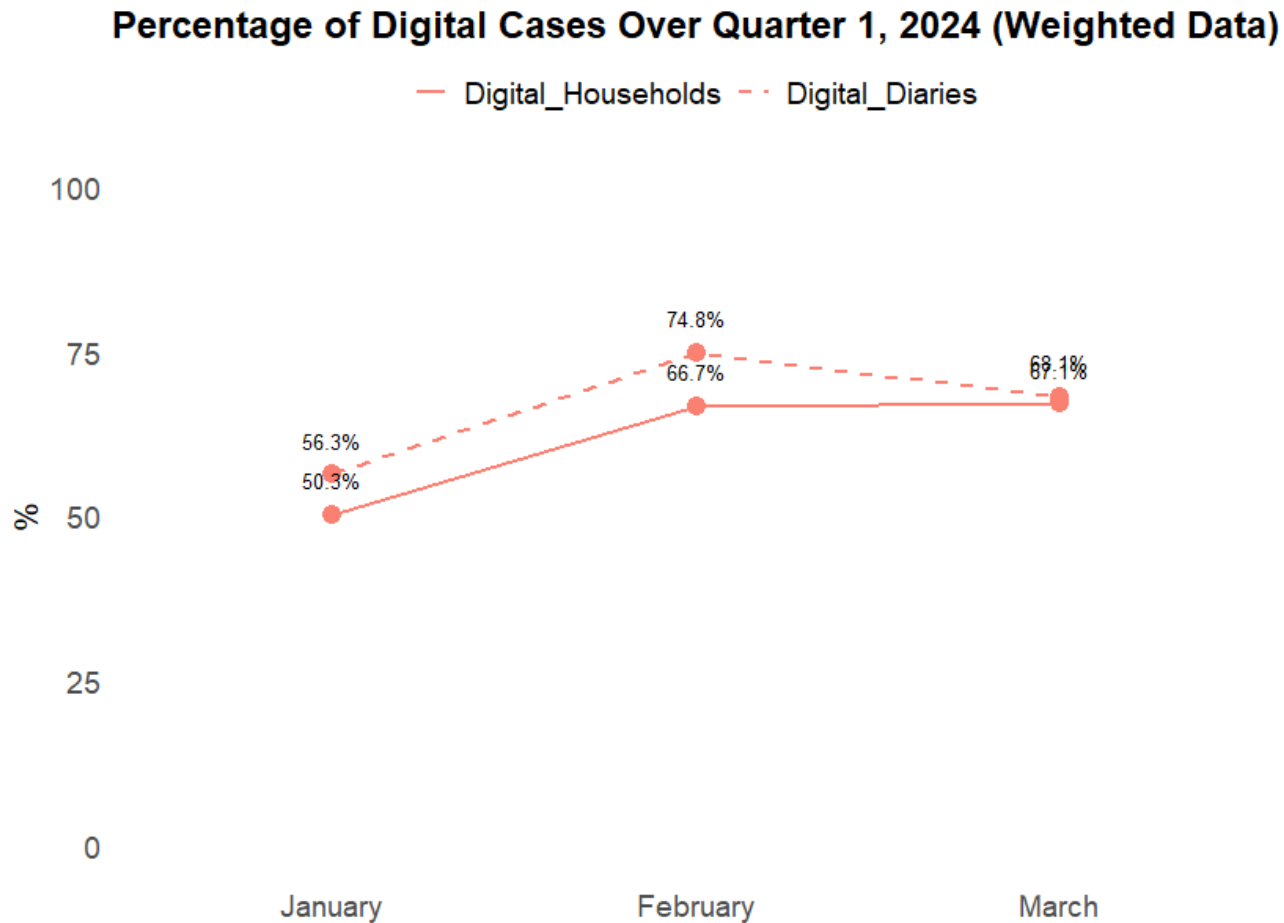
Change in a complex process: reflections

- **Importance of research and testing – digital and analogue**
 - Digital learns from analogue, analogue learns from digital
 - Digital-style testing with real users (return repeat share)
 - Traditional research-based feedback and testing
 - Tests and trials grow in complexity over time, always learning and refining
 - Allowed us to build a successful tool that is well understood by a growing pool of users
 - Builds confidence in something that is very new

The Digital Diary Parallel Run (Jan. – Mar. 2024)



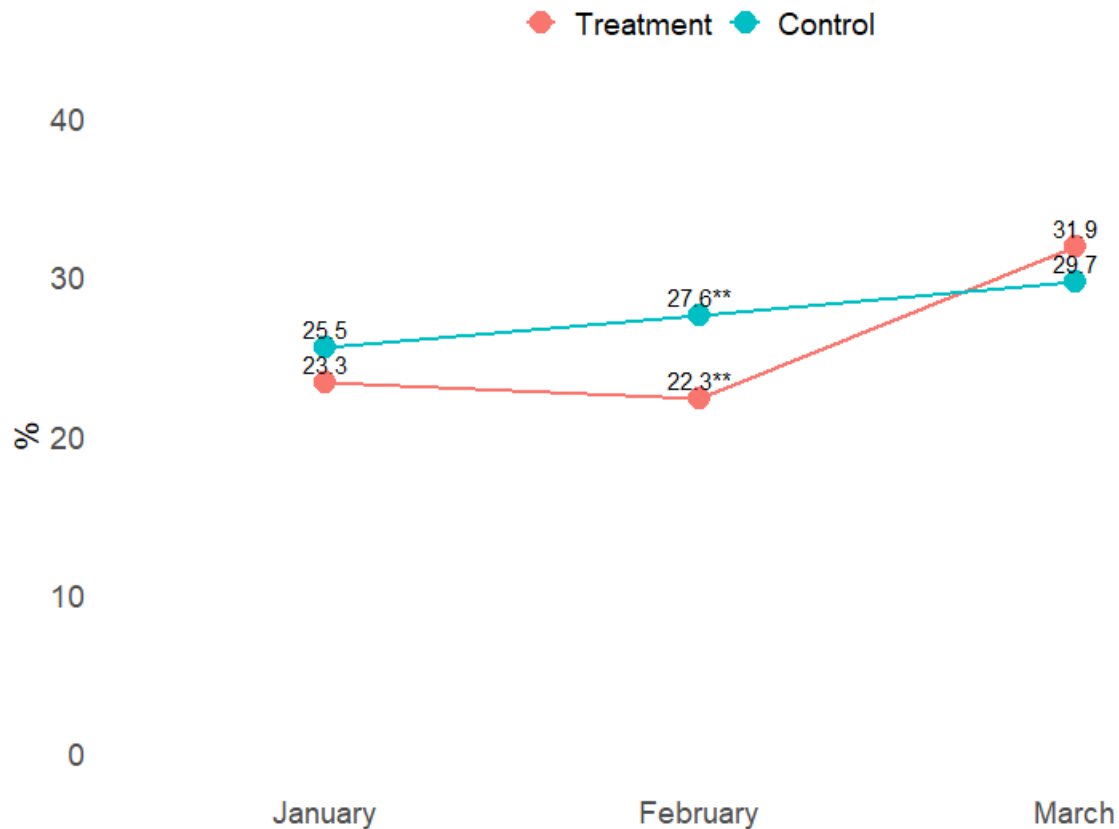
How Was Digital Adoption?



- The proportion of households with at least one digital diary was 62% over the quarter, with two-thirds of all diaries being digital.
- Digital completions improved after the first month and remained stable in February and March.

How Do Response Rates Compare Between the Digital-First and Paper-Only Groups?

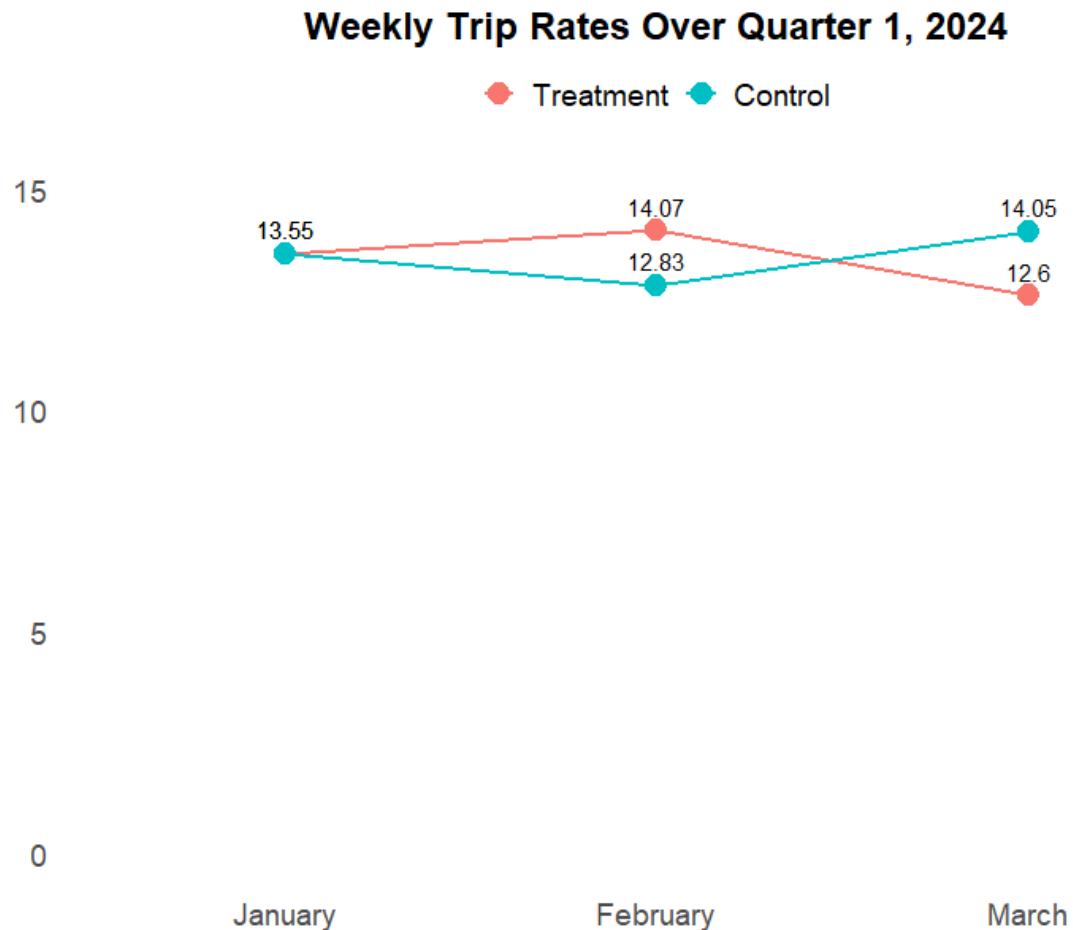
Fully Productive Households Over Quarter 1, 2024



** Indicates a statistically significant difference between groups ($p < 0.01$)

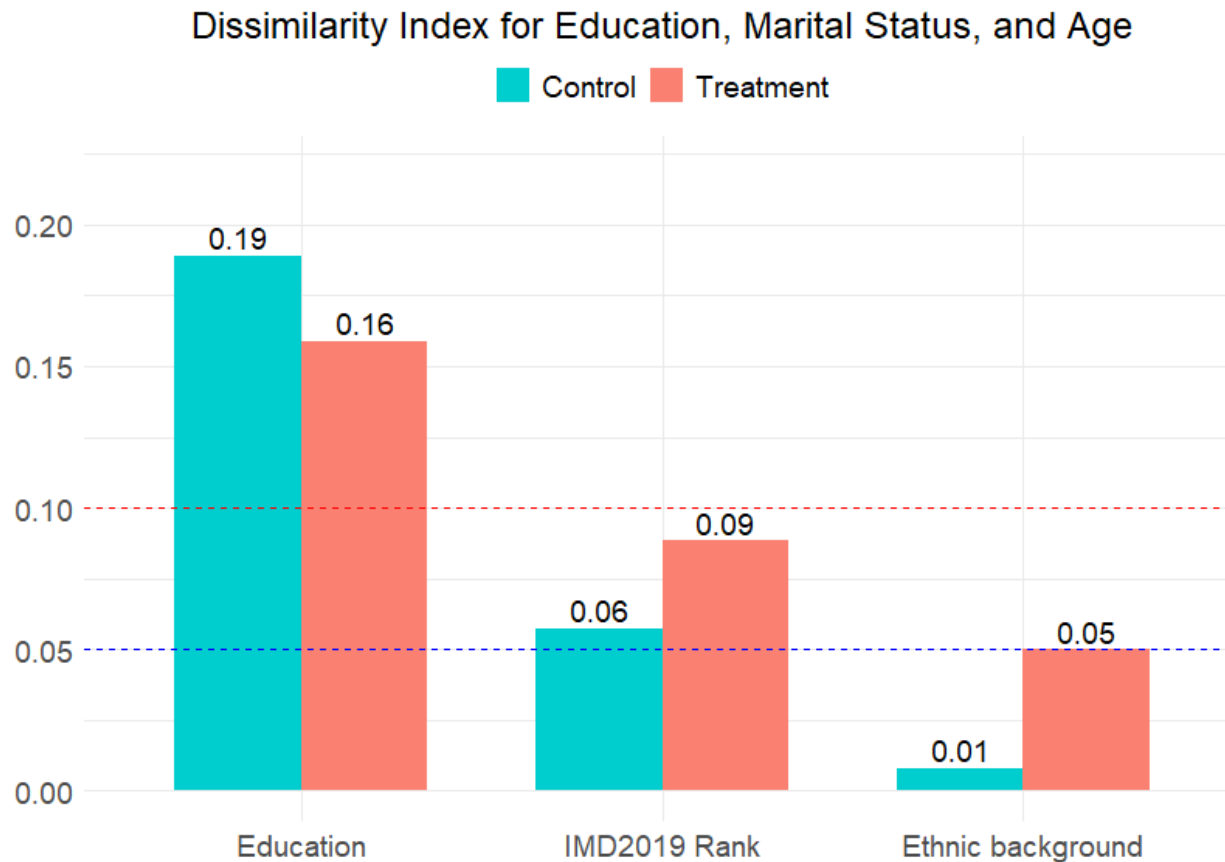
- Response rates were broadly comparable between households exposed to the digital-first and paper-only approaches, suggesting that the introduction of the digital-first approach did not have a detrimental effect.
- Over the quarter, the proportion of fully productive cases was comparable between the groups (26% for the treatment and 28% for the control, $z = -1.49$, $p = .14$).

How do Key Travel Metrics Compare Between the Digital-First and Paper-Only Approaches?



- Over the quarter, the treatment group yielded an average of 13.28 trips per week, slightly lower than the control group's average of 13.55.
- While there are small differences between the groups, the month-to-month variation in trip rates indicates no clear evidence that the digital mode under- or over-reports trips compared to the paper-only approach.

How Does the Sociodemographic Profile of Respondents Vary Between the Digital-First and Paper-Only Approaches?



A d value of 0.10 or less represents "good" agreement, while a value of 0.05 or less suggests "very good" agreement.

- The largest misalignment occurred in education, where the treatment group performed better than the control group ($d = 0.16$ vs. $d = 0.19$).
- For household-level variables, the control group better represented the most deprived areas ($d = 0.09$ vs. $d = 0.06$).
- Race distributions were closely aligned with benchmark data, but the control group outperformed the treatment ($d = 0.01$ vs. $d = 0.05$).

Conclusions

- 1) **Comparable response rates:** Across the quarter, the response rates for both digital-first and paper-only approaches were broadly similar, with no significant differences in the proportion of fully productive households (26% for treatment vs. 28% for control).
- 2) **Similar estimates:** Key estimates including weekly trip rates, no travel rates, transport modes or distances were very similar between the groups, suggesting no systematic under- or over-reporting of trips.
- 3) **Similar sample profiles:** While the treatment group better represented education levels in the population and the control group better represented deprived areas and non-White individuals, sample profiles were similar across a wide range of household and individual-level variables.

Thanks!

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