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Linked Admin Data for Survey Sampling: A Theoretical Cost–Quality Comparison

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Background: Growing pressure on UK surveys

- Response rates down
- Costs up
- Demand for more timely, inclusive and granular data



The problem

- No UK population register
- UK relies on address-based sampling for general population surveys
- Limited person-level information
- Limited use of administrative data in survey design

What is the Reference Data Management Framework (RDMF)

- A centralised infrastructure developed by the ONS
- Designed to support secure and consistent linkage of admin data
- Four linked indexes:
 - Demographic
 - Business
 - Location
 - Classification
- Potential value for surveys lies in enabling more systematic and scalable use of linked administrative data

Could the RDMF transform how we design and conduct surveys?

The Demographic Index is not suitable for sampling of individuals

- Architecture doesn't support sampling
- Coverage gaps & lags
- Linkage quality not fully understood
- Governance & access constraints

The clearest opportunity is the Location Index for address-based sampling

- Better coverage than PAF
- Fewer ineligible cases
- Better visibility of general population living in communal & institutional settings

Possible linkage of person-level admin data to sampled addresses

- More inclusive samples
- Better stratification
- Tailored fieldwork to reduce non-resp bias
- Replace survey questions with admin data
- Improve QA, data processing & weighting

What if the RDMF could provide a reliable population spine?

Current constraint	Counterfactual	What we test
PAF keeps survey design anchored to addresses, with limited person-level information	If RDMF could provide a reliable population spine, sampling, fieldwork and follow-up could be designed around individuals.	Use WNTS* to compare the current PAF-based design against a plausible RDMF-enabled design and recast the difference.

* WNTS = Wales National Travel Survey

WNTS – current & revised design

	PAF	Population spine
Sampling unit	Address first; respondent selected later	Named individual
Stratification	Area-level only	Individual-level admin data
Contact	Postal invitation to address	Postal invitation to named individual
Primary mode	Web-first with tel opt-in	Web-first with tel opt-in
Fieldwork	Generic contact; standardised protocol; within hhld selection	Personalised contact; targeted and tailored protocols
Follow-up	F2F for all non-responders	F2F for priority non-responders
Weighting	Post-fieldwork adjustment with limited auxiliary information	Richer calibration and non-response adjustment using admin variables

Quality implications

Quality dimension	Expected direction	Reason and caveat
Accuracy	Improves	Less within-household selection error; better stratification.
Credibility	Improves	Personalised contact and stronger adjustment may support robustness.
Comparability	Improves	Direct subgroup oversampling supports disaggregation.
Cost-effectiveness	Improves	Less universal face-to-face follow-up.

Relative costs: indicative savings

13%–29%

**lower relative cost
(indicative recosting)**

Main saving: less universal face-to-face follow-up; effort is focused where it changes outcomes.

Quality trade-off: the design targets known risk rather than compensating late in fieldwork.

Key uncertainty: web response and the practical quality of eligibility, address and contact data.

Bottom line

Clearest opportunity

Use the Location Index to improve address-based sampling and possibly linked individual-level data to improve fieldwork, QA, processing and weighting

Transformational scenario

A reliable population spine would enable named-sample design, targeted follow-up, richer weighting at a reduced cost.

Decision point

The gains are potentially significant, but depend on significant investment in the architecture and linkage quality, as well as changes to access and governance

Thank you

Publications at <https://surveyfutures.net/publications/>

- ONS (2026) **Reference Data Management Framework project - what is the RDMF?**
- Perrera, Nicolaas & Waugh (2026) **How could the Reference Data Management Framework improve survey quality?**
- Cornick (forthcoming) **Using the ONS Reference Data Management Framework: a cost-quality comparison**
- ONS (forthcoming) **Q&A on how the RDMF could potentially be used to improve the design and cost-effectiveness of the Transformed Labour Force Survey**

Rethinking the Role of Admin Data



- Admin data and survey data do different things
- Surveys remain essential — admin data cannot replace them
- Admin data can improve and support surveys

The fundamental question

How do we design an evidence system in which surveys and administrative data are mutually reinforcing - without sacrificing security, trust and legitimacy?

