

## Collaborative Discussion 1: Numerical Analysis

by Maria Ingold

### Initial Post

The fictional editor has found that Table 2 of Brown (1994) is:

- Difficult to understand
- Too much information
- Too large

The tasks are:

- Redo Table 2
- Present some findings using plots
- Reflect on the experience

### Redo Table 2

Brown's (Brown, 1994) Table 2 presents 24 statements on intrapartum care provision from 550 general practitioners (GPs). Each statement includes counts and percentage for: 'Agree', 'No opinion', and 'Disagree'. E.g. '124 (23)' for 124 out of 550 GPs, or approximately 23% of the sample.

### Split count and percentage

To simplify later calculations, I split count and percentage into separate columns. I discovered my percentage total did not match. For instance:

A duty should be placed on general practitioners to have in place arrangements for women to have a home confinement	92 (17)	46 (9)	398 (74)
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What I calculated:

Agree / 550	No opinion / 550	Disagree / 550	% TOTAL	Agree (%)	No opinion (%)	Percent Disagree (%)	TOTAL %
0.1673	0.0836	0.7236	1	17	8	72	97

After doing the bar chart, I now realise dividing by 550 was incorrect! However, the paper indicated 550 respondents, without clarifying.

### Determine grouping

Grouping qualitative data after-the-fact is tricky. I grouped five to fifteen as recommended by Holmes et al. (2022). Some areas could be combined, whereas others included non-overlapping questions. In its entirety for the initial post, the top section is the grouped list from the full list below.

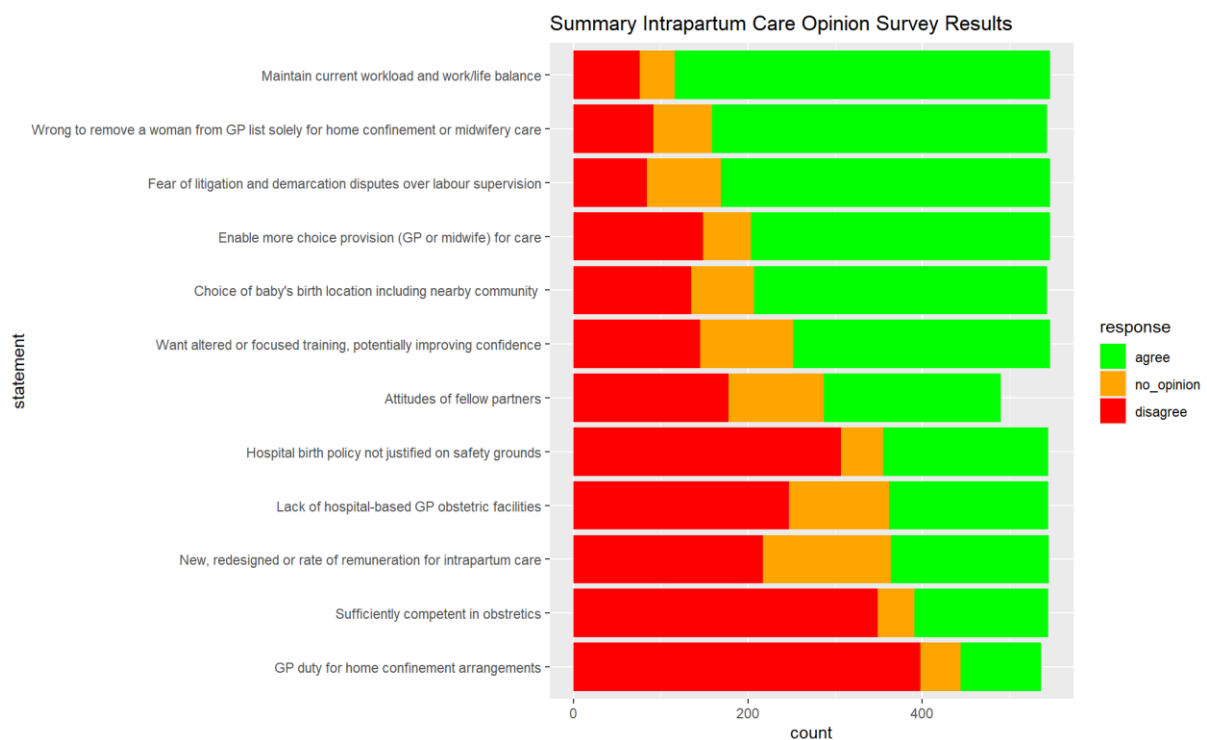
Line items	Category	Statement	Agree	No opinion	Disagree	Agree/55	No opinion/5	Disagree/5	% TOTAL
6, 18, 19	Remuneration	New, redesigned or rate of remuneration for intrapartum care	181	147	217	0.3291	0.2673	0.3945	1
8	Culture	Attitudes of fellow partners	203	109	178	0.3691	0.1982	0.3236	1
2	Capability & Training	Sufficiently competent in obstetrics	153	42	349	0.2782	0.0764	0.6345	1
3, 12, 24	Capability & Training	Want altered or focused training, potentially improving confidence	294	107	145	0.5345	0.1945	0.2636	1
21	Care pathway location	GP duty for home confinement arrangements	92	46	398	0.1673	0.0836	0.7236	1
4	Care pathway location	Lack of hospital-based GP obstetric facilities	182	115	247	0.3309	0.2091	0.4491	1
14	Care pathway location	Hospital birth policy not justified on safety grounds	189	48	307	0.3436	0.0873	0.5582	1
20	Care pathway location	Wrong to remove a woman from GP list solely for home confinement or midwifery care	384	67	92	0.6982	0.1218	0.1673	1
13, 22	Care pathway location	Choice of baby's birth location including nearby community	336	72	135	0.6109	0.1309	0.2455	1
10, 11, 15, 17, 23	Care pathway carer	Enable more choice provision (GP or midwife) for care	342	55	149	0.6218	0.1000	0.2709	1
5, 16	Legal and disputes	Fear of litigation and demarcation disputes over labour supervision	377	85	84	0.6855	0.1545	0.1527	1
7, 9	Workload	Maintain current workload and work/life balance	430	40	76	0.7818	0.0727	0.1382	1
21	Care pathway location	GP duty for home confinement arrangements	92	46	398	0.1673	0.0836	0.7236	1
1	Increase workload	Offer more intrapartum care	124	61	358	0.2255	0.1109	0.6509	1
19	Remuneration	New remuneration for intrapartum care	150	100	297	0.2727	0.1818	0.5400	1
2	Capability & Training	Sufficiently competent in obstetrics	153	42	349	0.2782	0.0764	0.6345	1
4	Care pathway location	Lack of hospital-based GP obstetric facilities	182	115	247	0.3309	0.2091	0.4491	1
18	Remuneration	Redesign service payments	182	185	177	0.3309	0.3364	0.3218	1
14	Care pathway location	Hospital birth policy not justified on safety grounds	189	48	307	0.3436	0.0873	0.5582	1
12	Capability & Training	Radical alteration in GP obstetrics training	197	197	150	0.3582	0.3582	0.2727	1
8	Culture	Attitudes of fellow partners	203	109	178	0.3691	0.1982	0.3236	1
6	Remuneration	Rate of remuneration for intrapartum care	210	157	178	0.3818	0.2855	0.3236	1
17	Care pathway carer	Midwife examination of newborns, provided trained	221	68	256	0.4018	0.1236	0.4655	1
10	Care pathway carer	Book midwife for uncomplicated pregnancies	248	62	234	0.4509	0.1127	0.4255	1
3	Capability & Training	Discouraged by lack of confidence	267	62	217	0.4855	0.1127	0.3945	1
13	Care pathway location	Choice of baby's birth location	286	86	173	0.5200	0.1564	0.3145	1
15	Care pathway carer	Greater choice in type of maternity care	315	80	152	0.5727	0.1455	0.2764	1
16	Legal and disputes	Potential for demarcation dispute over labour supervision	377	109	60	0.6855	0.1982	0.1091	1
5	Legal and disputes	Fear of litigation	377	61	107	0.6855	0.1109	0.1945	1
20	Care pathway location	Wrong to remove a woman from GP list solely for home confinement or midwifery care	384	67	92	0.6982	0.1218	0.1673	1
22	Care pathway location	Nearby community-based maternity care	385	58	97	0.7000	0.1055	0.1764	1
7	Maintain workload	Disruption of personal life	407	46	93	0.7400	0.0836	0.1691	1
24	Capability & Training	Vocational obstetric senior house officer level training (ab)normality focus for GPs	418	62	67	0.7600	0.1127	0.1218	1
11	Care pathway carer	Obstetricians for complicated pregnancies	423	33	89	0.7691	0.0600	0.1618	1
9	Maintain workload	Current workload	453	34	59	0.8236	0.0618	0.1073	1
23	Care pathway carer	Enable GPs who wish to provide care throughout pregnancy, labour, and the puerperium	501	34	12	0.9109	0.0618	0.0218	1

As this is categorical (qualitative data), as per Berenson et al. (2015) I could organise this as a summary table (percentage of each overall grouping), but significantly more data would be lost.

## Plots

Berenson et al. (2015) note categorical data can be visualised for one variable with:

- Bar chart
- Pie chart
- Pareto chart



I used a stacked bar chart, which demonstrates that while the number of responders was 550, 550 did not answer every question, which means for the next iteration I need to calculate the total per grouping and then the percentage to have a fairer comparison.

## Reflection

Analyst reports in my industry (media) ask a question, not a statement, and retain it when presenting results, as the full wording is key to understanding the respondent's selection. However, these media reports group related questions, and present an initial overview, then an overview per section. This paper did not do that ahead of time which made retrofitting difficult. This initial post demonstrates how both planning surveys and their representing them accurately and clearly is essential.

## References

- Berenson, M. L., Levine, D. M., & Szabat, K. A. (2015). *Basic Business Statistics, Global Edition* (13th ed.). Pearson.
- Brown, D. J. (1994). Opinions of general practitioners in Nottinghamshire about provision of intrapartum care. *BMJ*, *309*(6957), 777–779.  
<https://doi.org/10.1136/BMJ.309.6957.777>
- Holmes, A., Illowsky, B., & Dean, S. (2022). *Introductory Business Statistics*. OpenStax. <https://openstax.org/details/books/introductory-business-statistics>