"A 3-Hour Wait for a 3-Minute Consultation" Was 0.3% of Outpatients in 2014, Indistinguishable Within Rounding from 0.3097%, the Product of Waiting 3 Hours or More (1.9%) and a Consultation Under 3 Minutes (16.3%) — Between Hospital Types the Direction Is Reversed: In 2023, the Higher a Type's Share Waiting 1 Hour or More, the Lower Its Share of Consultations Under 5 Minutes, and the Two Rankings Are Exactly Opposite Across the 5 Types [M085]

Waiting time and consultation time = hardly linked within hospital types, lined up in opposite directions between them ── What separates them is within hospital types versus between them

Yuuki YAMAGISHI (山岸 勇輝) ／ Independent Researcher
ORCID 0009-0006-8587-3450
September 2026 ／ CC BY 4.0

Abstract

Using the cross tables of the Ministry of Health, Labour and Welfare's Patient's Behavior Survey (hospital type × waiting time before consultation etc. × consultation time, 2014 and 2023), this paper looked at how many outpatients fit "a 3-hour wait for a 3-minute consultation" and whether long waits and short consultations occur together. No new mathematical theorem and no new law are claimed.

First, the tables are consistent. In every row the categories sum to the total within a rounding difference of 0.2%, and the 2023 column of the yearly tables matches the total of the cross tables. However, Table 9 (the cross table) excludes, by its note, people "not seen by a physician," while Table 5 (reservation) does not, so waiting-time shares differ by up to 1.3% between the two tables. Calculations on the combination were done within Table 9 only (Section 3).

Second, this is the core of the paper. **In 2014, 0.3% of outpatients "waited 3 hours or more and had a consultation under 3 minutes"; the ratio to 0.3097%, the product of waiting 3 hours or more (1.9%) and a consultation under 3 minutes (16.3%), is 0.969, and with the tables' rounding it is 0.784–1.164, which brackets 1.** In 2023 (consultation band under 5 minutes) it is 0.4% against 0.4496%, and the ratio range 0.754–1.035 also brackets 1. Long waits and short consultations cannot be distinguished from the product of the two taken separately (Section 4).

Third, **lining up the share with the shortest consultation band by waiting time, it is highest for waits under 15 minutes (0.350 in 2023), and the 6 bands of 15 minutes or more fall within 0.250–0.277.** People who waited 3 hours or more do not have especially short consultations. Cramér's V for waiting time × consultation time is 0.0737 (Section 4).

Fourth, **between hospital types the direction is reversed. In 2023, the share waiting 1 hour or more runs from 31.0% at special functioning hospitals to 18.2% at hospitals with long-term care beds, and the share of consultations under 5 minutes from 16.1% to 36.1%; across the 5 types the two rankings are exactly opposite (rank correlation −1.000).** In 2014 it is −0.600 (Section 5).

Fifth, **the share waiting 3 hours or more is 1.667 times higher for people without a reservation than with one (2.5% vs 1.5%), and 4.727 times at special functioning hospitals (10.4% vs 2.2%).** Over the years, the share waiting 3 hours or more lies within 1.2–2.1% in all 10 surveys from 1996 to 2023 (Sections 6 and 7).

Sixth, what separates them is **within hospital types versus between them**. "A 3-hour wait for a 3-minute consultation" sounds like a story of long waits and short consultations occurring as a pair inside one hospital. In the tables, within types the two are hardly linked, and between types, the more long waits a type has, the fewer short consultations.

Scope note: **This paper claims no new mathematical theorem and no new law** — the combinations of waiting time and consultation time are in public tables, and this paper only compared them with the product of the two shares and lined them up between hospital types. **This paper is a structural interpretation of the shape of numbers in public aggregate data; it is not medical advice, not a diagnosis, and not a treatment recommendation. The author is not a physician. Decisions about individual health should be discussed with a physician or a medical institution. This is a preprint that has not been peer reviewed. It does not judge hospitals or physicians, hospital types, or whether waiting or consultation times are good or bad when long or short. Nor does it say which hospital one should visit.** Hospital types are used only to see where long waits and short consultations gather. Individual hospitals are not compared. Waiting time and consultation time are the bands patients wrote on the questionnaire. Coverage is outpatients of general hospitals; clinics are not included. The survey covers outpatients on one day. Why the direction is reversed between types cannot be separated with these tables. The consultation-time band is under 3 minutes up to 2014 and under 5 minutes from 2017, and in 2020 and 2023 the way questionnaires were distributed and collected changed (table notes). **About the data**: the Patient's Behavior Survey (Ministry of Health, Labour and Welfare) was taken from e-Stat and used under the Government of Japan Standard Terms of Use (Version 2.0); the ratios in this paper were processed from it. What this paper adds: **counting the share of outpatients who fit "a 3-hour wait for a 3-minute consultation" from the cross tables and showing it is indistinguishable within rounding from the product of the two shares, and showing that between hospital types long waits and short consultations line up in opposite directions.**

1. Notation and question

- **A 3-hour wait for a 3-minute consultation**: the share of outpatients whose waiting time before consultation etc. is "3 hours or more" and whose consultation time is "under 3 minutes" (2014). In

2023 the consultation band is "under 5 minutes," so that band is counted.

- **Product**: share waiting 3 hours or more × share in the shortest consultation band ÷ 100. If the two are not linked, the combined share equals this value.
- **Ratio**: combined share ÷ product. Because the table values are rounded to 0.1%, the range of the ratio when each of the three numbers moves by ±0.05 is also given. If the range brackets 1, the combination cannot be distinguished from the product.
- **Share waiting 1 hour or more**: the sum of the 4 waiting bands of 1 hour or more.

Question: How many outpatients fit "a 3-hour wait for a 3-minute consultation"? Do long waits and short consultations occur together?

---

2. Preview and design

Written honestly: the design was decided after looking at the tables.

	Content
Tables	Patient's Behavior Survey 2023, basic tabulation, Table 9 (hospital type × waiting time × consultation time), Table 5 (reservation × waiting time), Tables 46 and 47 (by year); 2014, basic tabulation, Table 5 (hospital type × waiting time × consultation time)
Noticed in the preview	In the yearly table (Table 47), the consultation band was "under 3 minutes" up to 2014 and "under 5 minutes" from 2017. Counting the literal "3 minutes" needs the 2014 cross table, so the 2014 Table 5 was also taken
Noticed in the preview (2)	Waiting-time shares in Table 5 (reservation) and Table 9 (cross table) differed by up to 1.3%. It first failed because I set them to agree within a rounding width of 0.1%, and it turned out that only Table 9 has a note excluding people "not seen by a physician"
Comparison	Ratio of the combined share to the product (with rounding range), share of short consultations by waiting time, rankings between hospital types, reservation, and years

3. Data and checks

Calculation 3.1 The 7 retrieved files were fixed by SHA-256, and the following were checked.

- 2023 Table 9 and 2014 Table 5: for each of 6 hospital types (all, special functioning hospitals, large hospitals, medium hospitals, small hospitals, hospitals with long-term care beds), there are rows for the total, 7 waiting-time bands, and unknown (no answer). Row categories minus the total, and the sum of waiting rows minus the type's total row, are both at most 0.2% (rounding).
- Yearly tables (Tables 46 and 47): 10 surveys from 1996 to 2023; in every year the categories sum to 100 (rounding difference at most 0.2). The 2023 column of Table 46 matches the total of Table 5, and that of Table 47 matches the total of Table 9.
- Table 9 has a note excluding people "not seen by a physician," and Table 5 does not. Waiting-time shares differ by up to 1.3% between the two tables.
- Survey outline: the coverage is patients using general hospitals nationwide, excluding home patients receiving house calls or home visits. The 2023 survey was on one day designated for each hospital among the 3 days from 17 to 19 October 2023. Glossary: large hospitals have 500 beds or more, medium hospitals 100–499 beds, small hospitals 20–99 beds (all are general hospitals excluding special functioning hospitals and hospitals with long-term care beds).

4. The core — "a 3-hour wait for a 3-minute consultation" and the product

Calculation 4.1 All hospitals (share of outpatients, %)

Year	Waited 3 h+ and shortest consultation band	Waited 3 h+	Shortest consultation band	Product	Ratio	Ratio with rounding
2014 (under 3 min)	0.3	1.9	16.3	0.3097	0.969	0.784–1.164
2023 (under 5 min)	0.4	1.6	28.1	0.4496	0.890	0.754–1.035

Observation 4.2: **In 2014, "a 3-hour wait for a 3-minute consultation" was 0.3% of outpatients; the ratio to the product of the two, 0.3097%, is 0.969, and 0.784–1.164 with rounding. In 2023 the ratio range 0.754–1.035 also brackets 1.** For all hospitals, the combination of long waits and short consultations cannot be distinguished from the product of the two taken separately.

Observation 4.3: Of the 10 values by hospital type (2 years × 5 types), the ratio range brackets 1 in 6, lies below 1 in 2 (large hospitals 0.740–0.945 and hospitals with long-term care beds 0.601–0.925 in 2023), and lies above 1 in 2 (medium hospitals 1.021–1.385 and hospitals with long-term care beds 1.023–1.565 in 2014); the directions do not agree.

Calculation 4.4 Share with the shortest consultation band, by waiting time (all hospitals)

Waiting time	2014 (consultation under 3 min)	2023 (consultation under 5 min)
Under 15 min	0.204	0.350
15–30 min	0.154	0.277
30 min–1 h	0.147	0.262
1–1.5 h	0.157	0.269
1.5–2 h	0.173	0.269
2–3 h	0.178	0.263
3 h or more	0.158	0.250

Observation 4.5: **The share with short consultations is highest for waits under 15 minutes, and the 6 bands of 15 minutes or more lie within 0.250–0.277 in 2023 and 0.147–0.178 in 2014.** It first failed because, from the 2023 preview alone, I set "the 6 bands span less than 0.03," and 2014 spans 0.031. Cramér's V for waiting time × consultation time (7 × 5, excluding unknown) is 0.0662 in 2014 and 0.0737 in 2023.

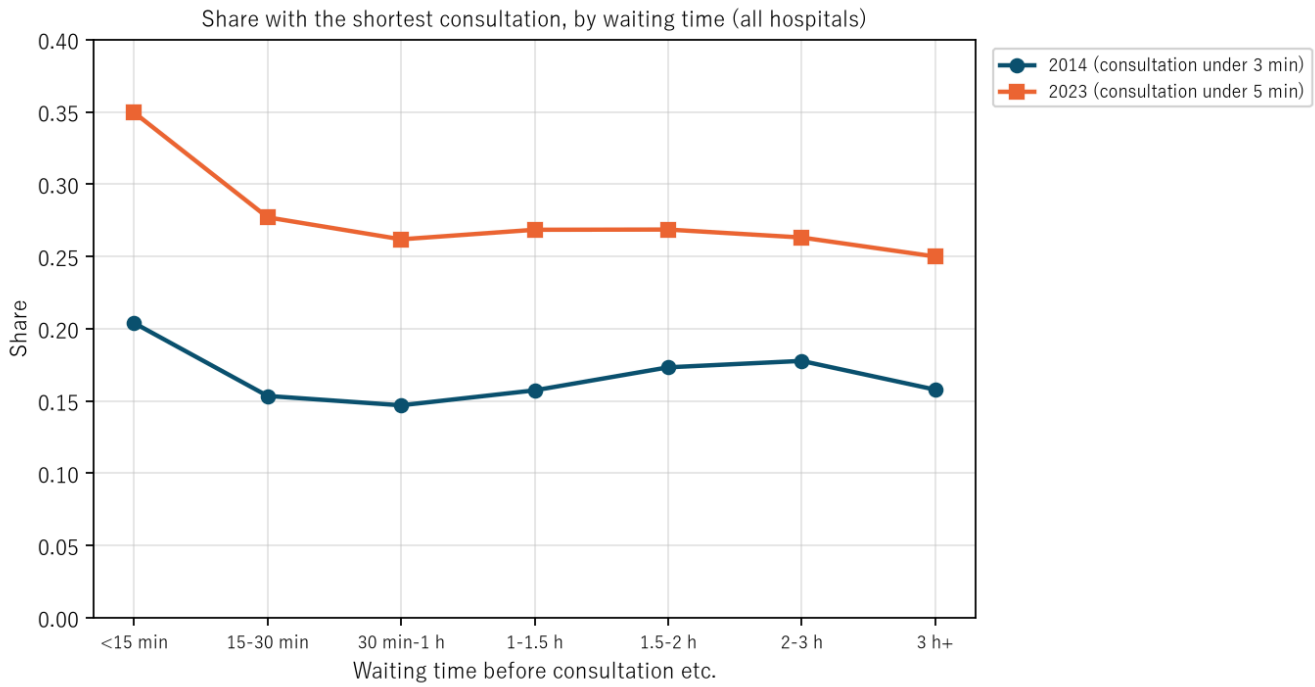


Figure 1: Share with the shortest consultation band, by waiting time (all hospitals). Navy is 2014 (under 3 minutes) and orange is 2023 (under 5 minutes).

---

5. Between hospital types

Calculation 5.1 By hospital type (share of outpatients, %)

Hospital type	2023 waited 1 h+	2023 waited 3 h+	2023 consultation under 5 min	2014 waited 1 h+	2014 consultation under 3 min
Special functioning hospitals	31.0	2.5	16.1	27.8	8.6
Large hospitals	28.2	2.5	23.8	29.0	13.3
Medium hospitals	22.7	1.6	27.4	25.9	15.9
Small hospitals	18.6	0.9	31.5	26.8	20.9
Hospitals with long-term care beds	18.2	1.1	36.1	17.2	19.5

Observation 5.2: **In 2023, the ranking by share waiting 1 hour or more and the ranking by share of consultations under 5 minutes are exactly opposite across the 5 types (rank correlation −1.000).** Special functioning hospitals ÷ hospitals with long-term care beds is 1.703 for the share waiting 1 hour or more and 0.446 for the share of consultations under 5 minutes. In 2014 the rank correlation is −0.600, negative but not −1. Within types the two are hardly linked (Section 4), and between types they line up in opposite directions. Why they are opposite cannot be separated with these tables.

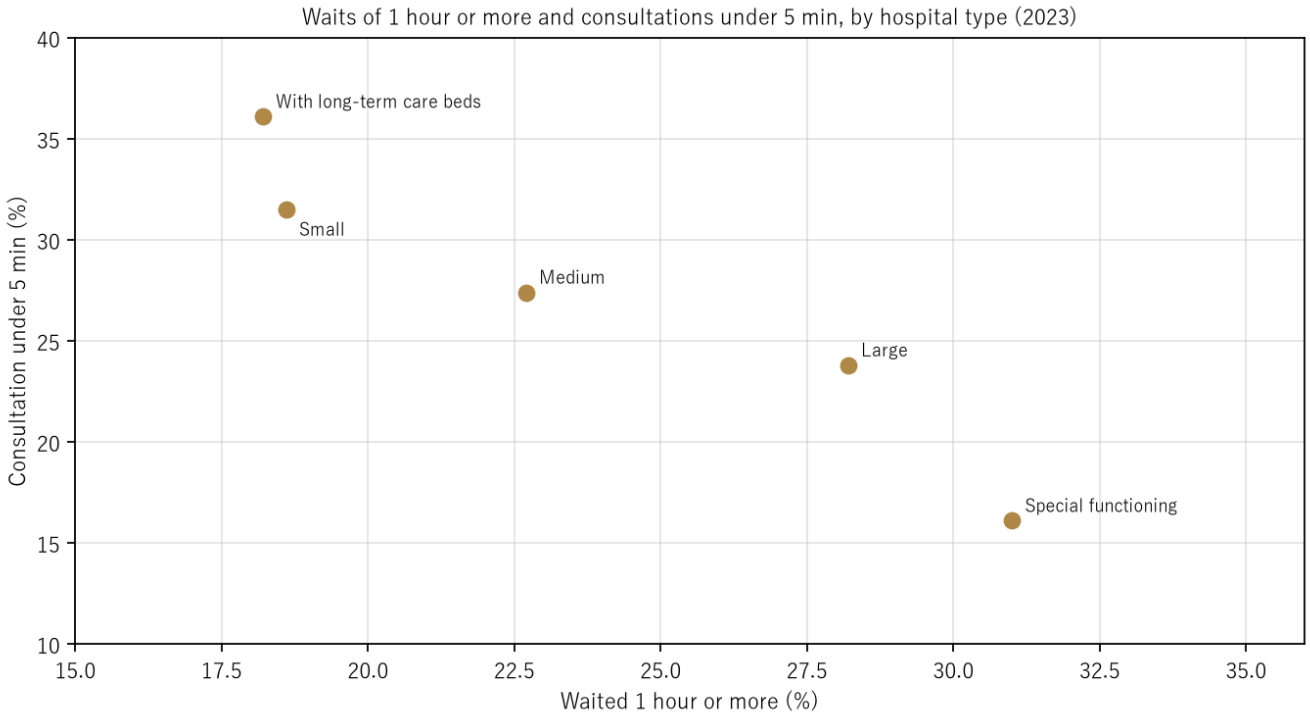


Figure 2: Share waiting 1 hour or more and share of consultations under 5 minutes, by hospital type (2023).

---

6. Reservation

Calculation 6.1 Share waiting 3 hours or more (2023, %, Table 5)

Hospital type	With reservation	Without reservation	Ratio	Share with reservation
All	1.5	2.5	1.667	79.4
Special functioning hospitals	2.2	10.4	4.727	94.0
Large hospitals	2.1	8.6	4.095	90.5
Medium hospitals	1.3	3.4	2.615	81.5
Small hospitals	0.9	0.9	1.000	67.8
Hospitals with long-term care beds	0.9	1.5	1.667	67.2

Observation 6.2: **For the share waiting 3 hours or more, "without reservation ÷ with reservation" is larger at special functioning hospitals (4.727) than for all hospitals (1.667).** At special functioning hospitals, people without a reservation are 2.1% of outpatients but 9.0% of those who waited 3 hours or more. For all hospitals, people without a reservation are 15.3% of outpatients and 23.3% of those who waited 3 hours or more.

---

7. Years

Calculation 7.1 Share of outpatients (%, Tables 46 and 47)

Year	Waited 3 h+	Consultation under 3 min	Consultation under 5 min	Waiting time unknown
1996	2.1	17.8		15.2
2002	1.5	17.7		10.9
2008	1.4	13.5		5.5
2011	1.2	13.6		14.2
2014	1.9	16.3		5.8
2017	1.7		28.2	7.4
2020	1.8		27.5	3.5
2023	1.6		28.1	4.4

Observation 7.2: **The share waiting 3 hours or more lies within 1.2–2.1% in all 10 surveys from 1996 to 2023** (highest in 1996, lowest in 2011). Consultations under 3 minutes are 13.5–17.8% from 1996 to 2014. Because the unknown share for waiting time moves widely across years (3.5–15.2%) and the definition of waiting time changed in 2014 to "waiting time before consultation, treatment, tests, etc.," this paper does not read small year-to-year ups and downs.

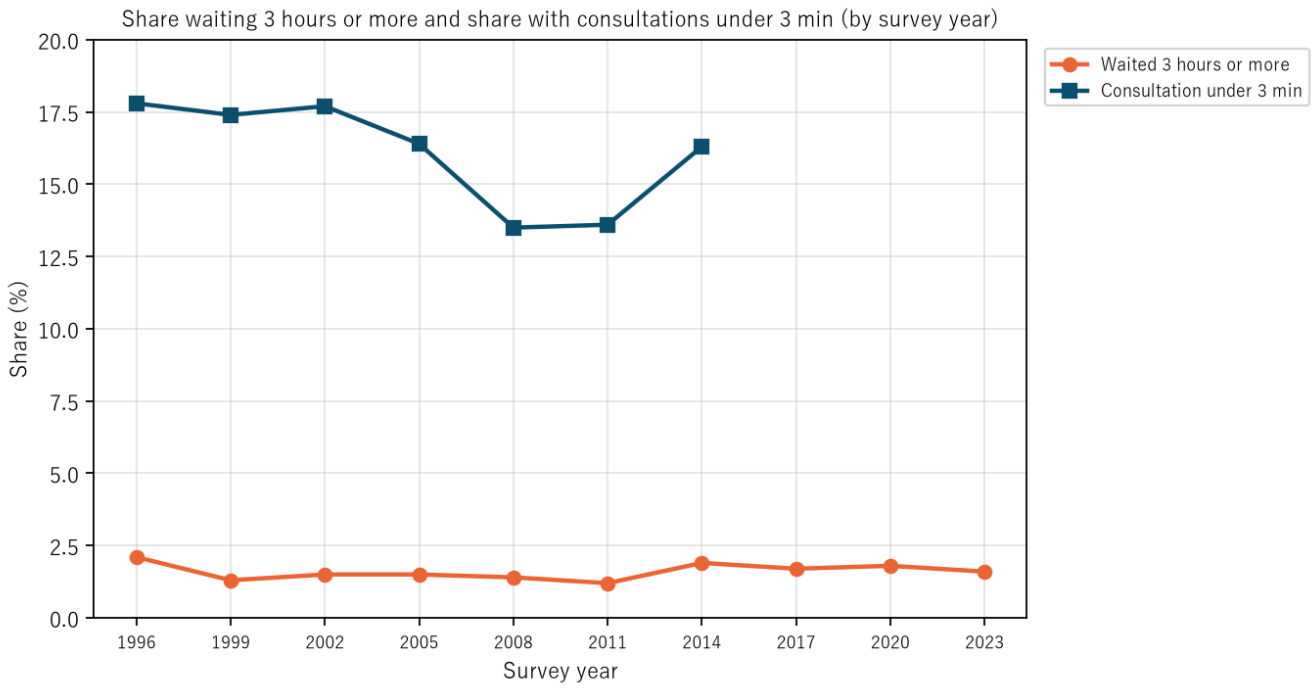


Figure 3: Share waiting 3 hours or more (orange) and share of consultations under 3 minutes (navy, up to 2014).

---

8. Limitations

1. **Why the direction is reversed between types cannot be separated with these tables.** This is not a judgment of hospital types.
2. Waiting time and consultation time are the bands patients wrote on the questionnaire. Nothing finer than the bands is known.
3. Table values are rounded to 0.1%, and for small combinations such as "a 3-hour wait for a 3-minute consultation," rounding moves the ratio a lot. This paper read the ratio with its rounding range.
4. Coverage is outpatients of general hospitals; clinics are not included. It is the outpatients of one day. The consultation bands differ between 2014 and 2023, and in 2020 and 2023 the way questionnaires were distributed and collected changed.
5. Hospitals and physicians are not compared or evaluated. The paper does not say which hospital one should visit.

Conclusion

"A 3-hour wait for a 3-minute consultation" was 0.3% of outpatients in 2014. Multiplying waiting 3 hours or more (1.9%) by a consultation under 3 minutes (16.3%) gives 0.3097%, and the ratio with rounding, 0.784–1.164, brackets 1 — long waits and short consultations cannot be distinguished from the product of the two taken separately. Between hospital types, on the other hand, the ranking by share waiting 1 hour or more and the ranking by share of consultations under 5 minutes were exactly opposite in 2023.

What separates them is one thing — within hospital types versus between them.

When you hear "a 3-hour wait for a 3-minute consultation," **check together whether it is about the two forming a pair inside one hospital or about hospitals of different types seen together.**

Data and reproduction

Data	Patient's Behavior Survey 2023, basic tabulation, Tables 9, 5, 46, and 47; 2014, basic tabulation, Table 5; 2023 survey outline and glossary (Ministry of Health, Labour and Welfare, e-Stat) (retrieved 26 September 2026)
Terms of use	e-Stat follows the Government of Japan Standard Terms of Use (Version 2.0). The ratios in this paper were processed from it and are not numbers produced by the government
Coverage	Japan, outpatients of general hospitals, 2014 and 2023 (10 surveys from 1996 to 2023 for the yearly tables)
Verification	`検算/M085.py` (`--zu` also draws the figures). Every number in the text is taken from `検算/M085_output.txt`
Raw data	`data/` holds the retrieved files and `SOURCES.md` (URLs, retrieval date, SHA-256, terms of use, definitions and how the calculations were set up)
Figures	`図/M085_zu1`, `図/M085_zu2`, `図/M085_zu3` (png, svg, English versions)

References

- Ministry of Health, Labour and Welfare. Patient's Behavior Survey 2023, basic tabulation, Tables 9, 5, 46, and 47; survey outline and glossary (in Japanese). e-Stat (accessed 26 September 2026). https://www.e-stat.go.jp/
- Ministry of Health, Labour and Welfare. Patient's Behavior Survey 2014, basic tabulation, Table 5 (in Japanese). e-Stat (accessed 26 September 2026). https://www.e-stat.go.jp/