SOCIAL SCIENCE DILIMAN
14:2 July–December 2018

ARTICLE

"Devoted to caring for their beloved children": Therapeutic choices for childhood illnesses in a Tokyo suburb, 1938–1939

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ABSTRACT

This paper provides empirical evidence of the ways in which young children in 1930s Japan were cared for in times of birth, illness, and death. Household expenditure on the different types of therapeutics available in the pluralistic medical marketplace of a Tokyo suburb was analyzed based on the archival materials of the Takinogawa District Health Survey, which was conducted during a 12-month period from 1 May 1938 to 30 April 1939. Statistics show that infants received standardized professional care at birth and during the early neonatal period. Childhood illnesses were most often treated with commercial drugs, even as individuals under five years old were the leading consumers of medical care from doctors. I argue that the young children in the survey were thoroughly cared for during their illnesses with generous financial resources allocated for their health care.

KEYWORDS

children's illness, health survey, therapeutic choices, medical marketplace, 1930s Japan

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Introduction

"Let the dead infants cry." A renowned public health researcher in Japan, Maruyama Hiroshi (1909–1996), chose this phrase as the title of a compilation of his lifetime's work on infant mortality in modern Japan (1989). A growing body of literature has accumulated since then to give voice to deceased babies' silent cries from the past, and has illuminated the ways in which public health countermeasures have been made to prevent such premature deaths (Saito 1997; Ogasawara and Kobayashi 2015; Ito 1998; Higami 2016). In the social history of

ISSN 1655-1524 Print
ISSN 2012-0796 Online

children's health and welfare in Japan, infant mortality is among the most extensively studied of subjects. Demographic analysis has revealed that Japan's infant mortality, as well as fertility, began to decline in the 1920s (Kuroda 1978; Saito 2001). Amid the demographic transition in modern Japan, how did sick infants escape death? A society with falling death rates invites investigation of morbidity, as proposed in historian James Riley's major work, *Sick, not dead: The health of British workingmen during the mortality decline* (1997). What kinds of illnesses did infants in modern Japan suffer, and how were they treated? Were they cared for as thoroughly as sick working-age members of households in various classes? According to historian Alysa Levene, "the way that practitioners and parents treated children when they were ill can be particularly revealing of attitudes toward this large proportion of the population" (2011, 321).[1] Through an exploration of the therapeutic landscape for infants, fetuses, and young children under five years old, in my work I aim to gather insights from the experiences of modern Japan's sick children.

This paper contributes to the social history of medicine and childhood by providing empirical evidence of the ways in which young children in 1930s Japan were cared for in times of birth, illness, and death. Recent historiography of children and childhood has demonstrated that children in early modern and modern Japan were increasingly perceived as treasures to be raised carefully (Ōta 2007; Jones 2010; Walthall 2017). I provide support for this view by demonstrating that generous financial resources were allocated to their health care. The analysis is based on archival records from the Takinogawa District Health Survey, which was conducted in a Tokyo suburb during a 12-month period spanning 1 May 1938 to 30 April 1939 (Figure 1).[2]

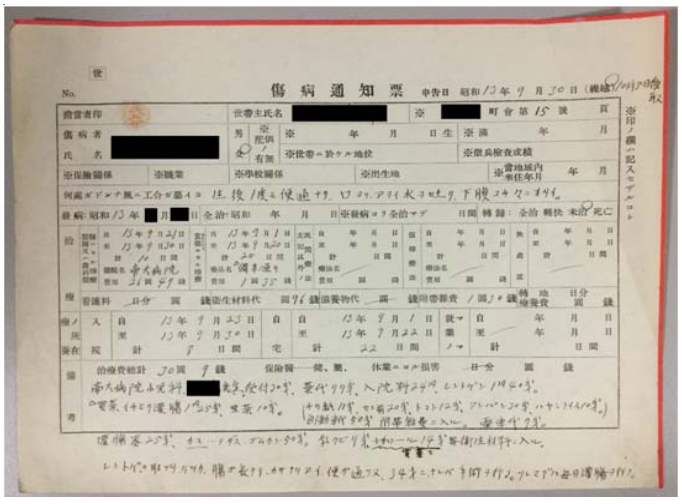

Figure 1: Disease Notification Card in Takinogawa District Health Survey
(Source: Takinogawa District Health Survey, Komine Institute, Tokyo, 1938–1939)

Since the late nineteenth century, health surveillance became crucial to modern nations, particularly in the West. Infant death rates were calculated each year as an index of society's health; and children's physical and intellectual growths were monitored so that each citizen's health did not deviate from the norm (Armstrong 1995; Cryle and Stephens 2017, 251). Children became social objects to be controlled through the structure of modern families (Armstrong 1986; Donzelot 1977). In the same period, Japan took a similar path to that of Western countries, which it took as models of modernity. Government and private organizations contributed to the accumulation of empirical knowledge on public health, typically with particular interests in maternal and child health issues (Naimushō Eiseikyoku 1929; Yokokawa 1936; Shirai and Yokokawa 1936; Iwasaki 1935; Takahashi 1940; Hayashi 1942). Such undertakings also entailed the examination of the social and economic contexts that were increasingly recognized as crucial in understanding the underlying causes of children's mortality and morbidity (Ōsakafu Kōsei Kaikan 1944). In this regard, maternal and child health in Japan was no longer confined to domestic spheres.

Among the numerous surveys conducted in inter-war and wartime Japan, the Takinogawa District Health Survey, from which data of this paper was derived, was distinctive in several aspects. Spearheaded by the newly established Ministry of Health (*Kōseishō*), the survey's original aim was to contribute to the Japanese government's wartime regulation of medical commodity production and consumption.[3] According to the survey committee chairman, Komine Shigeyuki: "To consume is more difficult than to produce" (Takinogawa-ku Kenkō Chōsa-kai 1941, 6). Komine was aware that different medical systems alongside "scientific" medicine coexisted in the local medical marketplace.[4] To ensure that the rationality of any kind of therapeutic choices for whatever reasons, peculiar as they were, was transparent and subject to empirical analysis, the surveyor ordered participating households to keep diaries of "which [part of the body] [was] not well in what ways" (33). An interviewer in charge, who made routine home visits every four to five days, copied the diary entry on a Disease Notification Card and recorded the amount of money spent on each episode of self-defined health problem (Figure 1).[5] The list of therapeutic choices included doctor consultations, dental consultations, commercial drug use, folk therapies, "religious therapies" such as purification rituals and amulets, nursing, geographic therapies, diet therapies, *ryō-jyutsu* therapies such as massage and moxibustion, and "no treatment" (17-36). Cases involving certain types of illnesses that were not usually disclosed to medical authorities were systematically captured through this process, which was unique when compared with the previous surveys that often relied on doctors' diagnoses. The sophisticated scheme of the Takinogawa District Health Survey has enabled historians of medicine to closely investigate local residents' realities of therapeutics and self-defined illness conceptions within the context of a plural medical marketplace (Suzuki 2008).

A reading of the survey reveals that the surveyor was conscious of the social contexts of health problems in Takinogawa District. According to its 1941 final report, the survey "intended to examine every class and every phase of life" (Takinogawa-ku Kenkō Chōsa-kai 1941, 11). At the time of the survey, a heterogenous population from diverse social and geographical backgrounds characterized the rapidly urbanizing Takinogawa District. From the entire district, the survey committee selected 339 households comprising 1,919 individuals of all ages.[6] It seems that the committee chose target households rather arbitrarily, so that the sample frame "proportionally reflected every [social] class in the industrial, commercial, and residential areas of the district" (12). It is noteworthy that a skewed age distribution in the district—caused by a massive influx of working-age men and women from across Japan—was not considered in the survey sampling process (Figure 2).[7] Nevertheless, the survey's detailed socioeconomic data still provides medical historians significant clues to analyze diverse aspects of the therapeutic landscapes for sick children in a particular Tokyo suburb such as Takinogawa District.

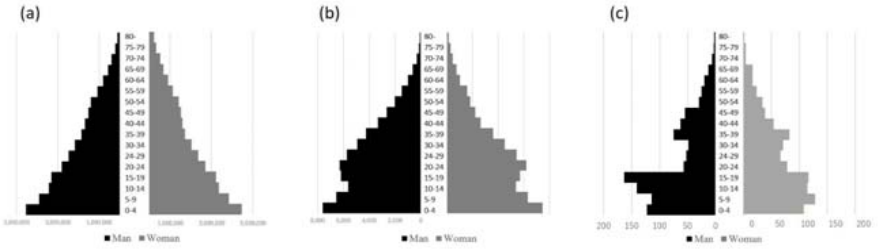

Figure 2. Sample frame compared with population pyramids of Japan and Takinogawa District
(a) Population pyramid of Japan, 1935; (b) population pyramid of Takinogawa District, 1935; (c) the sample frame of the Takinogawa District Health Survey, 1 May 1938.
Source: (a), (b) National Census of Japan, 1935, in Tōkyō Shiyakusyo 1940; (c) data from Takinogawa District Health Survey (1938–1939).

Various insights may be drawn from the archival data of the Takinogawa District Health Survey, particularly from the model case of a two-year-old boy who developed a fever of 38.5 degrees Celsius and a slight cough in February 1939.[8] This boy's family spent a total of two point twenty yen (¥2.20) to deal with this episode of illness.[9] The breakdown of expenses consisted of the following: one point sixty yen (¥1.60) to a local doctor for the diagnosis of acute bronchitis and prescribed medication; point ten yen (¥0.10) for a cure-all folk remedy *Kyūmei-gan*, or literally "Life-Saving Pill"; and, point fifty yen (¥0.50) for healing magic. These itemized expenses indicate that fees to the doctor were the most expensive items in the family's "medical" expenses. To fully appreciate the economic realities

of Takinogawa District during this period, it is important to consider that the monthly residential rent for the boy's three-generation family home of five was twenty yen (¥20.00). Childhood illness, especially those requiring treatment by a doctor, was, therefore, a significant burden on a household's finances.

The socioeconomic entries on available health records also enable us to analyze therapeutic cultures among various social classes. The boy's family referred to above was an extended family, which included grandparents and parents who completed primary education and owned a ceramics shop. Their monthly household rent of twenty yen (¥20.00) was the median cost for the 339 households that were sampled in the survey. This working-class family also possessed a thermometer for taking children's temperatures—a modern gadget that did not, however, prevent the parents and family relatives from seeking magical cures. From a medical perspective, each of the therapeutics used in combination to treat the two-year-old assumed a specific pathology with a distinctive concept of a sick child's body.[10] The doctor adhered to biomedicine based on anatomy and targeted inflammation in the bronchi. On the other hand, the herbal medicine, *Kyūmei-gan*, was believed to function in a holistic manner by altering bodily constitution. This portrait of a family's choice of therapeutics shows that different medical ideas were not mutually exclusive.

In succeeding sections, medical-consumer behaviors in the context of birth, illness, and death are examined. Different degrees of medicalization and professionalization of care are evaluated and compared with contemporary surveys in rural villages to illuminate diversity in the therapeutic environment in different areas of 1930s Japan. Local people's conceptions and therapeutic preferences regarding childhood illness are also discussed. The argument is supported by empirical data, which suggests that a sick child in a Tokyo suburb in the late 1930s was cared for with significant amount of financial resources through different therapeutic approaches, compared to individuals from older age groups in the district.

Medicalization of birth and abortion

This section scrutinizes the routine care for newborn babies as well as planned or unplanned medical interventions to fetuses and pregnant mothers.[11] This approach is necessary because three different categories of pregnancy outcomes, that is, live birth, stillbirth, and abortion, in the Takinogawa District Health Survey are documented in the survey format under "Delivery notification card (Live birth/Stillbirth/Abortion)."[12] The data of the cards is summarized in Tables 1a and 1b. My focus here is not on the pregnant women but on infants and fetuses that have too often been marginalized in the gendered historiography of birthing in Japan.[13]

Table 1: Delivery notification card (Live birth/Stillbirth/Abortion)

a. Pregnancy outcomes and medical expenditures compared with household monthly house rent

No.	Type	Maternal age	Birth order	Place	Complications	Midwife	Doctor	Hospital	House rent
1	Live birth	36	7	Home		7.00	-	-	7.00
2	Live birth	26	6	Home		0.00	-	-	7.00
3	Live birth	32	8	Home		6.00	-	-	7.00
4	Live birth	35	8	Home	Maternal cold	6.00	-	-	7.00
5	Live birth	27	2	Home		14.00	-	-	8.00
6	Live birth	31	5	Home		1.00	-	-	8.00
7	Live birth	38	5	Home		10.00	-	-	9.00
8	Live birth	36	4	Home		15.00	-	-	10.00
9	Live birth	43	9	Home		8.00	-	-	12.50
10	Live birth	28	2	Home	Neonatal death	13.00	-	-	15.00
11	Live birth	41	8	Home		10.00	-	-	15.00
12	Live birth	32	3	Home		21.00	-	-	15.00
13	Live birth	30	6	Home	Uterine atony	15.00	2.00	-	15.50
14	Live birth	22	2	Home		28.50	-	-	16.00
15	Live birth	26	2	Home	Threatened preterm labor	17.00	-	-	16.00
16	Live birth	30	3	Home	Neonatal constipation	15.00	-	-	17.00
17	Live birth	42	11	Local Hp.	Maternal nephritis	6.00	-	40.00	18.00
18	Live birth	28	3	Home		12.00	-	-	20.00
19	Live birth	42	8	Home	Maternal nephritis, neonatal death	10.90	-	-	25.00
20	Live birth	21	3	Home		35.00	-	-	28.00
21	Live birth	35	5	Home	Weak contractions	28.00	2.50	-	28.00
22	Live birth	33	4	Home		16.00	-	-	28.00
23	Live birth	30	3	Home		5.00	-	-	29.00
24	Live birth	28	4	Home	Breech presentation, neonatal death	14.00	-	-	30.00
25	Live birth	30	3	Home		13.00	-	-	30.00
26	Live birth	38	5	Home		30.00	-	-	40.00
27	Live birth	34	5	Home		16.00	-	-	40.00
28	Live birth	34	6	Home		17.00	-	-	40.00
29	Live birth	24	3	Home		0.00	-	-	50.00
30	Live birth	30	2	Lying-in Hp.	Breech presentation	-	-	52.00	50.00
31	Live birth	27	2	Univ. Hp.		-	-	100.00	60.00
32	Live birth	23	2	Local Hp.		-	-	52.00	300.00
33	Stillbirth	31	2	Home	Maternal death, fetal death	0.00	0.00	-	12.00
34	Abortion	27	4	Home	Nephritis *etc.*	-	32.00	-	10.00
35	Abortion	25	1	Local Hp.	Hydatidiform mole	-	-	85.30	20.00
36	Abortion	34	7	Home	Severe hyperemesis *etc.*	-	29.00	-	25.00
37	Abortion	30	4	Home	Tuberculous peritonitis *etc.*	-	41.00	-	25.00
38	Abortion	41	6	Local Hp.	Frequent abdominal pain *etc.*	-	-	127.00	30.00
39	Abortion	33	4	Home	Severe pneumonia, maternal death	-	12.50	-	50.00

Source: Data from Takinogawa District Health Survey (1938–1939)

Table 1: Delivery notification card (Live birth/Stillbirth/Abortion) (Con't.)

b. Details of abortions

No.	Gestational month	Operator	Chief complaint	Doctor's findings
34	1	Doctor A	"Shortness of breath"	Nephritis, hypertension, urine protein
35	7	Doctor B	-	Hydatidiform mole
36	2	Doctor A	"Occasional anemia"	Severe hyperemesis, severe anemia, headache, dizziness, tachycardia, six children
37	2	Doctor A	"Worsening weakness"	Tuberculous peritonitis
38	4	Doctor C	"Gastroptosis"	Frequent abdominal pain with diarrhea, headache, dizziness, loss of appetite, emaciation
39	7	Doctor D	-	Severe pneumonia (retained placenta and maternal death after procedure)

Source: Takinogawa District Health Survey (1938–1939)

Neonatal, fetal, and maternal survival was fraught with risks in 1930s Takinogawa. In the 339 households sampled for the survey, 39 pregnancies were reported, which resulted in 32 live births followed by three neonatal deaths within the first five days after birth, one stillbirth, and six abortions (Table 1a).[14] Two out of 39 women died on the day of delivery or abortion, a fact that was not mentioned in the survey's 137-page report, supplemented with 65 additional pages of exhibits. The surveyors' limited use of data recorded in the Delivery Notification Cards was presumably because their research interests lay primarily on medical-consumption analysis and not on epidemiological investigations of the local population. Based on the consumer analysis, all of the pregnant women in the survey utilized professional care regardless of the pregnancy outcome.

The survey indicates that babies in Takinogawa District were mostly delivered at home and were attended to by a certified midwife (See 29 cases in Table 1a, which includes a stillbirth). Twenty-three certified midwives were recorded to have been involved in these birth deliveries. These midwives consulted the local obstetrician-gynecologists whenever they detected abnormalities in the process of labor and birth (Case Nos. 13 and 21 in Table 1a).[15] Following delivery, the midwives made routine visits to these homes for about a week to bathe the newborn babies. Considering the contemporary statistics that 46 percent of infant deaths occurred in the first month (the neonatal period) of life, and that 61 percent of the neonatal death occurred in the first ten days, these routine visits were significant because the midwives were able to oversee the most critical days of life for the newborn (Onshi Zaidan Aiikukai 1938). Including infant care, the median fee for a home birth attended by a certified midwife was thirteen yen (¥13.00).[16]

Hospital births were a minority that deserves closer investigation. The survey records four cases of hospital births, three of which were from the wealthiest households among those surveyed.[17] The remaining case (No. 17 in Table 1a),

initially handled by a midwife, resulted in unplanned hospitalization for artificially induced delivery due to maternal nephritis. In this case, after discharge of the newborn and the mother, which occurred earlier than in the other three cases described below, the midwife made home visits to bathe the baby until the seventh day, to match the length of midwife care of other home-delivered infants. For the other three cases (Nos. 30–2 in Table 1a), the respective families of these households, apparently without strong medical recommendations, chose hospital births (note that breech presentation of the fetus did not necessarily require hospitalization). These three hospital-born babies spent their first seven to eight days of life in the hospital and received institutional care along with their mothers.[18]

At the time of the survey, hospital births cost between forty yen (¥40.00) and one hundred yen (¥100.00), which was certainly more expensive than home births. The fact that households with the highest economic status chose hospital births suggests that this form of delivery and neonatal care was a luxurious and, to a certain extent, a prestigious medical commodity. The household choice for hospital births in Takinogawa contrasts with the situation in 1899, when the highly respected Imperial University of Tokyo Hospital, located near the Takinogawa District, was struggling to increase the number of institutional deliveries for educational use (Kinoshita 1915). In the late 1930s, the "safety and convenience of hospital birthing" that the university's obstetrician-gynecologists were desperate to promote was already well recognized among wealthy families in Takinogawa (291).

The rich medical resources available in Takinogawa District made possible the professional supervision and institutionalization of neonatal care. Private hospitals run by local doctors as well as large-scale maternity institutions and university hospitals were accessible to the residents. By 1934, the district also had 140 midwives (all females) and 156 doctors (including 11 females) (Daitōkyō Jichi Kenkyū-kai 1936, 61). Records from the 1935 national statistics indicate that the number of midwives per 10,000 residents was 10.82 in Takinogawa, while the national average was 11.45 for urban areas, and 7.21 for rural areas across Japan. Similarly, the number of doctors per 10,000 residents was 12.06 in Takinogawa, 12.72 in urban areas, and 4.88 in rural areas (Naimushō Eiseikyoku 1938). These medical resources and personnel were essential for the thorough professionalization of care at birth in Takinogawa.

The most extensively professionalized care related to maternal and child health in Takinogawa District, however, was not intended to help babies survive, but instead was meant to remove fetuses from women's wombs to protect maternal health. Of the 39 cases of recorded pregnancies, six resulted in artificial abortions that local obstetrician-gynecologists performed (Table 1b). Such procedures were done either at home or at a hospital, and were expensive

compared with the housing expenditures of each household (Table 1a). The artificial termination of pregnancies was not a cheap option, nor was it safe. Case No. 39 in Tables 1a and 1b shows a debilitated woman with severe pneumonia who died immediately after an artificial abortion. Doctors, however, had various reasons to justify the procedures (Table 1b). Some of these justifications were medically sound, especially in Case No. 35, where a hydatidiform mole was detected in the pregnant mother's uterus, and in Case No. 37, where the pregnant woman was diagnosed with tuberculous peritonitis. Other medical findings in mothers with multiple histories of childbirth were more nuanced. For example, the pregnant mother in Case No. 38 had "frequent abdominal pain with diarrhea, headache, dizziness, loss of appetite, and emaciation", and in Case No. 36, had "severe hyperemesis, severe anemia, headache, dizziness, tachycardia, and six children". Such detailed medical findings suggest the possibility that both biological factors such as physical fragility due to frequent pregnancies, and non-biological factors, such as decreased family pressures to produce heirs, influenced doctors' clinical decision-making. Artificial abortions, which obstetrician-gynecologists justified, were presented as a real "therapeutic" commodity accessible to residents of Takinogawa in the late 1930s.

Since 1880, the "crime of abortion" was already codified in Japan's modern penal code.[19] Artificial abortions operated by obstetrician-gynecologists, however, resulted in "relatively few cases of arrest", when compared with abortions performed by "pseudo-midwives without certifications" or by the pregnant women themselves (Hashizume 1942, 54). Based on traditional practice, those proven guilty of abortion had utilized the "insertion of rod-shaped bamboos, woods, or plants," or "insertion of strawberry groundcherry" (Sakurai 1932, 206–9). In contrast, medicalized abortions that obstetrician-gynecologists performed were assumed to be relatively risk-free, with these doctors using sterilized equipment. The author of a clinical textbook on artificial abortion held that "deliberation from the standpoint of science and medical conscience will surely enable impartial and inarguable judgment on indication [of artificial abortion]" (Hashizume 1942, 138). Based on this account, it could also be assumed that doctors' notes in the Delivery Notification Cards reveal their struggles to justify their clinical reasoning.

Sickness and death in infants and young children

The rich medical resources in Takinogawa District provided its residents with a range of therapeutic choices for infants and children, some of which were quite modern and Western. One example is Case No. 16, which refers to a surviving case of neonatal illness (Table 1a; Figure 1 shows this patient's Disease Notification Card). In this case, a two-day-old baby girl suffering from having

"no stool after birth, vomiting of watery material, and a hard-packed belly", was presented to a local doctor. The family had paid two point sixty yen (¥2.60) to the doctor, but eventually opted for home care with enemas, suppositories, and some commercial drugs, such as *Biofermin*, lactobacilli probiotics. When the baby girl was one month old, her family brought her to the pediatric department of the Imperial University of Tokyo Hospital, where she was hospitalized for eight days. After X-rays were taken, she was diagnosed with Hirschsprung's disease.[20] The baby girl was not from a wealthy household of the district, but her family had paid the hospital twenty-eight yen (¥28.00), and was advised to continue the daily enemas at home until surgery, which, for those with Hirschsprung's disease, would be possible only when the baby becomes three or four years old. This example shows that babies in the Takinogawa District benefitted from university-based, state-of-the-art pediatrics.

Neonatal deaths, however, were not rare among the Takinogawa babies. Three cases of "deaths of the live infant", for instance, were recorded on the Delivery Notification Cards (Case Nos. 10, 19, and 24 in Table 1a). Case No. 10 died at two days of age due to melena or neonatal bleeding; and Case No. 19 failed to live longer than four days due to congenital underdevelopment. Case No. 24, according to a report from the certified midwife, was "delivered very easily at breech position, but the living infant was anencephalic". This baby girl with the visible congenital anomaly died the next day. Her death was clearly distinguished from "stillbirth". The presence of a certified midwife who monitored the medical condition of this baby girl secured the accuracy of the latter's death report in the vital statistics record.

While three infants died in the early neonatal period as described above, the specter of death disappeared once babies survived this most critical period of their lives. Only one additional death occurred during the post-neonatal infancy stage: an 11-month-old girl who was artificially delivered pre-term in the previous year. Her doctors said it was a miracle that she was even growing. Despite her death just four days before her first birthday, this special commentary in her survey record shows that she had devoted parents who sought quality care for her despite the fact that they already had two other daughters and a son.[21] Data from the survey also suggests that children between one and four years old received quality care. Of the total number of 965 episodes of illness reported in this age range, comprising 189 individuals as of the survey's start date, only three cases resulted in death: one case of whooping cough and two cases of dysentery.[22] The remaining 99.7 percent of these episodes were non-fatal.

The most popular therapeutic treatment for children under five years old was commercial drugs over consultations with doctors (Table 2a). Of the total of 1,118 episodes of illness, including seven cases resulting in death, reported for children under five years old on the day of the onset of illness, 692 cases (or

61.9 per cent) were treated with commercial drugs, 435 cases (or 38.9 per cent) were treated by doctors, and 540 cases (or 48.3 per cent) had resorted to other measures such as folk medicine and diet therapies. Considering the overlap in the above cases, the most common form of therapeutics for children under five years of age was commercial drugs (31.7 per cent), followed by commercial drugs combined with other forms of care (17.9 per cent), and pure doctor care (14.7 per cent). As mentioned earlier, medical consultations with a doctor were expensive therapeutic commodities. The average cost spent to treat each illness was point thirteen yen (¥0.13) on commercial drugs and one point sixty yen (¥1.60) on doctor consultations and care. Thus households with limited budgets preferred commercial drugs (Table 2b). Relying heavily on self-medication, the poor families dealt with children's illnesses that occurred more frequently than in their wealthier counterparts (Table 2b).

Table 2: Common therapeutics for children under five years old

a. Therapeutic combinations for children under five years old

Therapeutic choices	No. of episodes	Rates
Drug	354	31.7%
Drug + doctor	58	5.2%
Drug + doctor + other	80	7.2%
Drug + other	200	17.9%
Doctor	164	14.7%
Doctor + other	133	11.9%
Other	127	11.4%
None	2	0.2%
All cases	1,118	100.0%

Source: Data from Takinogawa District Health Survey (1938–1939)

b. Average expenditure for doctor consultation and commercial drugs per child under five years old and quartiles of monthly household rent

Monthly household rent		No. of episode per child	Average expenditure per child (yen)			Rates of expenditure for doctor consultation
Quartiles	(yen)		Doctor consultation	Commercial drugs	Total expenses (doctors and drugs)	
Min-Q1	5.00-11.99	5.5	5.386	1.001	6.387	84.3%
Q1-Q2	12.00-19.99	4.5	4.750	1.256	6.006	79.1%
Q2-Q3	20.00-29.99	4.4	11.379	0.624	12.003	94.8%
Q3-Max	30.00-300.00	3.7	16.154	0.599	16.752	96.4%
All categories		4.3	9.687	0.872	10.559	91.7%

Source: Data from Takinogawa District Health Survey (1938–1939).

Socioeconomic factors affecting care-seeking behaviors are also taken into consideration. Two hundred twenty-nine children under five years old on the start date of the survey are divided into three groups in Table 3. During the twelve-month prospective survey: 66 per cent of those children received doctor's care at least once (Group A); 24 percent received other kinds of therapeutics without doctor consultations (Group B); and, the remaining 10 per cent either led healthy lives without illnesses to report or were totally neglected with no parental attention to their health (Group C). The median monthly house rent in lieu of a typical household budget was the lowest among children who did not consult a doctor to treat their illnesses (Group B in Table 3a). Similarly, maternal education levels were the lowest among this group of children.[23] Health insurance, which was legislated in Japan in 1922, was shown to have encouraged the surveyed households to seek doctor's care.[24]

The survey committee chief, Komine Shigeyuki, was particularly concerned with the rates of doctor consultation in the context of children's gender. The empirical results revealed that boys' illnesses were more likely to be treated by doctors.[25] Komine very carefully acknowledged the possibility of the "predominance of boys based on our nation's traditional notion regarding heredity", but he had expressed that he was inclined to accept the "traditional wisdom that boys [were] more difficult to raise" (Takinogawa-ku Kenkō Chōsa-kai 1941, 116; Komine 1943). This saying presumes a biological difference between boys and girls regarding susceptibility to childhood diseases. Komine, the medical doctor, preferred a biological explanation over sociocultural ones.

Table 3. Types of therapeutic behaviors

(a) Children under five years old with and without illness episodes by doctor consultations and sociodemographic factors

	No. of children	Median house rent in yen (range)	No. of children with maternal education above primary level	No. of children covered by health insurance	No. of male children	No. of children with nuclear families
A) Children with illness episodes who consulted a doctor	151	20.00 (5.00–130.00)	36 (23.8%)	37 (24.5%)	82 (54.3%)	89 (58.9%)
(B) Children with illness episodes who did not consult a doctor	54	15.00 (7.00–80.00)	7 (13.0%)	10 (18.5%)	26 (48.1%)	33 (61.1%)
(C) Children without illness episodes	24	29.50 (7.00–300.00)	6 (25.0%)	4 (16.7%)	14 (58.3%)	18 (75.0%)
All categories	229	20.00 (5.00–300.00)	49 (21.4%)	51 (22.3%)	122 (53.3%)	140 (61.1%)

Source: Data from Takinogawa District Health Survey (1938–1939)

Table 3. Types of therapeutic behaviors (Con't.)

(b) Individuals with and without illness episodes by age and doctor consultations

Age	(A) Individuals with illness episodes who consulted a doctor	(B) Individuals with illness episodes who did not consult a doctor	(C) Individuals without illness episodes who did not consult a doctor
0–4	151(66%)	54(24%)	24(10%)
5–9	120(50%)	77(32%)	45(19%)
10–14	100(39%)	63(25%)	92(36%)
15–19	79(28%)	47(17%)	153(55%)
20–24	28(21%)	37(27%)	70(52%)
25–29	37(31%)	24(20%)	57(48%)
30–34	49(41%)	39(33%)	31(26%)
35–39	50(32%)	59(38%)	48(31%)
40–44	42(36%)	35(30%)	40(34%)
45–49	35(37%)	30(32%)	29(31%)
50–54	17(27%)	13(20%)	34(53%)
55–59	10(21%)	17(35%)	21(44%)
60–64	12(33%)	13(36%)	11(31%)
65–69	9(31%)	8(28%)	12(41%)
70–74	4(40%)	4(40%)	2(20%)
75–79	3(43%)	1(14%)	3(43%)
80–84	1(25%)	2(50%)	1(25%)
All ages	747(38%)	523(27%)	673(35%)

Source: Data from Takinogawa District Health Survey (1938–1939)

Medical-consumer behavior with respect to doctor's care in Takinogawa District was clearly age dependent (Table 3b). Compared with other age groups, children under five enjoyed the highest rate of care from doctors. This age group was also allotted a relatively large amount of funds in their respective family's medical expenditures. Children in this age group comprised only 13.2 per cent of the sampled population, but the total amount of their doctor's fees added up to 19.6 per cent of all the money spent by the surveyed households on doctor consultations. Families in Takinogawa valued their children's welfare, and these children had a significant impact on the local medical marketplace.

So, was this age-dependent pursuit of doctor's care related to different types of illnesses experienced by different age groups? The next analysis is based on visible medical symptoms reported by the surveyed population. Since the survey committee painstakingly tried to capture the local people's subjective morbidity, a rich variety of commonplace expressions describing illnesses was preserved in the survey records. The most common term used for symptoms of illness was "fever," followed by "cold," "cough," and "pain," or other types of body "-ache[s]" (Table 4). Children under five years of age enjoyed higher rates of doctor care for most of these symptoms.[26] Noting these findings, Komine praised "the therapeutic mind of the parents who were devoted to caring for their beloved children" (Komine 1943).

It is noteworthy that children's pain was taken seriously once parents recognized these as medical problems, especially when common illness complaints for children under five years old were scrutinized. Among the illness episodes explicitly involving the symptom of pain, a high percentage (43.8 per cent) resulted in doctor consultations (Table 4). For children under five years old, the common sites of pain were teeth, belly (*hara*), throat, and ears (Table 5a). It is important to be cautious when reading these statistical records. For example, compared with 12 cases of throat pain, there were three times as many episodes described by parents as "tonsillitis" or simply "tonsils" (Table 5b). From a clinical perspective, these "tonsils" problems were highly likely to have been accompanied by strong throat pain, although the expression of pain was deleted in the parental reports. The same kinds of altered reports of pain were observed in the ears with cases of otitis media. Tonsillitis (*hentōsen-en*) and otitis media (*chūji-en*) are inflammations (*-en*) in localized organs and are classified as such under modern Western medicine based on anatomy and biology. In Takinogawa in the 1930s, parents were gaining familiarity with newly imported notions of Western medicine. As a result, biomedicalization of pain in children was taking place, providing modern explanations to common complaints of children.

Table 4. Common illness symptoms for children under five years old and their rates of doctor consultation in comparison with older ages

Reported symptoms	Individuals under five years old			Individuals over five years old		
	No. of episodes	No. of doctor consultations	Rates of doctor consultations	No. of episodes	No. of doctor consultations	Rates of doctor consultations
Fever	255	109	42.7%	275	124	45.1%
Cold	234	104	44.4%	833	174	20.9%
Cough	221	86	38.9%	324	78	24.1%
Pain or "-ache"	137	60	43.8%	895	220	24.6%
Vomiting/ diarrhea	121	52	43.0%	154	48	31.2%
Injuries	65	9	13.8%	227	44	19.4%

Source: Data from Takinogawa District Health Survey (1938–1939)

Table 5. Pain as a reason for doctor consultations for children under five years old

a. Reasons for doctor consultations for children under five years old with explicit mention of pain

Localization of pain	No. of episodes	No. of doctor consultations	Rates of doctor consultation
Teeth	46	31	67.4%
Belly (*hara*)	46	9	19.6%
Throat	12	6	50.0%
Ear	8	7	87.5%
Head	6	1	16.7%

Source: Data from Takinogawa District Health Survey (1938–1939)

Table 5. Pain as a reason for doctor consultations for children under five years old (Con't.)

b. Reasons for doctor consultations for children under five years old without explicit mention of pain

	No. of episodes	No. of doctor consultations	Rates of doctor consultations
Tonsillitis/"tonsils"	35	28	80.0%
Otitis media	8	8	100.0%

Source: Data from Takinogawa District Health Survey (1938–1939)

In Takinogawa's local therapeutic marketplace, parents utilized both traditional drugs and innovative pharmaceutical products to deal with childhood illnesses. Table 6 shows the most commonly used over-the-counter drugs to treat illnesses of children under five years old. By far, the most popular brand was *Kyūmei-gan*, or literally "Life-saving Pill", the cure-all herbal mixture for children that had been sold since the early seventeenth century. On the other hand, all other drugs listed on Table 6 are products of the twentieth century. For example, Exihos, a poultice advertised to be effective in modern diseases such as otitis media and tonsillitis, had been available for only ten years at the time of the survey, but was already ranked second of the available drugs for children under five years old.[27] While these modern drugs were also popular among adults, traditional *Kyūmei-gan* was exclusively consumed among children in a distinctive age category. In the context of children's therapeutics in the 1930s, the established market presence of *Kyūmei-gan* resonates with the arguments by Kessel and Bonah 2016, which, based on pharmaceutical market data in West Germany, highlighted the continued material existence and therapeutic significance of older medicines in the twentieth century. In Takinogawa, self-medication with traditional remedies coexisted with innovative drug use as well as university-based, technically-sophisticated biomedicine, as seen in the case in Figure 1 (Case No. 16 in Table 1).

Table 6. Popular over-the-counter drugs for children under five years old

Popularity among children under five	No. used for individuals under five years old	No. used for individuals over five years old	Highest age of user	Brand name	Preparation	Product release
1	139	33	10 y/o	*Kyūmei-gan*	Oral remedy	before 1620
2	36	53	79 y/o	Exihos	Poultice	1929
3	35	104	62 y/o	Mentholatum	Ointment	1920
4	20	59	62 y/o	Oxyful	Disinfectant (hydrogen peroxide)	1914
5	20	50	60 y/o	*Ozo*	Ointment	1920
6	15	11	58 y/o	*Ichijiku kanchō*	Enema	1925
7	12	20	63 y/o	Biofermin	Oral remedy (probiotics)	1917

Source: Data from Takinogawa District Health Survey (1938–1939)

Therapeutics in Takinogawa District and rural villages

The therapeutic behaviors observed in the Takinogawa District Health Survey were not typical of contemporary communities in 1930s Japan. As mentioned earlier, doctors, midwives, and hospitals were distributed unevenly across the country. This section briefly highlights the differences in the utilization of medical resources in cities and villages.

In a rural village in Okayama Prefecture, public health researchers from the Kurashiki Institute for Science of Labour (ISL) reported 113 live births, two stillbirths, and 11 abortions between 1932 and 1934.[28] Compared with the survey in Takinogawa, the discrepancies in the empirical results are not in the pattern of vital statistics but rather in the degrees to which neonatal and maternal care were professionalized and medicalized. In this village, 37.6 percent of pregnancy deliveries were either unassisted, or were aided by female family members (i.e., mothers or mothers-in-law) or their neighbors only (Shirai and Yokokawa 1936). In dimly lit rooms, these unskilled birth attendants with unclean hands cut and tied off umbilical cords using unsterilized scissors and string. A surveyor from the ISL was shocked to see blood continuously oozing from a newborn's umbilical cord stump and lamented that the scene "struck fear into the heart of the observer with modern knowledge of medicine" (Yokokawa 1936, 111). It is also noteworthy that during this time abortions and stillbirths in the village had yet to be medicalized. Among the 13 known abortion and stillbirth cases in this village survey, only five pregnancy deliveries were performed under a doctor's care (Shirai and Yokokawa 1936, 664). Thus, risk brought about by the lack of access to licensed professionals needs to be emphasized.

By 1936, the large numbers of "doctorless villages" (*mui-son*), with a combined population of eight million people across Japan, were among the nation's major public health problems. Although the total number of doctors nationwide increased from 43,273 to 53,376 in the eight years between 1928 and 1936, doctors who practiced in rural areas decreased from 14,027 to 11,752 during the same period of time (Naimushō 1936, 10).

The deteriorating economies in rural areas resulted to the "out-migration of doctors" (Naimushō Keihokyoku Hoanka 1934). Limited access to doctors increased not only patients' transportation expenses but also medical fees they had to pay for doctors who were requested to make house calls. As a result, household expenditures allotted for doctor consultations lessened among low-income families in rural areas, leaving the poor to self-medicate (Zenkoku Kōsei Nōgyō Kyōdō Kumiai Rengōkai 1968, 72). Such trend regarding doctor care-seeking coheres with the survey results in Takinogawa (Table 2b).

To ensure villagers' access to "supreme, pure, durable, and low-priced" household medicine (*katei-yaku*), the Industrial Union (*Sangyō Kumiai*), a

cooperative established in 1900 under the Industrial Union Act to contribute to the stable lives of farmers, scaled up its public health program beginning in 1934, with the goal of distributing a medicine kit to every household in rural areas.[29] A standard kit contained 10 to 18 types of *katei-yaku*. On the other hand, the number of different types of OTC drugs and *katei-yaku* that were consumed in the Takinogawa District Health Survey was 672. According to Komine, this figure is "stunning" and, in the context of a controlled war time economy, it had to be corrected (Takinogawa-ku Kenkō Chōsa-kai 1941, 95–6).

In the course of the Sino-Japanese War, the scarcity of medical resources began to be heavily felt nationwide. The decrease in the supply of raw materials due to import controls, increased exports to overseas colonies, unprofitable pricing, and inequitable distributions were some of the primary reasons for the lack and shortage of medical drugs (Komine 1940). In this regard, the empirical evidence on the utilization of medical resources, which the Takinogawa District Health Survey provides, served as a platform toward a common public health policy in Japan during this period.

The medical marketplace that characterizes the Takinogawa District during the period under consideration was not a typical representative of other areas in Japan. Its exceptionally rich medical resources, which included a well-organized professional association of doctors, dentists, midwives, and pharmacists who took part in the survey, however, made the 12-month prospective study possible. This singular characteristic of Takinogawa District made it an ideal subject in conducting a public health survey.

Conclusion

In a Tokyo suburb on the eve of World War II, the government-led Takinogawa District Health Survey was able to capture the nuanced realities of the therapeutic environment of infants and young children. Despite the valuable data that the surveyors collected, their insights as drawn from the survey were rather conservative and straightforward. They held that "the high morbidity rates of the little citizens who [were] to shoulder the future [were] an issue to be seriously reflected on from the perspective of public health policies" (Takinogawa-ku Kenkō Chōsa-kai 1941, 115). Nevertheless, they also emphasized the personal responsibilities of "mothers as direct caretakers" (125). By identifying examples of childhood illnesses and injuries due to the "lack of attention by the mother and the family", the survey report only concluded that these health troubles were "likely to be prevented by encouraging a bit of attention at home" (125–8). In this regard, the trends in public health studies even during that time, which gave premium to children's health as a social issue, were reduced to a domestic problem in the Takinogawa survey. On a positive note, despite the conservative

and gendered perception of maternal responsibility, the potential of the survey is not diminished.

Beyond its original objective to serve the controlled economy and public-health policy-making in a period of war, the archival data from the Takinogawa District Health Survey vividly narrates the ways in which families of sick children explored the different types of therapeutics in a pluralistic medical marketplace. The empirical results that the survey provides prove Japanese families' commitment to therapeutic care for their offspring. Newborn babies and sick children were thoroughly cared for in a Tokyo suburb in the late 1930s.

Endnotes

[1] For a historiography of parental reactions to children's illness and death in Western cultures, see Cunningham 1998, Newton 2012, Riley 1989, and Wall 2007; in early modern Japan, see Wu 1995 on Chinese mourning literature, and Walthall 2017.

[2] The final report of the survey, Takinogawa-ku Kenkō Chōsa-kai 1941, was reprinted as Takinogawa-ku Kenkō Chōsa-kai 2009. For a previous study on the Takinogawa District Health Survey, see Suzuki 2008 and 2004.

[3] The Ministry of Health was established in January 1938 in the wake of the Sino-Japanese War in 1937. Wartime laws such as the National Mobilization Law, ratified in April 1938, justified the 12-month mandatory reporting of therapeutic behaviors, an obviously burdensome undertaking for the selected households (Takinogawa-ku Kenkō Chōsa-kai 1941, 5).

[4] For medical marketplaces, see Cook 1986. A coexistence of more than one medical system in a local medical marketplace, or a plurality in medicine, has been documented in many societies including modern Japan (Leslie 1976, Kleinman 1980, Lock 1980). For medical plurality in Takinogawa in the 1930s, see Suzuki 2008.

[5] Even when the participating households had failed to keep their diaries, the survey interviewers, whose professional backgrounds were not indicated in the survey's final report, recorded the family members' oral reports "as they were" without making diagnostic interpretations (Takinogawa-ku Kenkō Chōsa-kai 1941). Although it is clear that there is a possibility that interviewers modified parts of the report, the obtained results still preserve the rich diversity in lay expressions of self-defined health problems.

[6] A total of 129,346 residents in 28,661 households comprised the Takinogawa District as of August 1937. The initial sample frame of the survey consisted of 354 households with 2,215 residents. Household members without intact health records spanning 12 months due either to mid-survey deaths (24 individuals), births (29 individuals), and births subsequently followed by deaths (3 individuals), and relocations (240 individuals), were removed from the sample frame. The remaining 1,919 individuals from 339 households were included in the final report, completed in November 1941 (Takinogawa-ku Kenkō Chōsa-kai 1941). In my paper, mid-survey births and deaths both were part of the statistical analysis, comprišing ďata from 1,975 individuals from 339 households.

[7] Some of the sampled households contained large numbers of "hired persons" (*yo-nin*) as members. Many of the hired men and women were teenage immigrants from rural areas across Japan. The unmarried young workers developed characteristic protrusions in Figure 2c.

[8] In the survey, a person's age was counted according to the traditional Japanese age system where a newborn was considered to be one year old (*sai*) on the day of birth and would turn another *sai* on New Year's Day. Thus, an infant, defined as an individual within the first year of life beginning on the day of birth, was represented as either one *sai* or two *sai* in the survey. This paper indicates a person's age in the modern age system.

[9] Based on Prewar Base Corporate Goods Price Index of the Bank of Japan, the estimated nominal value of two point twenty yen (¥2.20) in 1939 has a real value of one thousand and ninety-seven yen (¥1,097) or nine dollars and sixty-six cents (US$9.66) in 2017. Because there is no Consumer Price Index before 1945, the estimated value is made using the annual average amount of all commodities traded in the corporate sector each year.

[10] For a history of perceptions of the body in sickness, see Duden 1991 on the female body; Riley 1997 on the workingmen's body; and, Kuriyama and Kitazawa 2004 on the modern Japanese body.

[11] The all-encompassing approach towards the neonates, fetuses, and pregnant mothers has become the standard in today's perinatology and maternal-fetal medicine. See Bhutta et al. 2014, and Liu et al. 2015.

[12] In 1930s Japan, abortion was defined as pregnancy terminated artificially or spontaneously during the first 28 weeks of gestation. See Iwase 1936, 166.

[13] The sparse literature on this subject includes historian Sawayama Mikako's 2017 work on early modern Japan.

[14] There were 2,552 live births, 93 stillbirths, and 76 abortions in the entire Takinogawa District in 1938 (Tōkyō Shiyakusyo 1940). The rate of live births was 93.79 per 100 births in the whole district but the rate dropped to 82.05 in the sampled household. The reasons are unknown.

[15] For a history of modern midwifery in Japan and a long-standing conflict between certified midwives and obstetrician-gynecologists, see Homei 2006 and Kimura 2013.

[16] In Case Nos. 2 and 6, regional social workers (*hōmen iin*) arranged a discounted service fees for certified midwives. In Case No. 29, the household made no payment for the certified midwife because she was the mother-in-law of the pregnant woman. In Case No. 33, health insurance totally covered midwife and doctor's fees. For other works on social workers in Tokyo, see Ogasawara and Kobayashi 2015.

[17] To assess the economic status of each household, monthly house rent was used in lieu of a typical household budget.

[18] Neonatal medicine was originally part of pediatrics at the beginning of the twentieth century in Japan. By the 1920s, the rise of large-scale maternity institutions in urban areas enabled obstetrician-gynecologists to accumulate clinical knowledge on the physiology and pathology of newborns, especially preterm infants. By the 1930s, obstetric-gynecology became the leader in neonatal medicine. See Mihara 2016.

[19] In July 1941, three years after the Takinogawa survey was made, the National Eugenics Law (*Kokumin yūseihō*) went into effect and mandated each doctor to submit a report, with a supporting second opinion from another doctor, to the administrative office before performing a procedure of artificial abortion. The law eventually discouraged medically facilitated abortions. For the history of eugenics and abortion in Japan, see Norgren 2001, Robertson 2010, and Frühstück 2003.

[20] The disease takes its name from a Danish pediatrician, Harald Hirschsprung (1830-1916), who, during a conference in 1886, reported two infants who died of congenital megacolon. He published the cases in 1888. See Skaba 2007.

[21] The baby girl was the youngest of a nuclear family of five. Their monthly house rent of eleven and point fifty yen (¥11.50) fell into the lowest quartile. I am assuming that since the father was a telegraph operator and the mother was a housewife, the parents were able to devote time to care for their baby.

[22] One of the two fatal cases of dysentery was classified as *ekiri*, a severe type of dysentery commonly affecting young children. Their deaths, both at two years of age, took place at Toshima Hospital, a metropolitan institution for contagion located in an adjacent district. The surviving group of dysentery patients in the survey (a total of 10 individuals between two and 37 years old) was institutionalized under the Communicable Disease Prevention Law of 1897.

[23] House rent and maternal level of education were not independent factors. The median house rent was thirty yen (¥30.00) for mothers who obtained education beyond the primary level and seventeen yen (¥17.00) for mothers with only primary level education.

[24] For a history of health insurance in Japan in the 1930s, see Higuchi 1974, Ikegami et al. 2011, and Takaoka 2011.

[25] Of the 599 episodes of illness reported for 122 boys aged below five years on the survey start date, doctors treated 251 episodes (42 percent of the total number of boys' illnesses) experienced by 82 individuals (67.2 percent of the total number of boys). Of the 519 episodes of illness reported for 107 girls, doctors treated 184 episodes (35 percent of the total number of girls' illnesses) experienced by 69 individuals (64.5 percent of the total number of girls).

[26] The exceptions were only for fever and injuries, possibly reflecting job-related reasons from working-age patients.

[27] In the age of rapidly modernizing therapeutic preferences in Japan, this seemingly marketing success possibly implies aggressive advertising efforts through newspaper ads and other media.

[28] The ISL, currently known as the Ohara Memorial Institute for Science of Labor, was established in 1921 by Ōhara Magosaburō (1880–1943), president of the Kurashiki Textile Company and a philanthropist. The ISL was one of the leading private institutions for occupational health research in 1930s Japan.

[29] The union's medicine-distribution effort sparked a conflict with traditional medicine-kit distributors (Zenkoku Kōsei Nōgyō Kyōdō Kumiai Rengōkai, 1968, 390–91). For the union's public-health programs, see, for example, Sangyō Kumial Chūōkai 1937, Zenkoku Kōbai Kumiai Rengokai 1938, and Takaoka 2011.

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ACKNOWLEDGMENTS

This work was supported by the Japan Society for the Promotion of Science (JSPS) KAKENHI Grant Number 17J04493. A preliminary version of this article was presented at the 2018 American Association for the History of Medicine Annual Meeting, California, United States of America. Suggestions from the audience and Jeremy Greene have been helpful in developing my argument. I am especially grateful to Kazushige Komine, who allowed me access to the archive of the Takinogawa District Health Survey now housed at the Komine Institute in Tokyo.

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