Moving the Needle

improving uptake of adult vaccination in Japan

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What happens next

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Stripe Partners and ILC
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Contents

Project context

- The COVID-19 pandemic has put the widespread need for immunisation into sharp focus and is shining a light on the need to drive forward the global agenda on preventing ill health
- For a wealthy and ageing country, Japan remains an outlier in terms of attitudes to adult vaccination, with surveys showing that just 4.7% of adults in Japan agreed that vaccines were important, 25.1% agreed they were safe, and 9.9% agreed they were effective[1]
- Despite grappling with a flu epidemic in 2019, Japan is still struggling to significantly raise vaccination uptake rates among people aged 65 and over
- However, COVID-19 has presented a number of new challenges and opportunities to increasing vaccination uptake in Japan

[1] https://ilcuk.org.uk/wp-content/uploads/2019/05/ILC-Under-the-skin.pdf

This innovative ethnographic project, led by Stripe Partners and ILC, works to identify, develop and refine two implementation-ready interventions designed to increase the uptake of vaccinations for people aged 65 and over in Japan.

About us

Stripe Partners is a research and innovation consultancy helping businesses to invent better futures. Our approach uses social science, with an emphasis on ethnographic research, to give companies a deep understanding of the world, their customers and their organisations.

We collaborate with progressive teams to create new products, services and interventions, driving the innovation that shapes tomorrow.

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The ILC is the UK's specialist think tank on the impact of longevity on society, and what happens next.

The International Longevity Centre UK was established in 1997 as one of the members of the International Longevity Centre Global Alliance, an international network on longevity.

We work with central government, local government, the private sector, and professional and academic associations in the UK and across the world to provoke conversations and pioneer solutions for a society where everyone can thrive, regardless of age.

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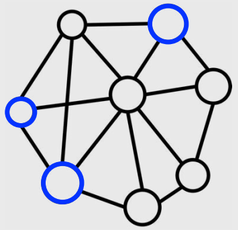
Japan's health system



Japan's public health system is decentralised.

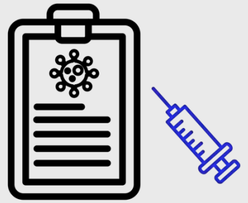
It is split between central and local government, different Ministries, between providers within the health system (i.e. Public Health Centres) and private actors (i.e. the workplace)[1].

[1] OECD (2019) OECD Reviews of Public Health: Japan

Japan has a statutory health insurance system (SHIS).

SHIS consists of two types of mandatory insurance:

1. Employment-based plans
2. Residence-based insurance plans (which vary between prefectures):
   a. Citizen Health Insurance plans for non-employed individuals (aged 74 and under)
   b. Health Insurance for the Elderly (all adults 75+)



Japanese immunisation law covers two categories: routine recommended, and voluntary vaccinations.

Routine recommended vaccines are fully subsidized, voluntary vaccinations partly subsidized.

Subsidies are managed by local municipal governments so can often vary between regions[2].

[2] Ando, et al. (2022) Disparities in co-payments for influenza vaccine among the elderly, during the COVID-19 pandemic in Japan

Vaccinations in Japan

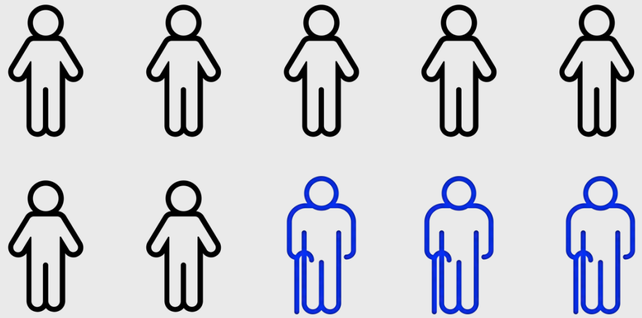
Japan has seen the successful uptake of COVID-19 vaccinations— the country has achieved a fully vaccinated rate of >80% against COVID-19[1].

Childhood vaccination rates are also very high—96% of one year olds have been vaccinated against polio (Pol3) and diphtheria, tetanus and pertussis (DTP3)[2].

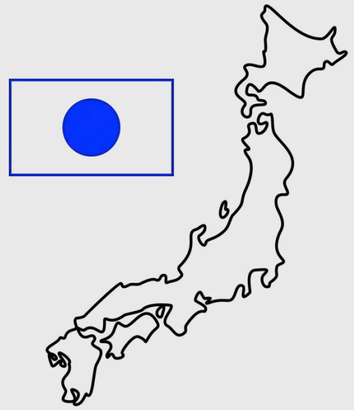
However, adult vaccination rates remain low—current uptake levels in Japan continue to fall short of the World Health Organisation's (WHO) target of 75%, with just over half of Japanese adults aged 65 and above currently vaccinated against the flu[3].

[1] Our World in Data: 'https://ourworldindata.org/coronavirus' (Dec 2022)
[2] WHO; UNICEF (2022)
[3] OECD (2021) Health at a Glance 2021

Japanese ageing context



Japan has one of the longest life expectancies in the world—people live long and healthy lives with nearly 3 in 10 people in Japan aged 65 or above[1].



Understanding ways to support healthy ageing is fundamental to supporting wellbeing across the life course, as well as the long-term socio-economic sustainability of Japan.

[1] Statistics Bureau of Japan (2020) Population Census

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Summary: health and ageing in Japan

Key insights	Implications and opportunities
→ Independence matters, and work carries on past retirement	→ Work (and the ability to continue it) represents a target for interventions / communications
→ Health is holistic: mind and body. Being active is seen as vital to maintaining holistic health	→ Position vaccines as the way to stay mobile and active
→ "Raising immunity" is important to stay healthy and Western medicine is only for the weak and sick	→ Communications should focus on shifting the mindset around vaccines to helping "raise your immunity" rather than "only for when you're weak"
→ Medical care is easily accessible when people need it	→ The key issue isn't access to clinics, but awareness and understanding of diseases / vaccines

Summary: the Japanese healthcare system

Key insights	Implications and opportunities
→ Preventative medicine is not part of the national health insurance, barring the annual health check (a yearly medical examination)	→ The annual health check is an opportunity to reach people on an annual basis to raise vaccine uptake
→ Vaccine policy is set at national level, but local governments implement it	→ Local government should be the primary target for short term changes to address uptake
→ Budgets to cover vaccine rollouts are limited, COVID-19 is the exception	→ Integrated care systems and pooling budgets could change incentives for local government
→ Past controversies have led to a cautious approach to vaccines by the government	→ There is a need for stronger recommendations and a focus on benefits in communications

Summary: the vaccine journey in Japan's healthcare system

Key insights	Implications and opportunities
→ The healthcare system is fragmented: doctors don't know who has had a vaccine and many don't often feel responsible for discussing vaccines with patients	→ The introduction of unified digital health record could be a chance to encourage doctors to discuss vaccines
→ Letters from local government are a vital trigger to getting a vaccine	→ Letters are an opportunity for targeted communications through a system which is already in place
→ In cities, vaccines are not always readily available for walk-ins and people can be turned away	→ Pre-booking appointments for people or offering walk-in slots represent opportunities for larger cities
→ Most vaccines are available in clinics or hospitals, but must be delivered by a doctor or nurse	→ Making vaccines available in more locations and delivered by other healthcare professionals (eg. pharmacists) could increase uptake

Summary: sources of influence

Key insights	Implications and opportunities
→ Doctors are highly influential, but don't regularly discuss / recommend vaccines to their patients	→ Doctors are a key opportunity group to target about the importance of vaccinations
→ Intergenerational households are common, sons hold a considerable amount of influence with their parents	→ Interventions should be cross-generational and also target younger generations who can influence their older parents
→ Government information was trusted, even after past vaccine policy controversies	→ Government level policy change and messaging would have a high impact
→ Adverts, posters and social media were seen as subjective and an untrustworthy source by older people, but the news was highly trusted	→ Awareness campaigns using adverts / posters / social media could be effective but need to be used alongside other interventions to trigger action
→ Social media can have a high impact in professional circles when from a trusted source	→ Social media could be an effective communication channel to reach doctors, provided it comes from a trusted and legitimate source

Summary of attitudes and barriers to vaccines

There are 3 main barriers to getting a vaccine:

1.
Lack of awareness

“I didn’t know about it.”

- No knowledge about the disease
- Not a topic of conversation
- No recommendation from doctor, nurse or family
- No letter from government
- No reminders about eligibility

Currently, letters are the only effective awareness channel that triggers action.

Interventions should focus on increasing awareness across additional communication channels and take on more innovative formats.

2.
Don’t take it seriously

“I’m healthy, the disease won’t affect me that badly.”

- Belief in their strong immune system
- Doesn’t think disease is severe
- No sense of urgency
- Belief that effective treatments are available
- Doesn’t think disease is infectious
- No recommendation from doctor, nurse or family

This group are not against vaccines, they just don’t believe they personally need them.

Effective interventions should emphasise the urgency, severity and potential health impacts of these diseases, on both themselves and others.

3.
Ideologically opposed

“I don’t want abnormal things in my body.”

- Worried about the side effects / damage on body from vaccine
- Wants to avoid foreign entities in body
- Avoids all medicine
- Misinformation about vaccines

The ideologically opposed are hardest to shift. However, if we can address barriers 1 & 2 and create social norms around vaccines, we have the opportunity to change mindsets..

Interventions which seek to address barriers 1 & 2 and build new social norms will start to shift the ideologically opposed.

There are 3 key intervention spaces that could be effective in increasing vaccine uptake

Each intervention would be tackling all 3 key barriers: lack of awareness, don't take it seriously and ideologically opposed

Test different messaging strategies and channels

- Communication / messaging toolkit
- Target specific channels and groups
  - Government vaccine letters
  - Radio Taiso
  - LINE app
  - Newspaper (lifestyle sections)
  - Other members of the family
  - Doctors

Develop and test vaccine events

- Micro scale intervention: test local vaccine events
  - Local health seminars or talks run by health experts / doctors
  - Pop-up vaccination hubs (which include information / advice as well as on-the-spot vaccinations)
- Macro scale intervention: develop a national campaign
  - National annual health / vaccine day to raise awareness for influenza and pneumococcal
  - Mass vaccination events

Reform the vaccine booking system

- Additional vaccine letter reminders
  - Increase frequency of letters
- Opt-out appointment systems
  - Automatically scheduled appointments each year
- 2-in-1 vaccine appointments
  - Piggyback pneumococcal vaccines onto influenza appointments

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Research objectives

- Understand the context and landscape of the Japanese health care system
- Understand the historical, cultural, behavioural and health care system factors that impact the attitudes and access towards vaccinations
- Identify, develop and refine two implementation-ready interventions designed to increase the uptake of influenza and pneumococcal vaccinations for people aged 65 and over in Japan

Healthcare flyers available to the public in local government office in Akitakata

Methodology

We carried out in-depth in-person interviews:

- with 21 participants
- either at their home or in a mutually suitable place

Topics covered:

- general attitudes to health and wellness
- immunisation background and attitudes
- vaccination journey mapping
- sources of vaccines / health information and their trustworthiness

We interviewed 21 people >65y with a mix of vaccination status

Key:

- C-19 = COVID-19 vaccination
- Flu = influenza vaccination
- Pn = pneumococcal vaccination

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Experts and immersions

We also spoke to 6 experts in Japan:

- Government Affairs Lead for a pharmaceutical company
- Vaccine and Health Policy Director for another pharmaceutical company
- Journalist for a National Japanese Newspaper
- Vaccine officer for a local government office
- x2 local doctors

We carried out a series of immersions during fieldwork:

- Community centre
- Exercise clinic for older people
- Doctors clinics
- Pharmacy
- Kampo pharmacy
- Vaccination centre
- City hall
- Radio Taiso (daily stretching) session

We also consulted a wide group of experts for input and feedback on the interventions from:

- Vaccine public affairs official from a pharmaceutical company in Japan
- ILC Japan
- A British-Japanese foundation
- Vaccine policy director from a pharmaceutical company in Japan
- A senior advisor for a UK public health body
- Japan government affairs director and policy representative at a pharmaceutical company

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Health and ageing in Japan

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→ Medical care is easily accessible when people need it	→ The key issue isn't access to clinics, but awareness and understanding of diseases / vaccines

Although retired, many still work

This was not just for extra money, but because many enjoyed being busy, out and about and interacting with others.

People aged 65 or over accounted for 13.4% of the total labor force in 2021[1].

Urban

In 2021, 698,500 people were signed up to the "Silver Human Resource Centre"[2] which connects retired people with jobs eg. school support teachers, security guards.

Rural

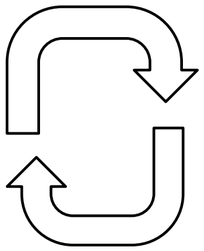
Many people in Akitakata returned to their family home and took up farming as a secondary career.

Intervention opportunity: work (and the ability to continue it) could be a key target space for interventions / communications

[1] https://www.statista.com/statistics/1123412/japan-share-elderly-among-total-labor-force/
[2] National Silver Human Resources Center Association. Annual statistical report. In: NRI Soc Inf Syst Serv, Tokyo. 2020;2021:7-28.

People see their health holistically: being physically mobile, having energy and mental wellbeing

A **healthy body** is maintained through exercise and eating well



A **healthy mind** is sustained by friendship, thinking and hobbies

> Health means I'll walk to the coffin.
>
> – Roku, 67

> Health is to have friends and to enjoy activities with my friends.
>
> – Suki, 75

Older people focus on mobility

Urban

In Tokyo, people were more conscious of engaging in exercise such as walking or Radio Taiso (daily stretching).

Rural

Most participants in Akitakata took on their parents' farm and took an active role in farming the land—this physical work contributed to their sense of being strong and healthy.

The Japanese long-term care insurance (LTCI) scheme[1] actively encourages mobility—one participant became eligible for free stretching sessions at a special gym for older people.

Intervention opportunity: position vaccines as the way to stay mobile and active

[1] https://japanhpn.org/en/longtermcare/

A Radio Taiso session, Tokyo

Staying healthy is often framed as “raising your immunity”

A Radio Taiso session, Tokyo

> “To raise your immunity you need to do exercise and eat nutritiously.
>
> —Tastuo, 79y

Rural:

Overall, the rural sample appeared to interact with doctors and clinics on a less regular basis and didn’t take as much medicine as our urban participants (people reported generally being and feeling healthy).

A strong immune system means that many feel they don’t need a vaccine.

Kampo is seen as a “natural” medicine

Kampo is a type of traditional Japanese medicine that has its roots in Traditional Chinese Medicine.

It is made from natural ingredients—mainly leaves, roots, stems of trees, plants or fungi which are ground into a powder and boiled.

Doctors can prescribe Kampo but the ingredients and ratios are regulated by the government. Kampo pharmacies exist alongside Western pharmacies.

A Kampo pharmacy, Hiroshima

Kampo is felt to be more holistic and personalised than Western medicine


A Kampo pharmacy, Hiroshima

Kampo takes into account the whole body and state of mind of the patient. It is personalised to the individual and acts by treating the underlying cause of the issue. Many take it preventatively and trust it more than western medicine.


A doctor's surgery, Tokyo

Western medicine is centred on treating specific symptoms in a certain part of the body. It is seen as curing one thing but often at the expense of damaging another part of your holistic system. Some people don't like that it is based on "generic" data.

It is often seen as a "fallback" when things go wrong—people see it as a safety net.

Vaccines are seen as part of the Western medical system and therefore used when you are sick / weak; they don't tend to be seen as a general way to reinforce immunity.

Intervention opportunity: Shifting the mindset around vaccines to helping "raise your immunity" vs for "only when you're weak" could be an effective communication strategy

“

Western medicine treats the symptoms, Kampo treats the cause.

—Kampo pharmacist

“

If my body fails me then there is treatment available, but I try and avoid Western medicine where possible.

—Taiyo, 80y, Tokyo

Access to clinics was not an issue

Everyone that we spoke to had a health clinic within an easy short walk or drive from them.

Transport links appeared to be well used and setup and participants didn't report any issues getting to clinics.

Rural

People didn't need to make appointments, especially for vaccinations, but would just turn up on the day and be seen.

Urban

Clinics were mostly in walking distance but appointments for vaccines were always necessary—walk-ins weren't accepted.

Health clinic, Tokyo

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→ Budgets to cover vaccine rollouts are limited, COVID-19 is the exception	→ Integrated care systems and pooling budgets could change incentives for local government
→ Past controversies have led to a cautious approach to vaccines by the government	→ There is a need for stronger recommendations and a focus on benefits in communications

Vaccine policy overview

	Influenza	Pneumococcal	COVID-19
Historical context	• Routine vaccination against influenza was introduced in Japan in 2001 for adults ≥65 years of age • Childhood influenza vaccines used to be mandatory but due to side effects the laws were repealed in 1994	• Added to the national programme after 2009 H1N1 pandemic • 30 million people were originally eligible so they started rolling out the vaccine in 5y cohorts (65, 70, 75 etc)	• Due to past vaccine controversies, the government was cautious rolling out the vaccines, slowing down the initial roll out
General perceptions	• Not a serious disease, more like a bad cold • There are easy cures / treatments available • It's not that infectious • The vaccine is routine • Not a topic of conversation	• The 5y policy is poorly understood • Belief that the vaccine is only effective for 5yrs • Don't think of it as an infectious disease • Some connected it to COVID-19 as both affect your lungs, so take it more seriously • Others had never even heard of it	• People understood how infectious and serious the disease was • High social pressure to get vaccinated —it felt mandatory • Asymptomatic risk felt scary and unknown • No available treatment
Eligibility criteria	• Annual eligibility for all those >65y	• 5 year intervals from the age of 65y • If people don't take up the vaccine then they won't be eligible for 5 years eg. at 70y	• Government started administering vaccines to >65y in April 2021
Budget allocation	• Category II budget: objective to protect individual's health* • Subsidy is offered to those >65y	• Category II budget: objective to protect individual's health • Subsidy is offered to those >65y	• Emergency budget • Full cost covered

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*vs category I: objective to protect public health—all childhood vaccinations come out of the category I budget and are more strongly recommended than category II vaccinations

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Preventative medicine is not covered by national insurance policies

Adults have to pay for life course vaccines.

Childhood and life course vaccinations are funded from different government budgets.

- Childhood vaccines come out of category I budget: these are all free because they are seen as contributing to key herd immunity.
- Life course vaccines come out of category II budget: these are seen as individual preventative measures against disease so are not free but subsidised.

Community centre and local library, Akitakata

“

The price isn’t a big thing for me, if it was serious then I’d take it seriously and pay if I needed.

—Aiko, 82y

One preventative exception is the annual health check

Each year people are eligible for a free annual health check through their national health insurance plan.

- If you are employed, this is done through your employer and is either a requirement or something which is highly incentivised to attend.
- People can choose to pay more for a fuller check at a private clinic, or attend a public clinic for free.
- People have flexibility and choice over which clinic they can attend (from a list of applicable clinics).

…but vaccine information is never included or discussed

The doctors giving the health checks might not have knowledge of vaccines—GP doctors are rare and most specialise in a specific area eg. cardiology.

Intervention opportunity: The annual health check could be a key moment to consistently reach people on an annual basis and raise vaccine uptake. This requires training and support for doctors.

“

I always go to my annual health check, but the doctor never mentions anything about flu to me.

—Daichi, 84y

Local governments lack additional funding to raise vaccine uptake

Vaccine policy is set at a national level, but additional funding is not provided to local governments to carry it out.

Local governments are therefore not incentivised to attempt different ways to increase vaccine uptake (COVID-19 is the exception).

Intervention opportunities:

- Local government should be the primary target for short term changes to address uptake.
- Integrated care systems and pooling budgets could change incentives.

A COVID-19 mass vaccination centre, Akitakata

“

Because COVID-19 is so important the government paid a lot more to us, but other diseases aren’t as severe so we don’t get as much funding to manage it.

—Vaccine officer for a local government office

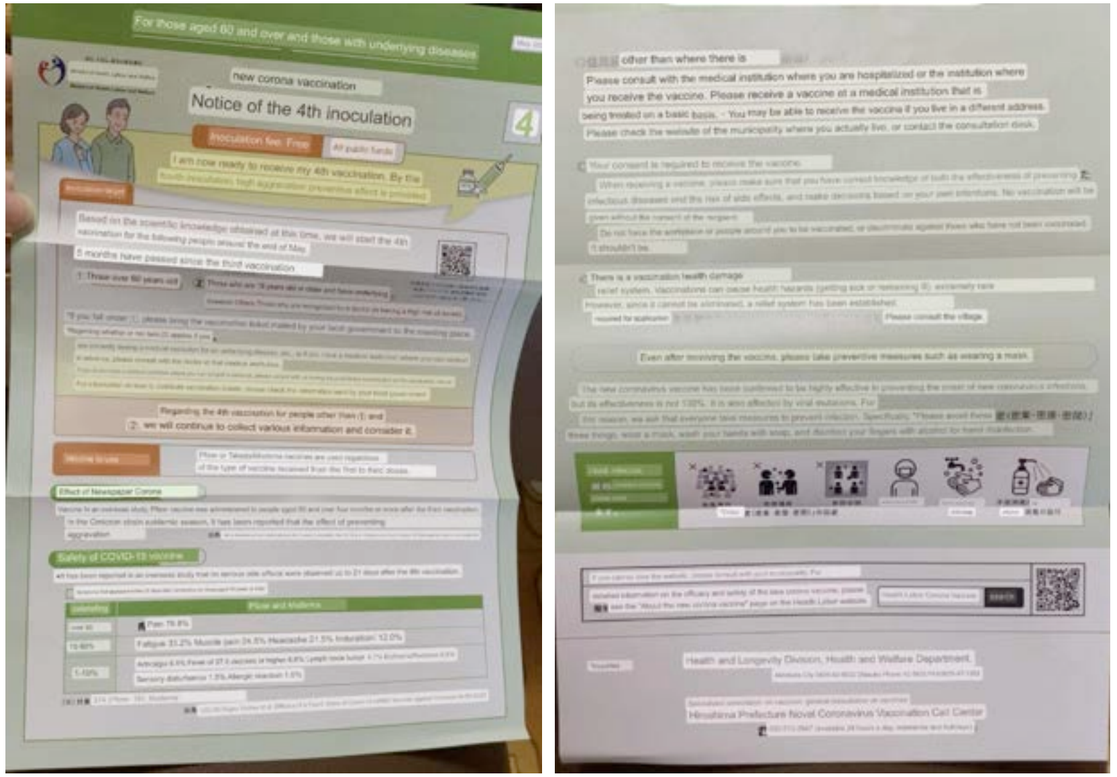
Past vaccine controversies have shaped national policy

Japan experienced controversies around childhood influenza, HPV and MMR vaccines due to adverse side effects.

The Japanese government takes a cautious stance on vaccine policies and will rarely mandate vaccines.

Government communications tend to use neutral language in relation to vaccines and ensures that all the risks and possible side effects are explicitly stated, often before any benefits are mentioned.

Intervention opportunity: there is a need for stronger recommendations and a focus on benefits in communications.



A COVID-19 poster for the 4th vaccine dose explicitly stating all the possible side effects

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The vaccine journey in Japan's healthcare system

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→ The healthcare system is fragmented: doctors don't know who has had a vaccine and many don't feel responsible for discussing vaccines with patients	→ The introduction of unified digital health record could be a chance to encourage doctors to discuss vaccines
→ Letters from local government are a vital trigger to getting a vaccine	→ Letters are an opportunity for targeted communications through a system which is already in place
→ In cities, vaccines are not always readily available for walk-ins and people can be turned away	→ Pre-booking appointments for people or offering walk-in slots represent opportunities for larger cities
→ Vaccines are available in clinics or hospitals, but must be delivered by a doctor or nurse	→ Making vaccines available in more locations and delivered by other healthcare professionals (eg. pharmacists) could increase uptake

Implementation of vaccine policy overview

	 **Influenza**	 **Pneumococcal**	 **COVID-19**
Method of notifications	• Local government sends out letters each year through the post around October	• Local government sends out letters every 5 years through the post around April (start of the financial year)	• Local government sends out letters through the post i when vaccine is available for their age group • In Akitakata, government pre-booked people's 3rd and 4th vaccines in an opt-out system based on their previous appointment time for the 2nd dose
Price (ranges per ward or clinic)	• Total cost from manufacturer is ~5,000JPY • Govt will pays ~3,000JPY • Patient pays ~1,500JPY*	• 1st vaccine is free • The 2nd booster is subsidised (patient pays ~¥3,000)	• Free
Location	• Health clinics, hospitals	• Health clinics, hospitals	• Mass vaccination centres, health clinics, hospitals

*Although subsided, some doctors will charge patients more for a vaccine depending on availability and desire to control demand

Typical vaccine journey

Information sources

Letter: receiving a letter from the government was the biggest information source, alerting people to their eligibility and providing them with a subsidy coupon.

Family: a few people were told they should get a vaccine by family members.

Doctors: it was generally more rare, but a couple of people were told to get a vaccine by their doctor.

Scheduling and booking

The letters provide people with a list of clinics that they can go to get the vaccine.

Phone: people can ring up the most clinics easily.

Online: some booked online or asked a family member to do it for them.

Walk-in: in Akitakata, people were able to walk into a clinic on the day and get an appointment

Transport and getting there

Walk: most people in Tokyo could just walk 5-10 mins to their nearest clinic .

Drive: people in Akitakata could drive 5-15 min to their nearest clinic.

Public transport was available for people if they needed, but generally this wasn't the major method of travel used as clinics were so closeby.

Appointment experience

Doctors and nurses: they are the only ones who can administer vaccines. Pharmacists are not currently licensed.

The Japanese Medical Association (JMA) lobbies to keep this as is in the interest of doctors and nurses.

Post-vaccination

It was rare for people to discuss their vaccine with family / friends; people tend to see their health as a private matter.

The Japanese healthcare system is fragmented

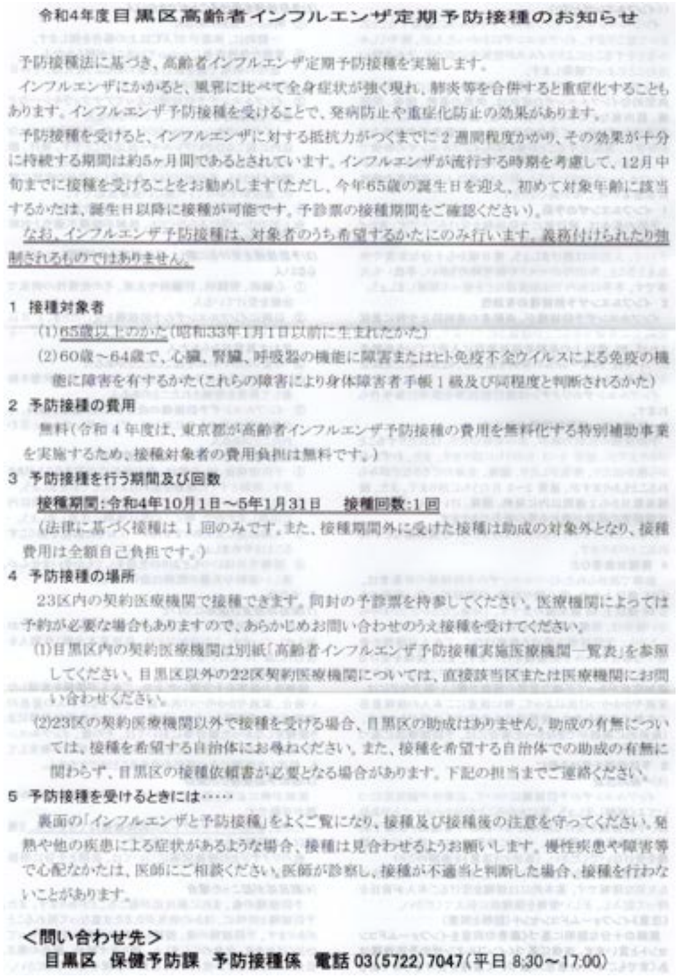
- Health records are locally maintained by each clinic and not shared or recorded electronically
- There is no "family doctor" / GP system—people go to individual specialists
  - This is a positive as it allows people a high level of autonomy and choice over their medical care
  - However, it's harder for doctors to play a role in driving vaccine uptake—they often don't have full oversight over whether their patient has been vaccinated, and many don't feel responsible for discussing it with patients
- Results in an individualisation of risk

Aiko, 82y, showing us her individual health cards that contain her health record for each individual clinic she visits. She had multiple cards, one for each clinic / hospital.

Intervention opportunity: The introduction of a unified digital health record[1] could be used to spur vaccine conversations by any doctor.

[1] This is in line with the MHLW's Data-based Health Management Initiatives Roadmap. Read more here

The vaccination system is based on receiving one letter through the post; this represents a single point of failure



令和4年度目黒区高齢者インフルエンザ定期予防接種のお知らせ

予防接種法に基づき、高齢者インフルエンザ定期予防接種を実施します。

インフルエンザにかかると、風邪に比べて全身症状が強く現れ、肺炎等を合併すると重症化することもあります。インフルエンザ予防接種を受けることで、発病防止や重症化防止の効果があります。

予防接種を受けると、インフルエンザに対する抵抗力がつくまでに2週間程度かかり、その効果が十分に持続する期間は約5ヶ月間であるとされています。インフルエンザが流行する時期を考慮して、12月中旬までに接種を受けることをお勧めします(ただし、今年65歳の誕生日を迎え、初めて対象年齢に該当するかたは、誕生日以降に接種が可能です。予診票の接種期間をご確認ください)。

なお、インフルエンザ予防接種は、対象者のうち希望するかたにのみ行います。義務付けられたり強制されるものではありません。

1 接種対象者

(1)65歳以上のかた(昭和33年1月1日以前に生まれたかた)

(2)60歳～64歳で、心臓、腎臓、呼吸器の機能に障害またはヒト免疫不全ウイルスによる免疫の機能に障害を有するかた(これらの障害により身体障害者手帳1級及び同程度と判断されるかた)

2 予防接種の費用

無料(令和4年度は、東京都が高齢者インフルエンザ予防接種の費用を無料化する特別補助事業を実施するため、接種対象者の費用負担は無料です。)

3 予防接種を行う期間及び回数

接種期間:令和4年10月1日～5年1月31日　接種回数:1回

(法律に基づく接種は1回のみです。また、接種期間外に受けた接種は助成の対象外となり、接種費用は全額自己負担です。)

4 予防接種の場所

23区内の契約医療機関で接種できます。同封の予診票を持参してください。医療機関によっては予約が必要な場合もありますので、あらかじめお問い合わせのうえ接種を受けてください。

(1)目黒区内の契約医療機関は別紙「高齢者インフルエンザ予防接種実施医療機関一覧表」を参照してください。目黒区以外の22区契約医療機関については、直接該当区または医療機関にお問い合わせください。

(2)23区の契約医療機関以外で接種を受ける場合、目黒区の助成はありません。助成の有無については、接種を希望する自治体にお尋ねください。また、接種を希望する自治体での助成の有無に関わらず、目黒区の接種依頼書が必要となる場合があります。下記の担当までご連絡ください。

5 予防接種を受けるときには……

裏面の「インフルエンザと予防接種」をよくご覧になり、接種及び接種後の注意を守ってください。発熱や他の疾患による症状があるような場合、接種は見合わせるようお願いします。慢性疾患や障害等で心配なかたは、医師にご相談ください。医師が診察し、接種が不適当と判断した場合、接種を行わないことがあります。

<問い合わせ先>
目黒区　保健予防課　予防接種係　電話 03(5722)7047(平日 8:30～17:00)

Influenza letter

The healthcare system is almost entirely paper-based with a lack of digital records or online communication channels.

The vaccination letter entitles people to a subsidy (it acts like a coupon). This only gets sent once per year of eligibility.

If you don't get a letter:

- you can't access the subsidised price
- you won't be reminded of your eligibility for a vaccine

> "If I'm not reminded by the letter then I won't get it.
> —Yogi, 80y

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However, when this system works, it's an effective way of reaching individuals

The letter is a key trigger for many to go and get their vaccine. This presents a key opportunity space.

The local government has full oversight and communication channels to all vaccine-eligible people—they have data on who has taken their vaccines due to their subsidy claims.

However the local government currently don't check / follow up on this with people.

Intervention opportunity: Letters are an opportunity for targeted communications through a system which is already in already in place

Community centre and local library, Akitakata

“

It’s like an event as the letter comes every year. It’s part of our routine now.

—Botan, 72y

Despite accessibility of clinics, vaccines weren't always readily available

Urban

People had to phone ahead to pre-book a vaccination appointment. If they didn't they could be turned away due to a lack of vaccine availability on that day.

> I didn't get the vaccine this year because it wasn't available when I went into the clinic. I haven't been bothered to re-book an appointment.
>
> —Aiko, 82y

*More research is needed into the supply / demand mechanisms of vaccines in Japan to understand this issue further.

Health clinic, Hiroshima

Most people had smartphones, but rarely used them to book vaccine appointments

Booking appointments online was not common—people preferred to phone up directly or visit the clinic in person

- For some it was too complicated online
- For others their clinic didn't have an online booking system

If appointments had to be booked online (eg. COVID-19), family members would often help out.

People's main use of smartphones was for messaging friends / family through an app called LINE, and for social media.

> "I have a smartphone which I use for Facebook but I don't like booking things online. I prefer to go and book an appointment in person.
>
> —Daichi, 85y

To help with scheduling, one local government is experimenting with opt-out COVID-19 vaccine appointments

Unlike with routine vaccinations where individuals have to schedule their appointment, Akitakata was trying a new method for COVID-19:

- They gave people pre-booked appointments
- The time and day was based on their previous booster appointment
- It was an opt-out system—if you couldn't make the time then you had to call up and reschedule

COVID-19 mass vaccination centre, Akitakata

Intervention opportunity: Automatically book pneumococcal appointments for a week after people's eligible birthdays, making it an opt out system

Only doctors and nurses can administer vaccines

The JMA (Japanese Medical Association) lobbies to keep vaccination rights exclusively for doctors and nurses; pharmacists cannot administer them.

As one expert explained, because the Japanese healthcare system is private, it is in the JMA's interest to keep it exclusive.

However, this limits:

- where people can get vaccines from (only clinics and hospitals)
- appointment availabilities
- pharmacists ability to recommend and support vaccine uptake
- narrows the available channels for raising awareness

Additionally, some people trusted pharmacists more than doctors as they felt like they spend more time with patients and knew them better.

Intervention opportunity: Making vaccines available in more locations and delivered by other healthcare professionals could increase uptake and raise awareness.

“

I trust the nurse and the pharmacist because they are closer to their patients, they understand them best.

—Haru, 67y

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Sources of influence

Attitudes and barriers to vaccines
Intervention opportunities

Sources of influence

Key insights	Implications and opportunities
→ Doctors are highly influential, but don't regularly discuss / recommend vaccines to their patients	→ Doctors are a key opportunity group to target about the importance of vaccinations
→ Intergenerational households are common, sons hold a considerable amount of influence with their parents	→ Interventions should be cross-generational and also target younger generations who can influence their older parents
→ Government information was trusted, even after past vaccine policy controversies	→ Government level policy change and messaging would have a high impact
→ Adverts, posters and social media were seen as subjective and an untrustworthy source by older people, but the news was highly trusted	→ Awareness campaigns using adverts / posters / social media could be effective but need to be used alongside other interventions to trigger action
→ Social media can have a high impact in professional circles when from a trusted source	→ Social media could be an effective communication channel to reach doctors, provided it comes from a trusted and legitimate source

It was rare for doctors to recommend or discuss vaccines with patients


Health clinic, Hiroshima

- Doctors tend to be specialists so aren't necessarily trained in vaccine information
- No family doctor system means that most doctors don't manage all the healthcare needs for their patients— they just treat specific issues

> If we were paid more to give vaccines, we might do extra training in our own time.
> —Doctor, Tokyo

Intervention opportunity: Doctors are a key opportunity group to target about the importance of vaccinations

Intergenerational households can impact people's vaccination choices

Living with older parents can trigger people to get vaccinated in order to protect against passing on diseases.

Rural

Most people were born in Akitakata, would move away to Hiroshima or another larger city, then return to their family home once retired. The main reason for this was to care for their older parents. Their children tended to live further away in the cities.

> I recognise that my parents are getting old so I got the vaccine to protect them.
>
> —Touma, 71y

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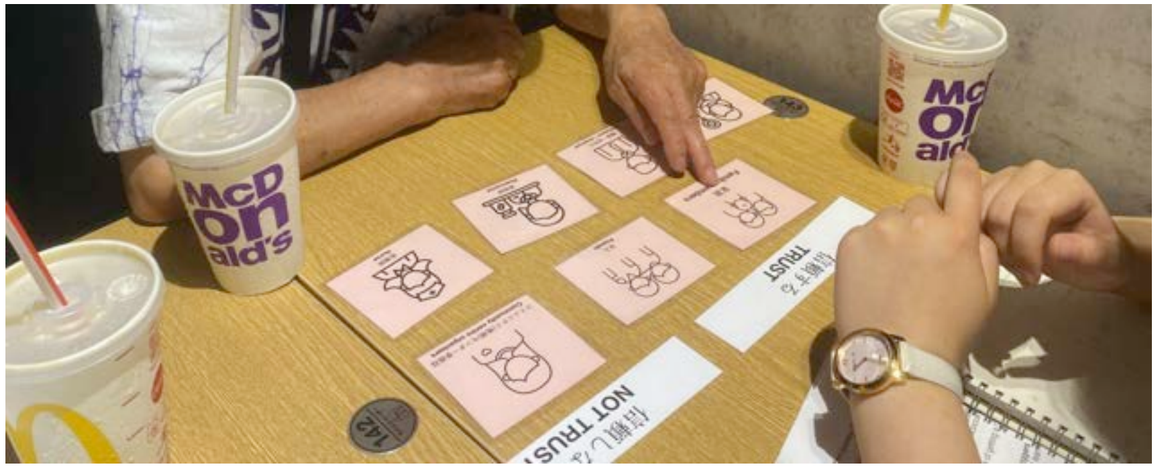
Sons in particular appear to hold considerable influence



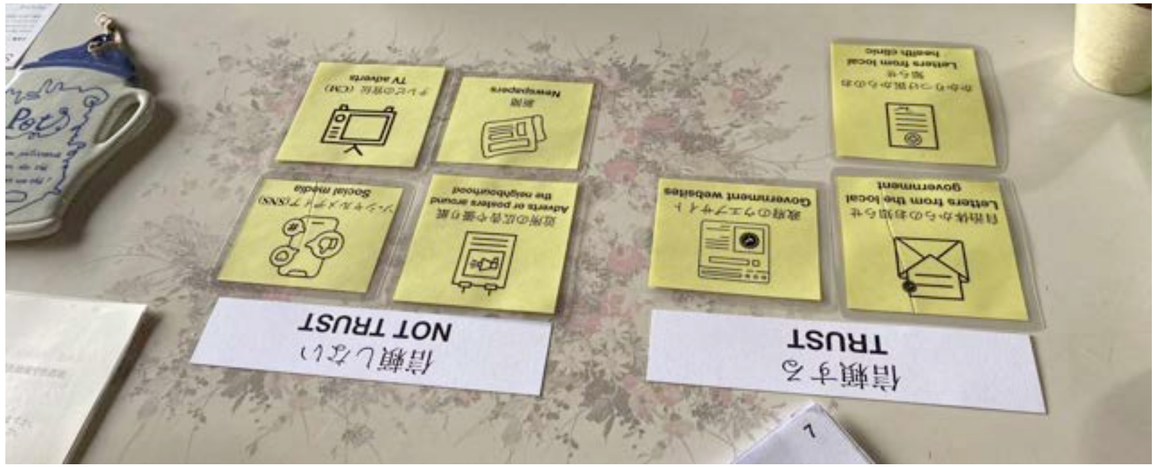
Most people don't discuss their health with friends or family. However, sons who took an interest in their parents' health were influential:

- We heard a number of cases where someone's son had persuaded them to get a vaccine.
- People listen to and respect their sons—they want to make them proud.

> I respect my son so I got [the influenza vaccine]. I want him to be proud of me. I want to be a good mother to my children and be responsible.
>
> —Aiko, 82y

Intervention opportunity: Interventions should be cross-generational and also target younger generations who can influence their older parents

The government was a trusted source of information; people listened and respected them



Past vaccine controversies were not mentioned explicitly as directly shaping people's thoughts and narratives around vaccines.

However, the government's vaccine messaging was often neutral which some people took to mean that it wasn't very important.

> The fact that the city isn't spreading the word that strongly suggests it's not important.
>
> —Haru, 67y

Intervention opportunity: Government level policy change and messaging would have a high impact

Adverts were too subjective to be fully trusted, but did raise general awareness

Adverts, posters and social media were generally not trusted by people as a source of reliable information:

- they were seen as subjective
- they only cared about trying to sell something

However, they did serve a function for increasing general awareness—we heard a number of people reference a pneumococcal poster and TV advert (see image).

However, something more is needed to actually trigger action to go and get a vaccine.

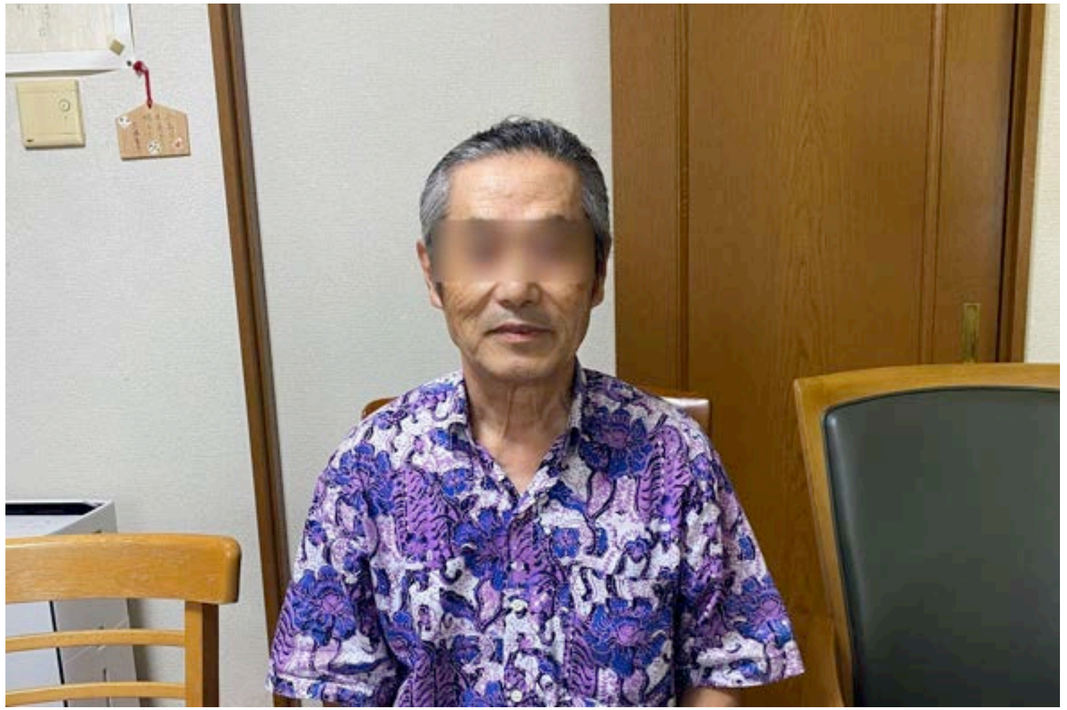
Intervention opportunity: Awareness campaigns using adverts / posters / social media could be effective but need to be used alongside other interventions to trigger action

A poster raising awareness of pneumococcal with a well-known actor

“

I often see a flu poster in the waiting room of the clinic, but I wait until someone tells me to go and get it.

—Tatsuo, 79y



In general, information from social media wasn’t trusted

People used social media mainly to keep in touch with friends and family on LINE or Facebook.

Most found it hard to assess the accuracy of health information from social media so tended to ignore it.

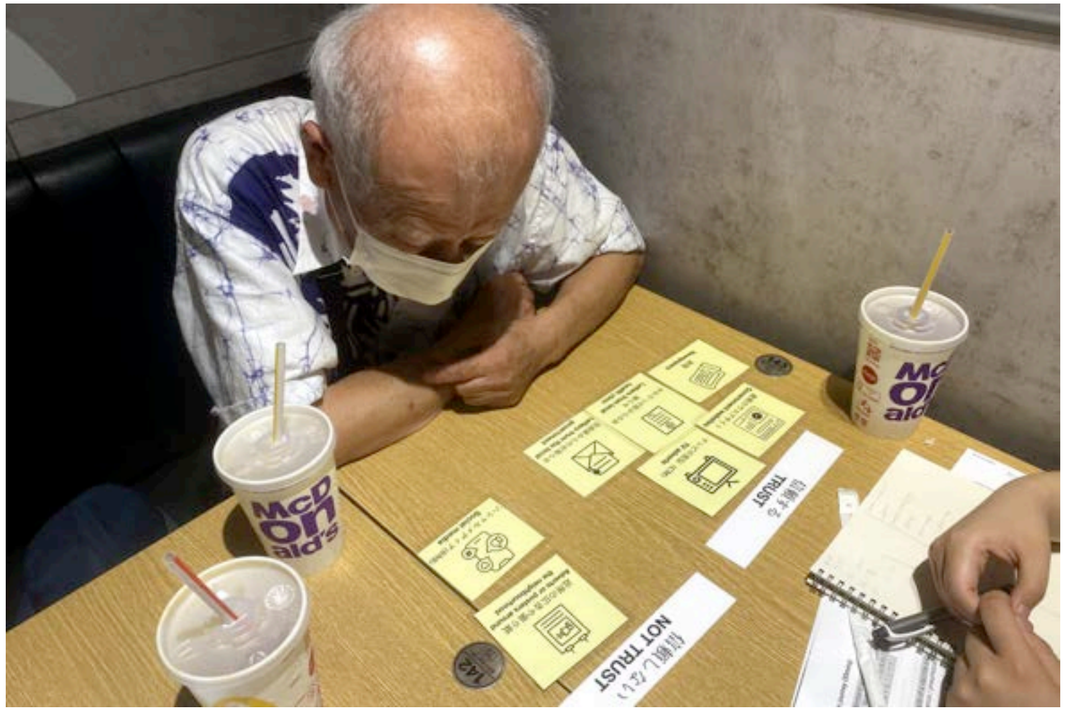
One participant was exposed to a large amount of misinformation on Facebook. She has since changed her mind and now doesn’t trust social media.

> “I read on social media that the COVID vaccine changes your DNA. I was surrounded by a lot of anti-vax friends at that time. Now I don’t trust information on Facebook—anyone can post anything.
>
> —Hanako, 72y

“

Social media is not objective, it’s subjective and polarised.

—Michi, 80y



When used in professional circles, social media can have a large impact

During the pandemic, a senior doctor who was associated with the Japanese Medical Association (JMA) tweeted that doctors should offer pneumococcal vaccines to help reduce COVID-19 complications.

This caused the pneumococcal vaccine to sell out in Japan for a period of time.

Intervention opportunity: Social media could be an effective communication channel to reach doctors, provided it comes from a trusted and legitimate source.

News is an important and trusted channel

People have high trust in national news outlets. They regularly engage with both TV news and newspapers, with many enjoying the ‘lifestyle’ supplements.

COVID-19 stats were constantly reported on the news and many people spoke about how the numbers made them understand the severity of the virus.

As influenza and pneumococcal aren’t well reported, many took this as a sign that it wasn’t serious.

> “I want to see the numbers and the evidence on the news. They never tell you about flu and how many people got it and how many died.
>
> —Aiko, 72y

News channel showing the number of COVID-19 infections per 100,000 in each prefecture

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Summary of attitudes and barriers to vaccines

There are 3 main barriers to getting a vaccine:

1.
Lack of awareness

"I didn't know about it."

- No knowledge about the disease
- Not a topic of conversation
- No recommendation from doctor, nurse or family
- No letter from government
- No reminders about eligibility

Currently, letters are the only effective awareness channel for pneumococcal that triggers action.

Interventions should focus on increasing awareness across additional communication channels and take on more innovative formats.

2.
Don't take it seriously

"I'm healthy, the disease won't affect me that badly."

- Belief in their strong immune system
- Doesn't think disease is severe
- No sense of urgency
- Belief that effective treatments are available
- Doesn't think disease is infectious
- No recommendation from doctor, nurse or family

This group are not against vaccines, they just don't believe they personally need them.

Effective interventions should emphasise the urgency, severity and potential health impacts of these diseases, on both themselves and others.

3.
Ideologically opposed

"I don't want abnormal things in my body."

- Worried about the side effects / damage on body from vaccine
- Wants to avoid foreign entities in body
- Avoids all medicine
- Misinformation about vaccines

The ideologically opposed are hardest to shift. However, if we can address barriers 1 & 2 and create social norms around vaccines, we have the opportunity to wear down the 3rd barrier.

Interventions which seek to address barriers 1 & 2 and build new social norms will start to shift the ideologically opposed.

There were 3 major barriers for why people weren't getting a vaccine

1.
Lack of awareness

"I didn't know about it."

2.
Don't take it seriously

"I'm healthy, the disease won't affect me that badly."

3.
Ideologically opposed

"I don't want abnormal things in my body."

Barriers are often interrelated and many people experience compounding reasons for not getting vaccinated

Emi, 87y

- Influenza
- Pneumococcal
- COVID-19

1. Lack of awareness

- Never received a letter for pneumococcal
- Never spoken to a doctor about getting the influenza vaccine

2. Don't take it seriously

- Don't get colds often so doesn't think she needs the influenza vaccine

3. Ideologically opposed

- Thought vaccines would weaken her body and immune system

Maiko, 66y

- Influenza
- Pneumococcal
- COVID-19

1. Lack of awareness

- Never received a letter for pneumococcal

2. Don't take it seriously

- Thought that Pneumonia was more of an issue in the past, but not a problem today
- Hasn't heard of anyone who's had Pneumonia

Goro, 75y

- Influenza
- Pneumococcal
- COVID-19

2. Don't take it seriously

- Believes his immune system can fight off diseases alone

3. Ideologically opposed

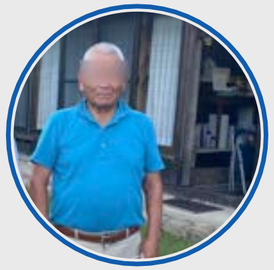
- Believes vaccines are made from chemical oils
- As long as he feeds his immune system with good food then he believes he'll be fine

Lack of awareness prevented people from even being in a position to decide on getting vaccinated

1.
Lack of awareness: how this is experienced

No knowledge	I've never heard of it (mostly pneumococcal) and I don't know what it is.
Not a topic of conversation	I don't discuss health / vaccines with my friends / family. It's not in my consciousness or front-of-mind.
No recommendation	Doctor / other healthcare professional never mentioned / recommended it to me.
No letter	I never received a letter (either from error or because I'm still registered in another city).
No reminders	I missed the initial letter as I was busy / something else was going on in my life at the time. Never received a reminder.

Case study: Yogi didn't remember receiving a pneumococcal letter



Yogi, 80y

- **COVID-19**
- **Influenza**
- **Pneumococcal**

"If I'm not reminded then I won't get it"

- Yogi doesn't think much about his health day-to-day—"I don't think about disease prevention, it's not front of my mind"
- However, in the past when he has been sent a letter about influenza / COVID-19, he has gone to get vaccinated
- The influenza letter comes every year, "it's an annual event"
- Yogi didn't know anything about the pneumococcal vaccine—he said he had never received the letter and had never even heard about it from others
- He thinks perhaps he just missed the letter

Those that don't take it seriously are not against vaccines, they just don't think they need them

2.
Don't take it seriously: how this is experienced

Strong immune system	I'm healthy, I can fight off the disease by myself. Vaccines are only for the "weak" or sick.
Not severe	I don't think the disease is life threatening. I've never seen or heard anyone dying from it.
No urgency	No one is talking about it / it's not on the news. The government isn't pushing it that strongly. It can't be that important.
Available treatments	I can just take other medicine if I become ill. The disease is easily curable.
Not infectious	These diseases aren't very infectious. I doubt I'll catch it or give it to others.
No recommendation	Doctor / other healthcare professional never mentioned / recommended it to me so it can't be important.

Case study: Yuko and Haru feel healthy enough to fight off diseases

Yuko, 65y and Haru, 67y

- COVID-19
- Influenza
- Pneumococcal

"We're healthy enough so we don't need it"

- Yuko and Haru have both had their COVID-19 vaccines—COVID-19 felt very dangerous with no effective medication
- Haru received the pneumococcal letter but he didn't think it was a serious threat—"pneumonia has been around for a long time, there's been lots of research into it and so there's medication for it"
- They had the same mindset around influenza—"if I get flu and it's bad, I can just go to hospital"
- They might consider getting the influenza vaccine in the future if they feel their energy is reducing
- Additionally, "the fact that the city isn't spreading the word strongly suggests it's not important"

The ideologically opposed have fundamental concerns around vaccines themselves

3.
Ideologically opposed: how this is experienced

Side effects / damage	I'm concerned that side effects will make my body weaker or damage it.
Avoiding foreign entities	I don't want outside things entering my body. I don't want to unbalance the natural system.
Avoiding medicine	I avoid taking any type of medicine unless I have to.
Misinformation	I heard that vaccines change your DNA, can cause cancer and are made of petrol / oils.

Case study: Goro avoids all medicines where possible and doesn't believe in vaccines

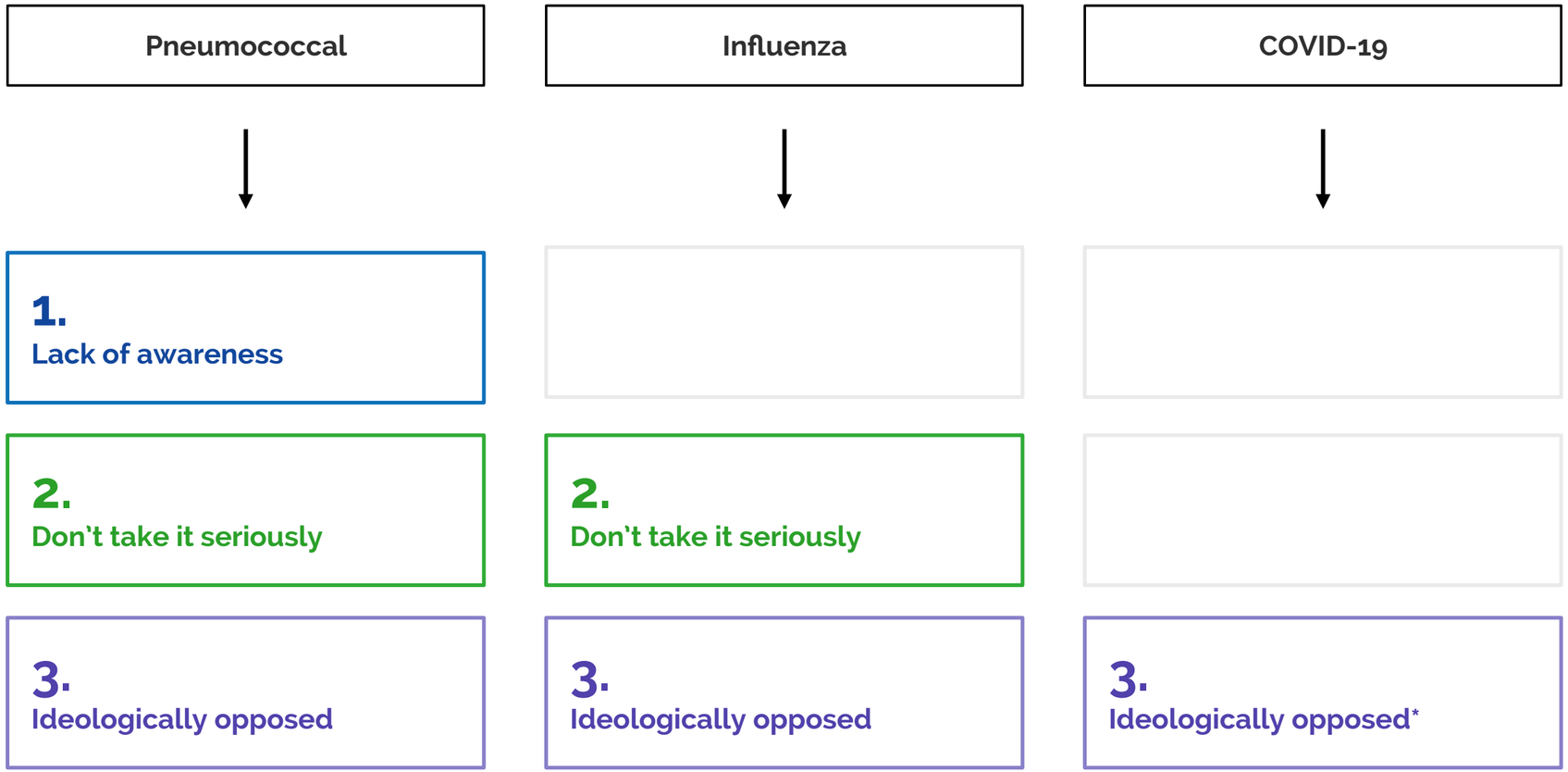
Goro, 75y

- ✗ COVID-19
- ✗ Influenza
- ✗ Pneumococcal

"Humans have lasted for a long time without Western medicine. We are like animals, I trust my instinct."

- Goro is against vaccines and wouldn't consider them in the future as he believes his immune system can fight anything—"I just dont need vaccines"
- He believes that "food is the source of all health"—what you put in your body is important for your health and he tries to avoid all chemicals
- He used to discuss the COVID-19 vaccine with others but he's a "ganko mono" (a stubborn person)— "other people were telling me to take it but it doesn't matter to me, it's my decision"
- He was also surrounded by other anti-vaccination friends and family who reinforced his opinions

Each vaccine is affected by different key barriers



*This was a very small minority of people

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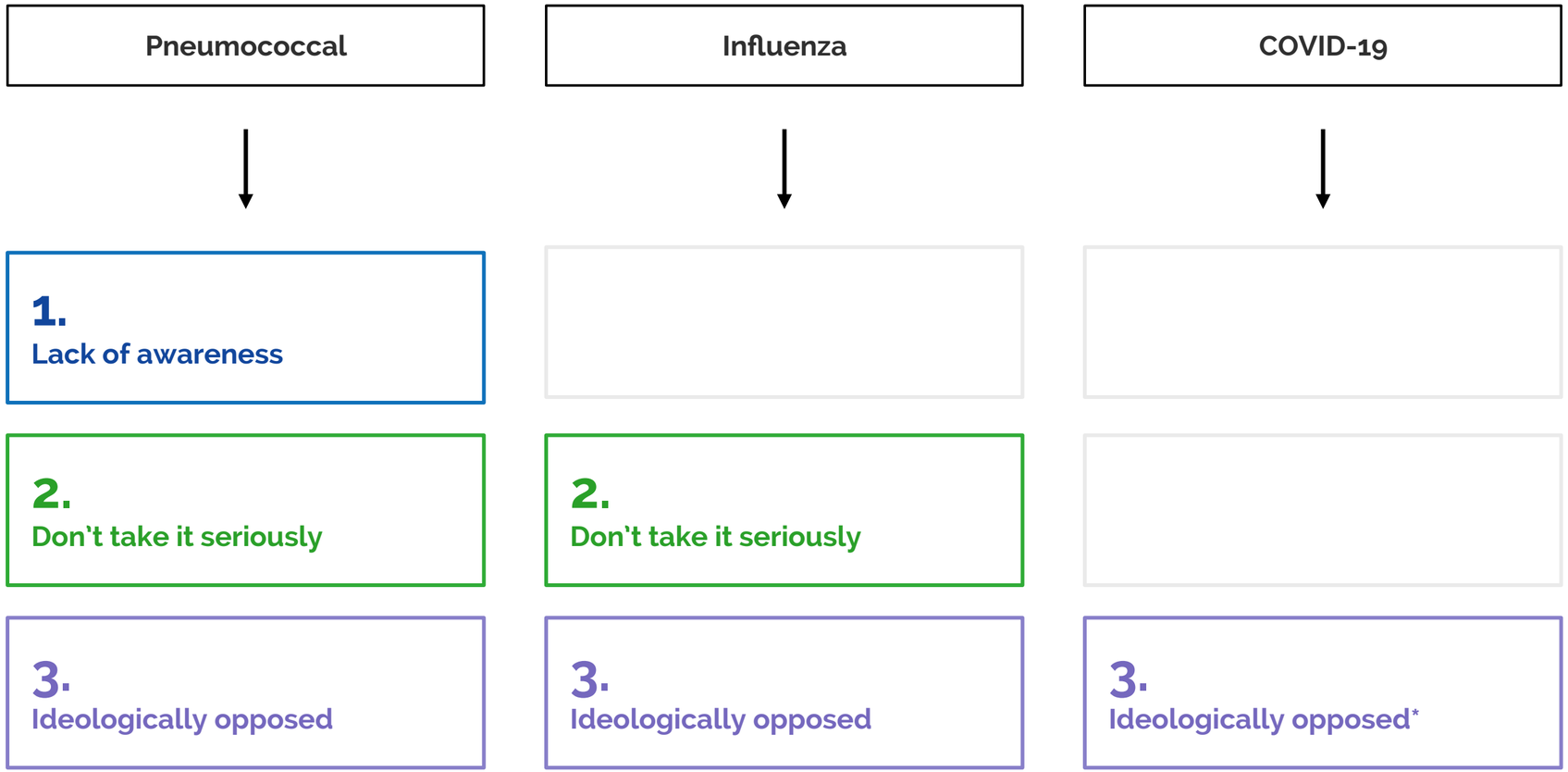
Pneumococcal is facing the largest number of barriers, whereas COVID-19 has broken down the majority



*This was a very small minority of people

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For pneumococcal, a lack of awareness was strongly correlated with not receiving a letter

Pneumococcal

1.
Lack of awareness

2.
Don't take it seriously

3.
Ideologically opposed

All those we spoke to who had had the pneumococcal vaccine had received the government letter and acted on it.

Those who lacked awareness about the pneumococcal vaccine had either:

- Never received the eligibility letter (either from error or misregistration) or
- Missed the letter because they were busy or it didn't stand out as something important

Why are the letters being missed?

- **Misregistration**
  - People move homes and don't update their residency with the local governments
- **Irregularity of letters**
  - They are only sent every 5 years, with no reminders in between—if you miss it or forget then there is no opportunity to take up the vaccine for another 5 years
  - People aren't expecting the letter (like for influenza) so it doesn't stand out nor is it top-of-mind

Currently, letters are the only effective awareness channel for pneumococcal that triggers action.

Interventions should focus on increasing awareness across additional communication channels and take on more innovative formats.

Not understanding the severity was a common perception across both pneumococcal and influenza

Pneumococcal	Influenza
1. Lack of awareness	
2. Don't take it seriously	**2. Don't take it seriously**
3. Ideologically opposed	3. Ideologically opposed

Those who did overcame this barrier:

- Knew of someone else who was affected by / died of the disease
- Understood the infectiousness and didn't want to pass it onto others
- Placed importance on receiving a letter from the local government
- Saw the vaccine as protection against long-term damage even though they were "healthy"
- Were influenced by someone who thought it was important eg. Doctor recommended it or son told them to get it
- Realised the disease would impact them more as they were getting older

Understanding the seriousness of these diseases triggered people to get vaccinated, along with a sense of collective responsibility to protect others around them.

People who feel this way are not against vaccines, they just don't believe they personally need them.

Effective interventions should emphasise the urgency, severity and potential health impacts of these diseases, on both themselves and others.

The ideologically opposed appear across all diseases, but they are the smallest group of people

Pneumococcal	Influenza	COVID-19
1. Lack of awareness		
2. Don't take it seriously	2. Don't take it seriously	
3. Ideologically opposed	3. Ideologically opposed	3. Ideologically opposed*

*This was a very small minority of people

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Although the ideologically opposed are the hardest to shift, COVID-19 demonstrated that it can be done

The unique COVID-19 situation broke down all 3 barriers for the majority of people:

Barriers 1 & 2 were quickly overcome

The world was talking about it and everyone understood how serious / deadly this virus was for both themselves and others.

> It was serious. I got a letter from the ward, it was all over TV, everyone was talking about it.
>
> —Hanako, 72y, originally ideologically opposed

It became a social norm

Once barriers 1 & 2 had been overcome due to the extreme situation, getting the vaccine became normalised. It felt socially mandated and was considered a collective responsibility.

> People would always ask "*when* are you getting the Covid vaccine" not "*are* you getting it."
>
> —Hanako, 72y, originally ideologically opposed

The ideologically opposed started to shift

The social and cultural pressure increased and the severity of COVID-19 was so apparent that people's ideological positions were outweighed by these other factors.

> My son got it and it was serious. He told me that I should get the vaccine as I'm getting older.
>
> —Hanako, 72y, originally ideologically opposed

A small proportion remained firm

The only people still holding out against the COVID-19 vaccine are a small minority who will be hard to shift without mandated laws.

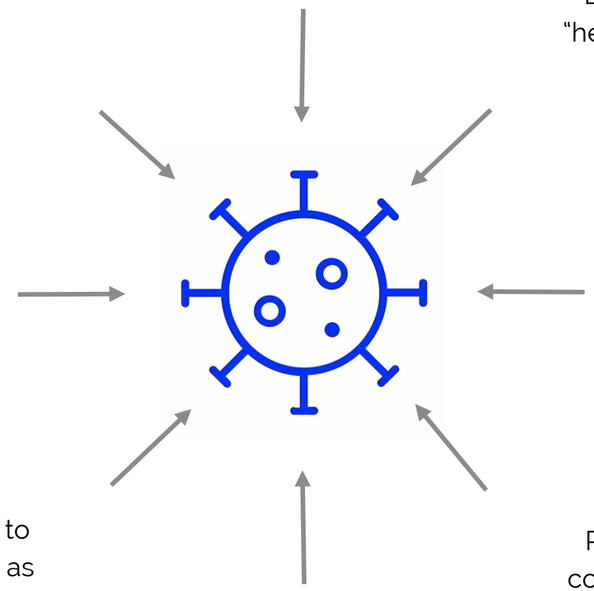
> Other people telling me to take the vaccine but doesn't matter to me much, it's my decision.
>
> —Goro, 75y, remains ideologically opposed

COVID-19 was, however, operating in a set of unique circumstances

High sense of urgency
The news was continually reporting on the virus

No cure
The virus was new and unknown

Serious disease effects
Death rates were high and "healthy" people were getting sick



High infection rates
The disease was spreading rapidly and asymptomatic infections were rife

Easy access
Vaccine was free, there were mass vaccination centres and in some cases appointments were automatically booked

Social life restrictions
Needed to get the vaccine to be able to carry on with life as normal, see friends and do hobbies

Feeling of pride
People felt a sense of "my country needs me" and pride telling their friends they had had it

Influenced by many
Everyone was getting it and it felt mandatory

Although influenza and pneumococcal do not operate in the same circumstances, COVID-19 demonstrated that most people aren't fundamentally against vaccines, they just need the right information, understanding and social context to be convinced.

The ideologically opposed are hardest to shift. However, if we can address barriers 1 & 2 and create social norms around vaccines, we have the opportunity to change mindsets.

Interventions which seek to address barriers 1 & 2 and build new social norms will start to shift the ideologically opposed.

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There are 3 key intervention spaces that could be effective in increasing vaccine uptake

Each intervention would be tackling all 3 key barriers: lack of awareness, don't take it seriously and ideologically opposed

Test different messaging strategies and channels

- Communication / messaging toolkit
- Target specific channels and groups
  - Government vaccine letters
  - Radio Taiso
  - LINE app
  - Newspaper (lifestyle sections)
  - Other members of the family
  - Doctors

Develop and test vaccine events

- Micro scale intervention: test local vaccine events
  - Local health seminars or talks run by health experts / doctors
  - Pop-up vaccination hubs (which include information / advice as well as on-the-spot vaccinations)
- Macro scale intervention: develop a national campaign
  - National annual health / vaccine day to raise awareness for influenza and pneumococcal
  - Mass vaccination events

Reform the vaccine booking system

- Additional vaccine letter reminders
  - Increase frequency of letters
- Opt-out appointment systems
  - Automatically scheduled appointments each year
- 2-in-1 vaccine appointments
  - Piggyback pneumococcal vaccines onto influenza appointments

Develop and test vaccine events

This framework should be used when thinking about the positioning of all future communications / messaging

Communication / messaging toolkit

The framework:

- **Benefits**
  - Focus on explaining the benefits of getting a vaccine
- **Health**
  - Focus on how vaccines help “raise general immunity”
- **Responsibility**
  - Emphasise the infectiousness of these diseases and the collective responsibility that people should have for others
- **Severity**
  - Explain the health impact of these diseases and the seriousness of them
- **Stats**
  - Provide people with up to date stats (number of cases, deaths and how many people have been vaccinated) so they can contextualise the disease
- **Tackling misinformation**
  - Specifically address misinformation claims

What needs testing:

- The precise language of these communications to understand which resonate more strongly or are more effective at moving the needle
- The channels that are most effective for reaching people

Using the communication toolkit, we recommend testing the impact through different channels

Target specific channels and groups

We recommend piloting targeting specific channels with different communications / messaging campaigns to test which are most impactful.

Which key channels should be tested:

- **Government letters**
  - The main communication channel for vaccine information / eligibility
- **Radio Taiso**
  - A national stretching radio that is extremely popular with millions of weekly listeners. The key demographic are people >65y
- **LINE app**
  - Most people have smartphones and use LINE
  - This could be used to provide information (eg. FAQs) and also send reminders (eg. it's influenza season)
- **Newspaper (lifestyle sections)**
  - Older people took an active interest in their health and are often engaged in articles and books on the topics
  - Newspapers were a trusted source

The specific groups which should be targeted for testing (in addition to >65s):

- **Other members of the family (eg. children):**
  - Family members have influence over their parents in recommending vaccines
  - In some cases they were the ones booking appointments for their parents
- **Social care services / centre**
  - These services have direct links to older members in the community
- **Doctors:**
  - They were looked up to and respected
  - Many people said that if their doctor had recommended a vaccine then they would have got it
- **Journalists:**
  - Increase key reporting on these diseases
  - Include both doctor and patient centred publications / channels

Exploring new channels will raise awareness further, moving away from relying solely on a single letter

How the right communications can overcome this barrier:

1.
Lack of awareness

2.
Don't take it seriously

3.
Ideologically opposed

- **Wider audience:** expanding reliance on communications through letters by testing new channels of communication would increase the audience reach
- **Trigger discussion:** for channels such as Radio Taiso, messaging here would trigger conversation in a group setting
- **Reminders**: constantly hearing messaging from multiple channels and sources would help remind people about their eligibility

Using more impactful language will shift key misconceptions around the severity of these diseases

How the right communications can overcome this barrier:

1. Lack of awareness

2. Don't take it seriously

3. Ideologically opposed

- **Impactful language:** testing precise language which communicates the seriousness of these diseases is essential for changing the current rhetoric
- **Professional recommendations:** targeting healthcare professionals will encourage doctors / nurses to take these diseases more seriously and pass this information onto their patients
- **Trustworthy sources:** having sources which are trusted by both doctors and patients will ensure the communication is landing and impactful
- **Responsibility:** emphasising the infectiousness and collective responsibility in communications will encourage people to take it seriously for not only themselves, but also others
- **Influence:** ensuring communications are intergenerational will encourage people to influence their older parents

Having trusted and impactful sources will begin to dispel misinformation

How the right communications can overcome this barrier:

1.
Lack of awareness

2.
Don't take it seriously

3.
Ideologically opposed

- **Misinformation:** by targeting trusted health professionals to understand the need for vaccines and actively recommend them will help shift misinformation
- **Directly addressing misinformation claims:** by specifically addressing misinformation claims, myths can be stamped out by trusted sources

Example case study: increasing UK tax compliance through communication intervention strategies

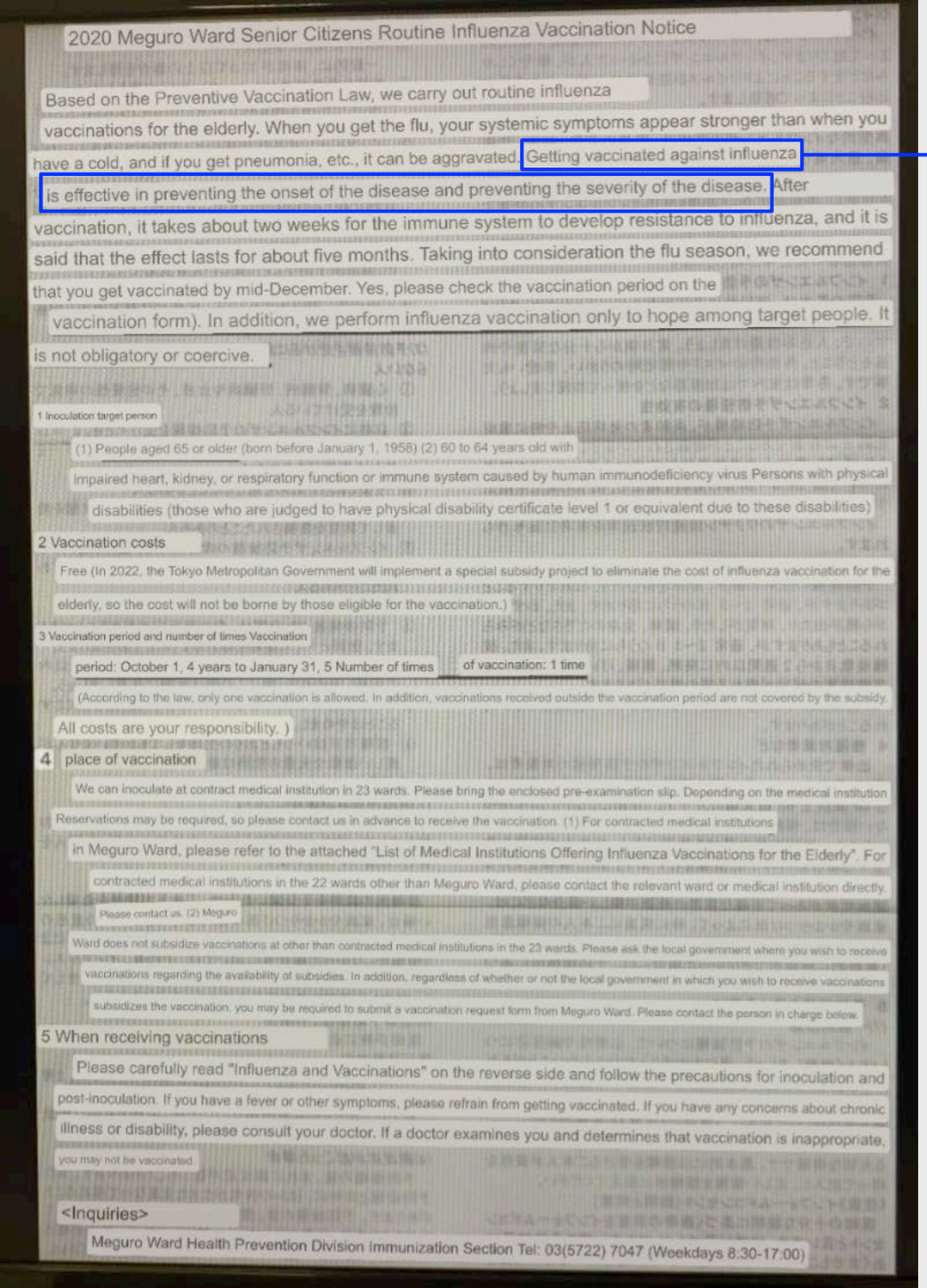
BIT (Behavioural Insights Team) carried out research to help increase tax compliance. Their intervention focused on redesigning and testing different communication strategies for the tax payment reminder letter.

By changing simple language, the trials increased debt repayment by over £160 million in the first 6 weeks of testing.

One of the key insights that made a large impact was highlighting the behaviour of others in the letter eg. "9 out of 10 people pay their tax on time". This worked to reinforce the social norms and behavioural expectations.

This case study shows the impact of how simple communication shifts can make a big impact.

See full study here.



2020 Meguro Ward Senior Citizens Routine Influenza Vaccination Notice

Based on the Preventive Vaccination Law, we carry out routine influenza vaccinations for the elderly. When you get the flu, your systemic symptoms appear stronger than when you have a cold, and if you get pneumonia, etc., it can be aggravated. Getting vaccinated against influenza is effective in preventing the onset of the disease and preventing the severity of the disease. After vaccination, it takes about two weeks for the immune system to develop resistance to influenza, and it is said that the effect lasts for about five months. Taking into consideration the flu season, we recommend that you get vaccinated by mid-December. Yes, please check the vaccination period on the vaccination form). In addition, we perform influenza vaccination only to hope among target people. It is not obligatory or coercive.

1 Inoculation target person

(1) People aged 65 or older (born before January 1, 1958) (2) 60 to 64 years old with impaired heart, kidney, or respiratory function or immune system caused by human immunodeficiency virus Persons with physical disabilities (those who are judged to have physical disability certificate level 1 or equivalent due to these disabilities)

2 Vaccination costs

Free (In 2022, the Tokyo Metropolitan Government will implement a special subsidy project to eliminate the cost of influenza vaccination for the elderly, so the cost will not be borne by those eligible for the vaccination.)

3 Vaccination period and number of times Vaccination

period: October 1, 4 years to January 31, 5 Number of times of vaccination: 1 time

(According to the law, only one vaccination is allowed. In addition, vaccinations received outside the vaccination period are not covered by the subsidy. All costs are your responsibility.)

4 place of vaccination

We can inoculate at contract medical institution in 23 wards. Please bring the enclosed pre-examination slip. Depending on the medical institution Reservations may be required, so please contact us in advance to receive the vaccination. (1) For contracted medical institutions in Meguro Ward, please refer to the attached "List of Medical Institutions Offering Influenza Vaccinations for the Elderly". For contracted medical institutions in the 22 wards other than Meguro Ward, please contact the relevant ward or medical institution directly. Please contact us. (2) Meguro Ward does not subsidize vaccinations at other than contracted medical institutions in the 23 wards. Please ask the local government where you wish to receive vaccinations regarding the availability of subsidies. In addition, regardless of whether or not the local government in which you wish to receive vaccinations subsidizes the vaccination, you may be required to submit a vaccination request form from Meguro Ward. Please contact the person in charge below.

5 When receiving vaccinations

Please carefully read "Influenza and Vaccinations" on the reverse side and follow the precautions for inoculation and post-inoculation. If you have a fever or other symptoms, please refrain from getting vaccinated. If you have any concerns about chronic illness or disability, please consult your doctor. If a doctor examines you and determines that vaccination is inappropriate, you may not be vaccinated.

<Inquiries>

Meguro Ward Health Prevention Division Immunization Section Tel: 03(5722) 7047 (Weekdays 8:30-17:00)

How this intervention might look for the government letters

The first page will be key for grabbing people's attention:

Emphasise benefits
There is only one sentence on the page regarding the benefits of the vaccine. This should be expanded and be made more prominent, using language around the benefits of it raising your immunity.

Increase a sense of collective responsibility
There is no mention of the importance of getting the vaccine for others. This should be highlighted as many want to protect the people around them / their elderly parents.

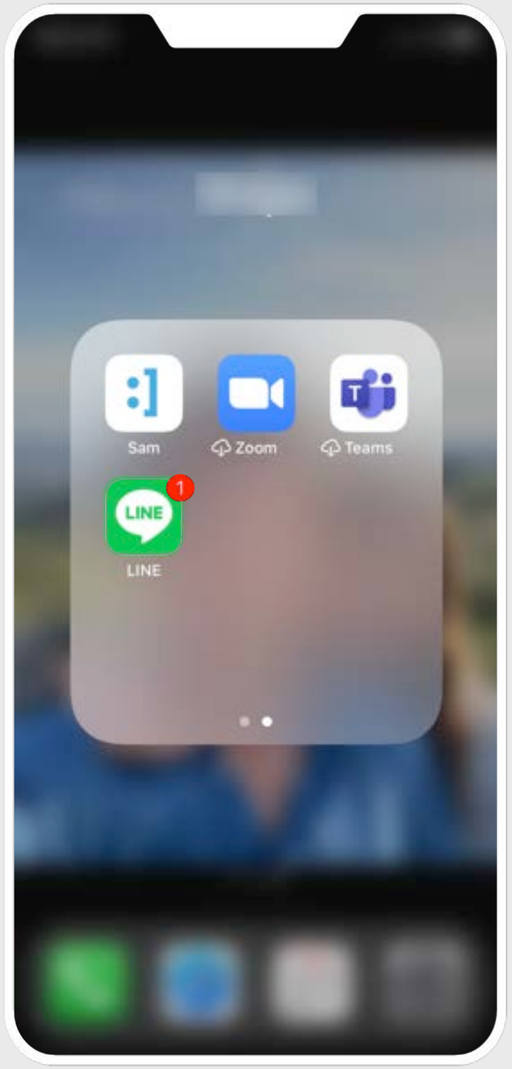
Communicate severity
There should be more around the severity of the virus with stats that people can use to contextualise the information.

Make it more visually appealing
The letter is very dense and not very eye catching. Making the letter more visual could help it stand out, be memorable and increase engagement.

*Please note that translation accuracy is for illustrative purposes only

How this intervention might look on LINE

People opt-in and connect with the Chatbot



It offers FAQs and a chance to ask questions

It can also send reminders

During the pandemic, Corowa-kun, a free chatbot, was created on LINE. It provided instant, automated answers to 70 frequently asked COVID-19 vaccine questions.

A respondent survey reported that COVID-19 vaccine hesitancy decreased from 41% to 20% after using Corowa-kun.

Read more about the success of Corowa-kun here.

Intervention feedback: test different messaging strategies and channels

Feedback with expert stakeholder group

What is needed to implement or test this intervention?

Who would be a good partner to help test this intervention with?

- Japanese Medical Association - present these to them and suggest ideas on how to tackle hesitancy
- Local government - work alongside them and encourage them to recognise the value of the technology/data that has been used during COVID-19 and apply this to flu/pneumococcal vaccination

What are the key challenges of this intervention?

- Potential challenges with the JMA and how vaccines and vaccinations are regulated/ thought about - vaccination fees generate revenue for their practices; strong, historical presence of the JMA which could make things challenging
- Cost - could cost a lot to implement a new app/piece of software, and there might be a lack of willingness from local/ national government to invest

Additional notes...

- Disinformation—needs to be recognised more throughout the intervention i.e., look at similar examples such as the WHO's toolkit on disinformation online; need to stop disinformation before it sets in, and need more proactive management of issues
- Vaccine records - if these were expanded to other vaccines, this could help increase awareness and make people more aware of the need to get vaccinated/ engaged with their health
- Group vaccination - allowed for COVID-19 but not for other vaccines

Develop and test vaccine events

We recommend testing local scale vaccination events to gather further insight into effective methodologies

Micro scale intervention: test local vaccine events

These are targeted at specific communities and should be used to test the efficacy of ideas before applying learnings to a macro scale campaign.

What this could look like:

- Local health seminars or talks run by health experts / doctors
- Pop-up vaccination hubs (which include information / advice as well as on-the-spot vaccinations)
- Education and training for healthcare professionals on the benefits of vaccinations to support these local events

Where it would be located:

- Key community locations that are regularly visited or passed by eg. community centre, outside a supermarket, near a park or temple
- Be linked to workplaces / community groups eg. Silver Human Resources Centre

Who it would be targeted at:

- Some seminars should be specifically for older people
- Other talks should be intergenerational (targeting children of older parents)
- The pop-up hubs would be visible to everyone in the area

How it would work:

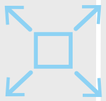
- Local health seminars
  - Run by trusted and respected health professionals
  - Topics would either be directly about vaccinations or staying healthy in general
- Pop-up vaccination hubs
  - People would be able to engage with a health professional and discuss any vaccine concerns or worries
  - They could later bring their letters and get a vaccine (or both) on the day*

What needs testing:

- Which topics of talks are most attended and resonate most
- Which community spaces are most effective
- The levels of engagement with vaccine hubs
- The impacts of direct recommendations from health professionals on vaccine rates

*NB. The JMA would be a key partner to discuss and support on-the-spot vaccination licensing for influenza and pneumococcal (which is currently only allowed for COVID-19)

Once tested, a wider national scale campaign can be developed based on these learnings



Macro scale intervention: develop a national campaign

A national campaign would need investment and a partnership with the government, but could generate a high impact.

What this could look like:

- National annual health / vaccine day to raise awareness for influenza and pneumococcal
- Mass vaccination events in local community spaces
- Education and training for healthcare professionals on the benefits of vaccinations to support this national campaign

Who it would be targeted at:

- All those who are eligible for vaccines
- Other generations who might influence their older parents

How it would work:

- National health / vaccine day
  - Would happen annually so people start to recognise and expect it
  - The day would be accompanied by events and talks from prominent healthcare professionals
  - A mascot could be developed which raises awareness through souvenirs and is each year associated with the disease
- Mass vaccination events
  - Run alongside the national campaign
  - Run in conjunction with the local government and JMA so that it can build on the current COVID-19 infrastructure for mass vaccinations that is already in place
  - Be linked to workplaces / community groups eg. Silver Human Resources Centre, social care centres
  - People will be alerted of the event and asked to book appointments / turn up on the day
  - Run annually, people would be automatically booked an appointment based on their previous year's appointment

Events and pop-ups will help start conversations and raise the visibility of vaccines

How micro and macro events / pop-ups overcome this barrier:

1.
Lack of awareness

2.
Don't take it seriously

3.
Ideologically opposed

- **Greater visibility:** with more visibility comes more conversation which helps spread the word and increase awareness
- **Access to information:** more information about these vaccines will be widely available and accessible
- **Reminders:** constantly seeing signs for events and pop-ups will act as reminders for people eg. that it is influenza season even if they have missed their letter
- **Recommendations:** there will be an increase in the number of health experts actively recommending vaccines

More sources of accessible information and seeing others getting vaccinated will increase the sense of seriousness

How micro and macro events / pop-ups overcome this barrier:

1.
Lack of awareness

2.
Don't take it seriously

3.
Ideologically opposed

- **Understanding of severity:** seminars and pop-ups will help increase the understanding of the severity of these diseases
- **Accessible information:** there will be an increase the availability of resources which will help people engage and better understand these diseases
- **Urgency:** having lots of events and a national day will add to a sense of urgency of these vaccines
- **Recommendations:** having vaccines recommended by healthcare professionals will increase the sense of importance of getting vaccinated
- **Visibility of others:** seeing others around them getting vaccinated will increase the sense of importance

Having an annual event which many people engage in will help shift social norms

How micro and macro events / pop-ups overcome this barrier:

1.
Lack of awareness

2.
Don't take it seriously

3.
Ideologically opposed

- **Availability of information:** it will help shift any forms of misinformation and provide an opportunity to engage in discussion / ask questions directly to a health professional
- **Visibility of others:** seeing others who are "healthy" getting vaccinated will help shift the idea that vaccines are only for the "weak or ill"
- **Normalised:** seeing others around them getting vaccinated each year at mass events or pop-ups will help normalise it
- **Lack of side effects:** seeing others getting the vaccine without bad side effects will help dispel these worries

Example case study: Pink Ribbon Festival for breast cancer awareness

The Pink Ribbon Festival was setup in 2003 and has been a successful initiative across Japan that has worked to raise awareness about breast cancer and the need for screening.

Activities include:

- Pink light-up (lighting up the streets and buildings in pink)
- Symposium to discuss the latest medical topics around breast cancer
- Seminars for people in their 20s and 30s to raise awareness
- Information booths positioned around cities at key events

Some ideas of how a pop-up vaccination hub might might look

Pop-up vaccination hubs

- Located at a central place within the community eg. outside the train station, at the local park, near the temple
- Have a mascot that people recognise and who can draw people in
- Run by doctors and nurses who can provide information, encourage questions and conversation
- On-the-spot vaccinations can also be offered
- Partner with the JMA to support licenses for pop-up clinics and mass vaccination sites

Intervention feedback: develop and test vaccine events

Feedback with expert stakeholder group

What is needed to implement or test this intervention?

- Need to increase awareness of primary care doctors - v influential - have to understand the benefit of vaccines. More education of healthcare professionals needed
- Increase KPI for flu uptake

Who would be a good partner to help test this intervention with?

- JMA to help with licensing of pop-ups and also support with more education for doctors

What are the key challenges of this intervention?

- On-the-spot vaccination is not allowed (needs to be listed clinic). Local govt has vaccination responsibility but not much budget
- JMA have the authority to do this for each clinic and license
- Supply rates of vaccines

Additional notes...

Reform the vaccine booking process

We can use the current vaccine system which is already in place to build on

Reform the vaccine booking system

What this could look like:

- Additional vaccine letter reminders
  - Send out additional reminder letters for influenza (half way through the season) and pneumococcal (3x a year during their eligibility year)
- Opt-out appointment systems
  - People are automatically scheduled a influenza appointment annually based on the time they went last year or given a brand new time if it's their first
  - For pneumococcal, automatically book people in a week after their eligible birthday
- 2-in-1 vaccine appointments
  - When people come for a flu appointment, piggyback pneumococcal onto this appointment so they get both vaccines at the same time*

Who we would need to partner with:

- Local governments
- Health clinics
- Unified digital health record for vaccinations (soon to be introduced in Japan[1])

[1] MHLW's Data-based Health Management Initiatives Roadmap. Read more here

Additional reminders and pre-booked appointments will work to raise these vaccines to the top of people's minds

How an improved vaccine booking system overcomes this barrier:

1.
Lack of awareness

2.
Don't take it seriously

3.
Ideologically opposed

- **Reminders:** additional reminders through the post will keep people's vaccine eligibility top of mind
- **Reduces missed letters:** sending multiple letters will ensure that even if people miss the first letter, there is an opportunity to be reminded again
- **Increases awareness:** encouraging doctors to piggyback pneumococcal vaccines to influenza vaccine appointments will prompt doctors to ask about pneumococcal and bring patient attention to the vaccine
- **Recognised / memorable appointment:** having an annual date set in the diary will cement the vaccine in people's minds and trigger recognition each year

Making it easier to attend to appointments and getting clinics actively involved will communicate importance

How an improved vaccine booking system overcomes this barrier:

1. Lack of awareness

2. Don't take it seriously →

- **Urgency and importance:** having pre-booked appointments feeds into an increased sense of urgency and importance of being vaccinated
- **Recommendations:** pre-booked appointments are akin to being recommended by a doctor as the appointments are set up and confirmed by health clinics or mass vaccination centers
- **Reminders:** getting sent multiple letters will reinforce the government's emphasis on how important it is to get vaccinated
- **Vaccines for prevention:** vs "only for the weak" is reinforced by pre-booked appointments which are done for everyone, emphasizing the need for all eligible people to get vaccinated

3. Ideologically opposed

Having opt-out appointments will help create a social norm —everyone will be set a vaccine appointment

How an improved vaccine booking system overcomes this barrier:

1.
Lack of awareness

2.
Don't take it seriously

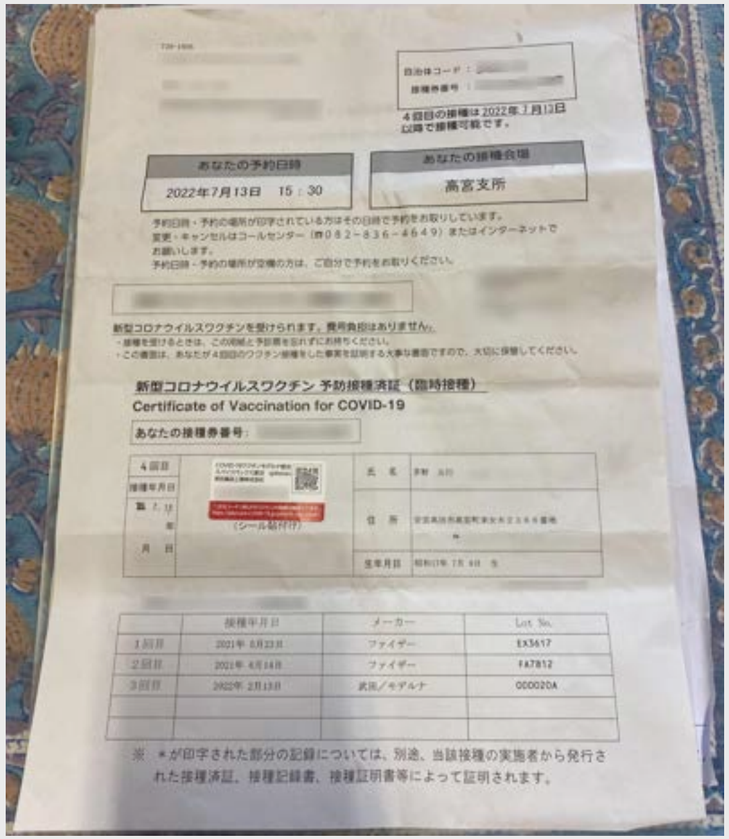
3.
Ideologically opposed

→

- **Social norm setting:** having regular and annual appointments will make getting vaccinated more normalised

Example case study: Akitakata opt-out COVID-19 vaccine appointments

- Akitakata automatically booked people into their booster COVID-19 appointments at a mass vaccination centre
- They are sent a letter with the time and date which was based on their previous booster appointment
- If people can't make the allotted time then they have to call up and reschedule
- The system appeared to be very successful



COVID-19 vaccination and appointment letter

Mass vaccination centre in Akitakata

Intervention feedback: reforming the booking process for vaccination

Feedback with expert stakeholder group

What is needed to implement or test this intervention?

- Need a national vaccination health record to help see who has been vaccinated/used to ensure people are sent reminders or put on an opt-out system

Who would be a good partner to help test this intervention with?

- Some big companies provide vaccination in the workplace - perhaps they could implement opt-out in the workplace (although less older adults might be working for these companies)
- Local governments should be adopting opt-outs like Akitakata
- Social care settings and care centres might be a good place to explain information on vaccination and perhaps administer vaccination
- Silver Human Resource Centre and Third University could be good to advocate vaccination

What are the key challenges of this intervention?

- Vaccination does depend on the individual - automatic appointments work but only when people act on them
- No cohort of people that connects with people over the age of 65 - it would have been their company/workplace before that would advocate vaccination for them, but in older adults, there is a lack of organisations/ groups who are advocating vaccination

Additional notes...

- Booking a time and date automatically works well i.e., if you've gone at lunchtime before, it is good for them to book you in at that time again because it suits you
- Piggybacking vaccines has happened with COVID-19 and flu - good to continue this in the future
- Adopting booking systems - used during COVID-19 in Japan and have been successful; a similar thing could be used for other vaccinations in the future

Alongside these interventions, we also suggest further recommendations which are more long-term focused

These recommendations need more complex coordination and development, along with governments or influential bodies

Healthcare system and policy updates

- Change the first dose pneumococcal reminders / eligibility to annually instead of every 5y
- Create an electronic health record that is shareable between clinics and includes information on vaccines
- Include vaccine discussions as part of the annual health checks
- Reform payment structures (outcomes-based) to incentivise action on prevention
- Encourage the government to use stronger language and more actively recommend influenza and pneumococcal vaccines in their communications

Healthcare professional development

- Open up vaccine licenses to pharmacists
- Partner with JMA / government to develop more lifetime education for doctors to train them on the latest vaccine information

Thank you

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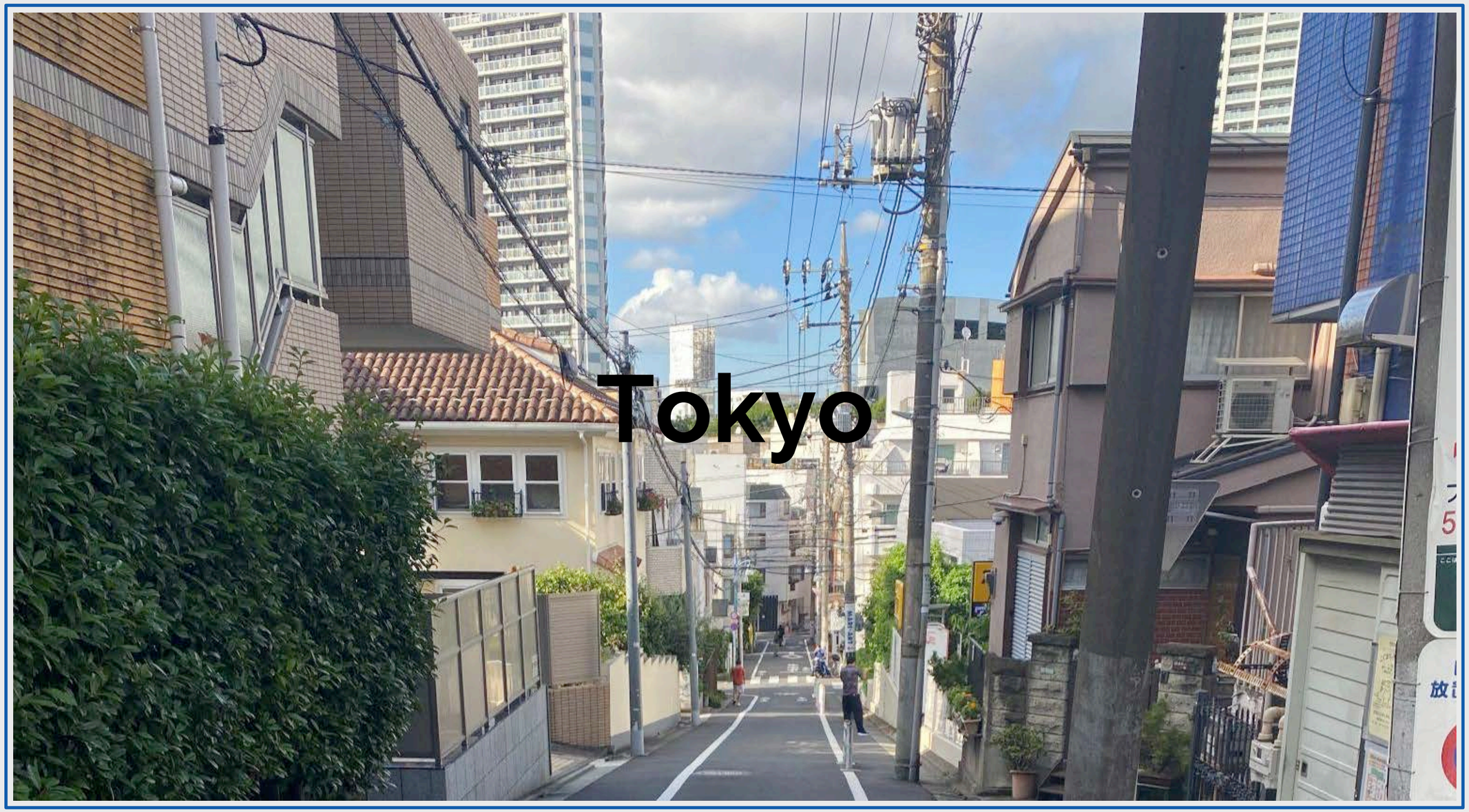
ilc...
International
Longevity Centre UK

Appendix

– Participant profiles


Tokyo

Aiko, 82y, Tokyo

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Lives alone since her husband died
- Son lives in London
- Daughter lives in Hiroshima
- Granddaughter visits her once a week and helps her book her doctor's appointments online
- Has a social group / friends from Radio Taiso

Health background and attitudes:

- Radio Taiso every morning— "I feel healthy when I feel I've done something"
- Clinic is 5 min walk away
- Goes to get sleeping pills from the pharmacy every month
- Always goes to her annual health check as in the past they've picked up issues so thinks it's important
- "If vaccines are mandatory then I will get them, but if it's optional I probably won't"

- Takes some Kampo— "It was given to me by a friend and won't do any harm"

Vaccination drivers:

- Son told her she should get the influenza vaccination and so she did as she wants to make him proud
- Everyone around her was getting the COVID-19 vaccine and talking about it—she could talk to her friends when she'd had it
- Didn't want to pass COVID-19 to other people
- If her doctor told her to get a vaccine due to her personal condition / situation, she would more seriously think about it

Vaccination barriers:

- Doesn't think influenza is serious or infectious so doesn't see the importance of getting it
- Vaccine unavailability—she went to the clinic but they didn't have any in stock and she hasn't re-booked an appointment since
- She felt that the govt messaging was too general, too soft —it didn't focus on the numbers and direct evidence which would have persuaded her more

Hanako, 72y, Tokyo

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Has lived in the same ward all her life
- Lives with husband
- Goes to the community centre a lot for various classes

Health background and attitudes:

- Still gets free annual health checks from her old employer (unusual)
- Generally more vaccine hesitant, has come across a lot of misinformation
- Her husband hasn't had the influenza vaccine and she has a number of anti-vax friends
- Attitudes have shifted around vaccinations and now she's first in line for her COVID-19 vaccine and feels a sense of pride at having it

Vaccination drivers:

- Her doctor told her that she's getting older and that influenza would be bad this year so recommended she get it
- Saw recommendation for flu in insurance health magazine
- Flu vaccine is free through insurance
- Misinformation around COVID-19 started to become too extreme so made her doubt what she thought
- People around her were not asking "if" she was getting the COVID-19 vaccine, but "when" she was
- Her son got COVID-19 and told her to get it as it would affect her badly
- Worried if she got sick no one would look after her cats

Vaccination barriers:

- Felt that 4,000JPY was too much to pay for pneumococcal
- Misinformation around COVID-19 vaccine changing your DNA

Daichi, 84y, Tokyo

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Divorced wife 20 years ago, now lives alone
- Got 2 children but doesn't stay in contact with them
- Lives in 10,000 flat block
- Very passionate about music and practices a lot of piano—this is what he lives for

Health background and attitudes:

- Got lymphatic cancer which he blames partly on being stressed with his job and working too hard—felt like his body couldn't' fight off disease
- Had chemo but almost died from Western therapy—made him so ill and so he stopped and slowly got better after that
- "If you're strong in your mind then you can get better yourself—I survived the war and I survived cancer"
- "My moto for living healthily is not to rely on doctors and not to rely on medicine"
- "The power of music exceeds the power of any medical treatment"
- "The mechanism of the body is like the universe"—he believes that the human body has the ability to kick things out itself, but when you add something extra in there then it injuries / disturbs your natural immunity

Vaccination drivers:

- Felt like COVID-19 was attacking humanity and that his own immune system couldn't fight it off—the virus changes too much
- COVID-19 still feels quite unknown—he feels like he can deal with flu, but with COVID-19 he doesn't have any prior immunity
- Saw that the clinic he likes was on the COVID-19 vaccine list

Vaccination barriers:

- Sees vaccines as a foreign entity which he doesn't want to add to his body
- Believes his body is strong enough to fight off influenza
- Hasn't heard anyone else around him get ill from pneumonia
- He actively builds breathing skills through scuba and music and goes to the forest to breath in the air and avoid the city air so has strong enough lungs to fight pneumonia

Tatsuo, 79y, Tokyo

Vaccination status:

COVID-19 | Influenza | Pneumococcal

Background:

- Lives with daughter and granddaughter
- Wife died a year ago
- Still works managing his building with the support of his daughter
- Likes dancing and recently took up scuba diving

Health background and attitudes:

- Health is all about “the physical and emotional, both need to be there to be healthy”
- “To raise your immunity you need to do exercise and eat nutritiously”
- Daughter got in contact with the local ward to assess the level of aid he was eligible for
- Goes to special sports gym for older people twice a week through this care insurance—does basic stretching exercises
- Has cancer and is on cholesterol pills

Vaccination drivers:

- Wants to prevent any negative effects of a disease —“even if I do recover from a disease there will still be a negative effect on my body so I need to prevent that”
- Never experienced side effects from influenza vaccine
- His cancer doctor told him to get the flu vaccine when he went for a check up
- His old doctor would mention it each year at his annual health check

Vaccination barriers:

- Without his doctor directly telling him to get a vaccine, he won’t get it
  - Doctor has never mentioned pneumococcal to him
  - Heard about pneumococcal on the news but wasn’t enough to tigger him to get it
  - Sees posters for influenza in doctor’s waiting room but won’t act on it until his doctor tells him to

Hoshi, 71y, Tokyo

Vaccination status:

COVID-19 | Influenza | Pneumococcal

Background:

- Lives with husband
- Has 2 children and 4 grandchildren
- Used to work as an accountant
- Regularly goes to Nagomi House community centre and folds origami
- Also part of a ladies group who meet regularly

Health backgrounds and attitudes:

- Health is "living happily and not experiencing severe illness, being able to move around, eat something and find it delicious"
- "There's a good and bad side to medicine. I've had bad side effects from taking pain killers in the past so I rather not take medicine if possible"
- Doesn't do anything in particular to stay healthy
- "It's important to me to stay healthy for me and for my family. I want to be able to look after my grandchildren and my husband."
- Does Radio Taiso

Vaccination drivers:

- Getting older so concerned about her body's ability to fight off influenza as easily / quickly
- "It's still worth getting the influenza vaccine even if I could still get flu as it will reduce my risk of getting sick"
- If she gets sick her husband will have to look after himself
- It's important if the local govt is sending letters about it

Vaccination barriers:

- Doesn't think influenza is life threatening
- Was tricky to get a COVID-19 vaccine appointment to start with, she had to phone around a lot of places
- "I wouldn't have got the flu vaccine if I had to pay 3,500JPY because that's the price of the medicine I would need to get if I got flu"

Kaiya, 76y, Tokyo

Vaccination status: COVID-19 | Influenza | Pneumococcal

Health background and attitudes:

- Had a spell of sickness when her blood sugar levels were consistently too low so her daughter became worried and got her to move closer
- Gets her annual health check each and is eligible for additional health checks as she's the second atomic bomb generation
- Reads health journals and magazines

Background:

- Opened a mother-child daycare centre 23y ago
- Used to live close by to the school but moved 1h15 away as she got sick and her daughter wanted her to live nearer her
- Lives alone

Vaccination drivers:

- Heard on the TV that pneumonia was number 1 cause of death
- Received a letter for pneumococcal
- Doesn't want to pass on influenza to others

Vaccination barriers:

- Went to a seminar when she was younger which told people that the pneumococcal vaccine was unnecessary because Japan has such good air—this delayed her getting the vaccine originally
- Heard that vaccines can be harmful to the body

Michi, 80y, Tokyo

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Lives alone
- Used to work in construction, now works in a mother child daycare centre

Health background and attitudes:

- Walking is key to health
- Goes to the doctor once a month for a general health check—he does this because he's getting older and wants to stay healthy
- Uses Kampo when he feels a cold coming along to help prevent it
- "Kampo is different to western medicine, it will not harm the body"
- "Western medicine can hurt the stomach or cause pain if you take it at the wrong time"
- Was worried about the efficacy of the COVID-19 vaccine as didn't feel the side effects
- "Vaccines are like an insurance"

Vaccination drivers:

- Number one reason to get vaccinated is to avoid the pain of influenza
- Second reason is to avoid getting infected from the children he works with and vice versa infecting them
- Realises the severity of pneumonia and considers it a high risk
- Sees vaccines like insurance—might as well get it just in case

Vaccination barriers:

- Doesn't think influenza is life threatening
- Unsure that vaccines work if don't get side effects

Kiko, 74y, Tokyo

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Lives alone but in the same block as her 95y old mother
- Used to work as a pharmacist and son is a doctor
- Took up piano at 60y, likes cycling, singing and reading

Health background and attitudes:

- Health is top of mind for her
- Wasn't a strong child, had disease in the past and has asthma
- Uses Kampo as preventative, sees Western medicine as more focused on curing a specific sickness
- Medical background means that she takes time to research vaccines and other medications
- Believes we should learn and respect viruses—there are 100 million viruses in the world, they're the origin of life and we've always lived with them

Vaccination drivers:

- Desire to protect others—happy to endure side effects if it means others are protected
- "If I got influenza I would be fine and be able to have it treated. I don't think about myself but think about people around me more"
- As a pharmacist she saw colds progressing to pneumonia in older people and saw the effects
- Subsidies signal to her that the government thinks it's important
- Being able to carry out her own research and make an informed decision

Vaccination barriers:

- Had allergies so couldn't take vaccines with egg protein in them

Emi, 87y, Tokyo

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Lived in the same ward her whole life and wouldn't leave without being accompanied
- Never married and lives and cares for her younger brother who is partially paralysed
- She's an Okuyukashii woman—a term for someone who is traditional, very respectful and generally quite passive eg. would only walk behind men
- Used to work as a hairdresser

Health background and attitudes:

- Health is about being emotionally healthy—smiling all the time and not getting angry. Having integrity is the most important thing for her
- Started Radio Taiso 20-30 years ago when she had a dog
- Currently feels unhealthy—has pain in her bones and numbness
- Goes to the doctor about getting medicine but he says as long as she can walk then she's ok
- Takes medicine for blood pressure and cholesterol, also takes Kampo and vitamins
- Doesn't know if vitamins are helping her but she's taken them for years so keeps going
- Wants to avoid taking medicine where possible

Vaccination drivers:

- Nephew and his wife told her to get the COVID-19 vaccine as she was older so if caught it would get bad symptoms
- Family booked her appointment and drove her there
- Worried about spreading COVID-19 to others

Vaccination barriers:

- Don't get colds often so doesn't think she needs the influenza vaccine
- Never received a letter about pneumococcal
- Nephew also told her to get the influenza vaccine but didn't push it like COVID-19
- Thought the influenza vaccine would weaken her body and immune system
- If she got side effects she wouldn't be able to care for her brother
- Never spoken to a doctor about getting the flu vaccine

Taiyo, 80y, Tokyo

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Lives with wife
- Recently started working again at the Silver Service Centre as a support teacher —"working is something to live for, I don't feel old"
- Finds it "more interesting and worthwhile to be around younger people"

Health background and attitudes:

- Eats healthily to increase his immune system: "food has a greater effect than any medical treatment"
- Doesn't like to think about sickness: "sickness comes from your way of thinking"
- Had a prostate issue when he was younger but refused the treatment as he "had faith in his body" and decided to just "not think about being sick" and he cured himself—"sickness comes from the spirit"
- Tries to avoid Western medicine as much as possible—it's all based on data and doesn't account for the whole body
- Has a smartwatch which he measure his step count every day: "walking is a basic movement for humans, as you get older you need to make sure you don't get weak"
- Also measures his heart rate on it as he has an irregular heartbeat

Vaccination drivers:

- Felt that COVID-19 vaccine was mandatory
- There is no treatment if you get sick from COVID-19, unlike influenza
- Would be open to the flu vaccine in future if he felt his body was getting weaker with age
- If it was the law he would take a vaccine

Vaccination barriers:

- "I don't feel the need to get the flu vaccine, my body is strong"
- There are cures / treatment for influenza if he does get it: "If my body fails me then there is treatment that is available"
- Doesn't think about health so not something that occurs to him


Akitakata

Goro, 75y, Akitakata

Vaccination status: ✗ COVID-19 ✗ Influenza ✗ Pneumococcal

Background:

- Moved to Akitakata when he retired at 65 and lives alone
- Likes solitude: "I don't mind not seeing my family that much. I like to be in the place I am now, I like solitude"
- Describes himself as a "ganko mono" (stubborn old man)
- He loves nature and spends his time growing his own organic vegetables

Health background and attitudes:

- "Food is the source of all health"—what you put in your body is important for your health, avoids chemicals
- The other thing that impacts health is stress—he ensures that he takes care of his mental health
- "Pin pin korori"—ideology of a good death, healthy until you die
- "Western medicine comes from oil and is based on chemicals, Kampo is made from trees, roots and leaves so it comes from nature"
- Trusts human instinct: "humans have lasted for a long time without Western medicine. We are like animals, I trust my instinct. When animal is hurt, it licks itself"

Vaccination drivers:

- None..

Vaccination barriers:

- Believes his immune system can fight anything—"I just dont need vaccines"
- Wouldn't consider vaccines in the future as he feels that as long as he feeds his immune system with good food then he'll be fine
- He used to discuss the COVID-19 vaccine with others but he's a "ganko mono"—"other people were telling me to take it but it doesn't matter to me, it's my decision"
- Is surrounded by other anti-vax people who reinforce his ideas

Maiko, 66y, Akitakata

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Used to work in a clothing store in Hiroshima but quit when her parents died to work the rice fields
- Always lived in this house
- Her oldest son lives in a house next door—they had a recent falling out over the possible spreading of COVID-19
- Very concerned and worried about rumours spreading

Health background and attitudes:

- COVID-19 changed her thoughts on vaccines—before COVID-19 she didn't think about vaccines protecting against the spread of disease

Vaccination drivers:

- Local govt tells her to get the influenza vaccine so she does
- Her and her husband get the influenza vaccine together
- Heard of someone who got the influenza badly and heard the vaccine would reduce symptoms
- Can just turn up on the day for an appointment to get the flu vaccine

Vaccination barriers:

- Never received a letter for pneumococcal
- Heard from TV that you could protect yourself from pneumonia with supplements
- In the past felt that pneumonia was more of an issue but doesn't feel that it's such an issue now
- Hasn't heard of anyone who's had pneumonia

Misaki, 68y & Yasashiku, 72y, Akitakata

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Both remarried and have children from previous relationships
- Moved here 17yrs ago to be near Misaki's sister (living in city before)—land is cheap and so they built their own house
- Travel a lot to Chang Mai

Health attitudes:

- Yasashiku has a heart problem and so has to take a lot of medication
- They go abroad each winter because Yasashiku's arteries shrink in the cold which could be dangerous for his heart
- They own a well for water and grow good rice which contributes to healthy living
- The air in the countryside is better for them
- Tracks his heart on his smartwatch
- Will continue to always wear masks in the future to stay safe

Vaccination drivers:

- Got the influenza vaccine once as they were travelling to Chang Mai and heard that there was an outbreak in Thailand
- People don't know when they're infectious so want to reduce spread

Vaccination barriers:

- Don't have many close neighbours and don't see many people so low risk of catching flu
- Go to the supermarket early when it's empty so low risk of influenza infection
- With flu people have symptoms when infectious so go to bed—not spread to as many people as easily
- Doctor has never mentioned pneumococcal to them
- Misaki doesn't think she ever received a letter

Yuko, 65y & Haru, 67y Akitakata

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- They've been married 39y and moved around a lot but returned to Akitakata when Haru retired to care for his parents
- Youngest daughter lives with them (the eldest one lives nearby) and is the main carer now for Haru's mother
- Haru's mother takes the Otaske waggon once a month with a friend to visit the onsen; she likes the independence

Health background and attitudes:

- Like being in nature and growing their own veg
- They don't feel old in themselves—they like to keep busy around the house
- Yuko caught the influenza when she was younger from her daughter
- Yuko got the pneumococcal letter this year and is still on-the-fence about getting it
- Don't have a relationship with a doctor as they rarely go
- Doctor's advice isn't fully trustworthy as they don't hold a neutral position and are always pushing their own agenda
- Nurses and pharmacists are more trustworthy as they "know" their patients and spend more time with them than doctors

Vaccination drivers:

- Primary reason to get the COVID-19 vaccines is to avoid spreading it to others
- They would get the influenza vaccine if they felt their energy was reducing
- COVID-19 felt dangerous because there was no medication for it

Vaccination barriers:

- "I'm healthy enough so I dont need it"—had the influenza before and recovered fine
- Manufacturers guess the influenza strain for the year so there is no way of knowing if it will be correct
- "If I get influenza and it's bad, I can go to hospital"
- "Flu does spread but it's different to COVID-19 because you have symptoms when you have the flu so you'll go to bed and won't spread it to others"
- Haru didn't get pneumococcal when he was sent the letter because he didn't really understand what it was
- "Pneumonia has been around for a long time, there's been lots of research into it and so there is medication for it"
- Lives in remote area so unlikely to catch it
- Seen adverts for pneumococcal but don't apply as "I'm not an oldie"
- "The fact that the city isn't spreading the word strongly suggests it's not important"

Botan, 72y & Yogi, 80y Akitakata

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Friends who live across the field from each other
- Yogi visits his wife's shrine every morning then meets Botan and they walk another 2.5km
- Yogi works a lot for his own company and visits Hiroshima 4 times a week
- Botan works the field, he thinks it's important to relax and values sleep

Health background and attitudes:

- Botan—"it's your responsibility to take care of your health and your body as you get older"
- Botan feels like his energy has reduced as he's got older
- Botan does Radio Taiso every morning to help stretch his muscles
- Yogi—health is about moving and having mobility
- Yogi plays golf regularly and visits an onsen 20 times a month as it refreshes him
- Yogi: "I don't think about disease prevention, it's not front of my mind"

Vaccination drivers:

- Both worried about spreading influenza to others
- It's an event for them—receiving the letter every year cements it into their routine
- Botan's father died of pneumonia and didn't realise until it was too later so he is scared of getting it

Vaccination barriers:

- Yogi hasn't got pneumococcal vaccine—thinks he missed the letter: "if I'm not reminded then I won't get it"
- Vaccines are not a topic of discussion between them

Touma, 71y, Akitakata

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Worked in Hiroshima city but moved back 10y ago to look after his parents. His wife and children have stayed in Hiroshima
- He is the main carer for his 101y old father and 98y old mother
- He now works as a melon farmer
- His parents go to a daycare centre 3x a week to get bathed and engage in some social activities

Health background and attitudes:

- "People live long here because people are kind, there is no stress through fighting and you're in nature"
- Farming is considered as one type of exercise but as it only uses one muscle group, he also plays tennis which makes him feel refreshed
- He hurt his knee a few years ago—the doctor gave him medication but decided it wasn't working so he stopped
- He now takes collagen supplements which his granddaughter (9y) saw on TV and told him to get. He thinks it helps a little bit but takes it more out of obligation

Vaccination drivers:

- Wants to protect his parents from passing on the flu
- "I became 70 which feels like a milestone. I have less confidence in my energy"
- Wants to reduce the symptoms of influenza if he contracts it
- Finds out about flu season from a local round robin information pack
- His grandfather died from pneumonia so wants to protect himself (doesn't think it's infectious)

Vaccination barriers:

- Used to get the influenza vaccine as a child but he still caught flu so stopped getting the vaccine: "whether I had the vaccine or not I still got the flu, so I stopped"
- Unlikely to follow up if he doesn't receive a letter (in relation to his pneumococcal booster)

Naoko, 77y, Akitakata

Vaccination status:

COVID-19 | Influenza | Pneumococcal

Background:

- Returned back to Akitakata when he retired at 64y
- Has a wife and 2 children
- Looked after his 102y old mother until she passed away recently
- Teaches pottery and crafting class in the local village

Health background and attitudes:

- Health of the body is down to genetics and characteristics from parents
- Health of the mind is seeking what's right, not necessarily just following the facts, but having common sense
- Goes to home doctor every month but never talked about vaccines

- Pneumococcal poster he saw in the doctor's clinic

Vaccination drivers:

- Doesn't want to spread influenza to family—started getting the flu vaccine when he moved home to look after his parents
- Also wants to avoid being ill and staying in bed for days
- Saw poster in doctor's clinic about pneumococcal—had a famous actor on it
- If he got the pneumococcal letter then he would get the vaccine

Vaccination barriers:

- Never heard of pneumococcal—heard of the importance of preventing pneumonia but not sure about the relevance of this vaccine
- Never had a letter
- Gets a chest X-ray each year so don't think he needs to get the vaccine

Suki, 75y, Akitakata

Vaccination status: COVID-19 | Influenza | Pneumococcal

Background:

- Moved to Akitakata when she married and worked in a Kindergarten
- Very involved in the community
- Husband died 5yrs ago of lung cancer
- Has 2 daughters who live 40mins away—doesn't see them that often
- Sings once a week—"my friends and I gather together and sing and that's what I love to do"

Health background and attitudes:

- "Health is to have friends and to enjoy activities with my friends"
- "If I stay at home my body will age, going out will keep my healthy and meeting friends and talking will keep my brain healthy"
- Suki's goal is to go to a big singing competition—"this is a source of my health"
- Always checks with doctor before taking vaccines or medicines because of her allergies / medication

Vaccination drivers:

- "When I get a letter it's custom to follow it"
- Seen the effects of influenza from working in a Kindergarten and understands the seriousness of it
- "I know the bad effect is spreading flu and I'm always in a group so it's important not to spread"
- Knows that lots of people die from pneumonia and, when it comes to the lungs ,she takes it seriously because of her husband's death
- Doesn't think she has strong lungs as she gets out of breath, colds go to her lungs and she can't swim that far so wants to protect them

Vaccination barriers:

- Has food allergies so has to check with her doctor that she can take it and was worried that she would get side effects from the COVID-19 vaccine
- Thinks she missed the second pneumococcal letter at 70y as it was a busy time for her