Digital Health Opportunities in Japan

Final report

26 May 2021

Business Sweden Tokyo

This report was jointly financed by:

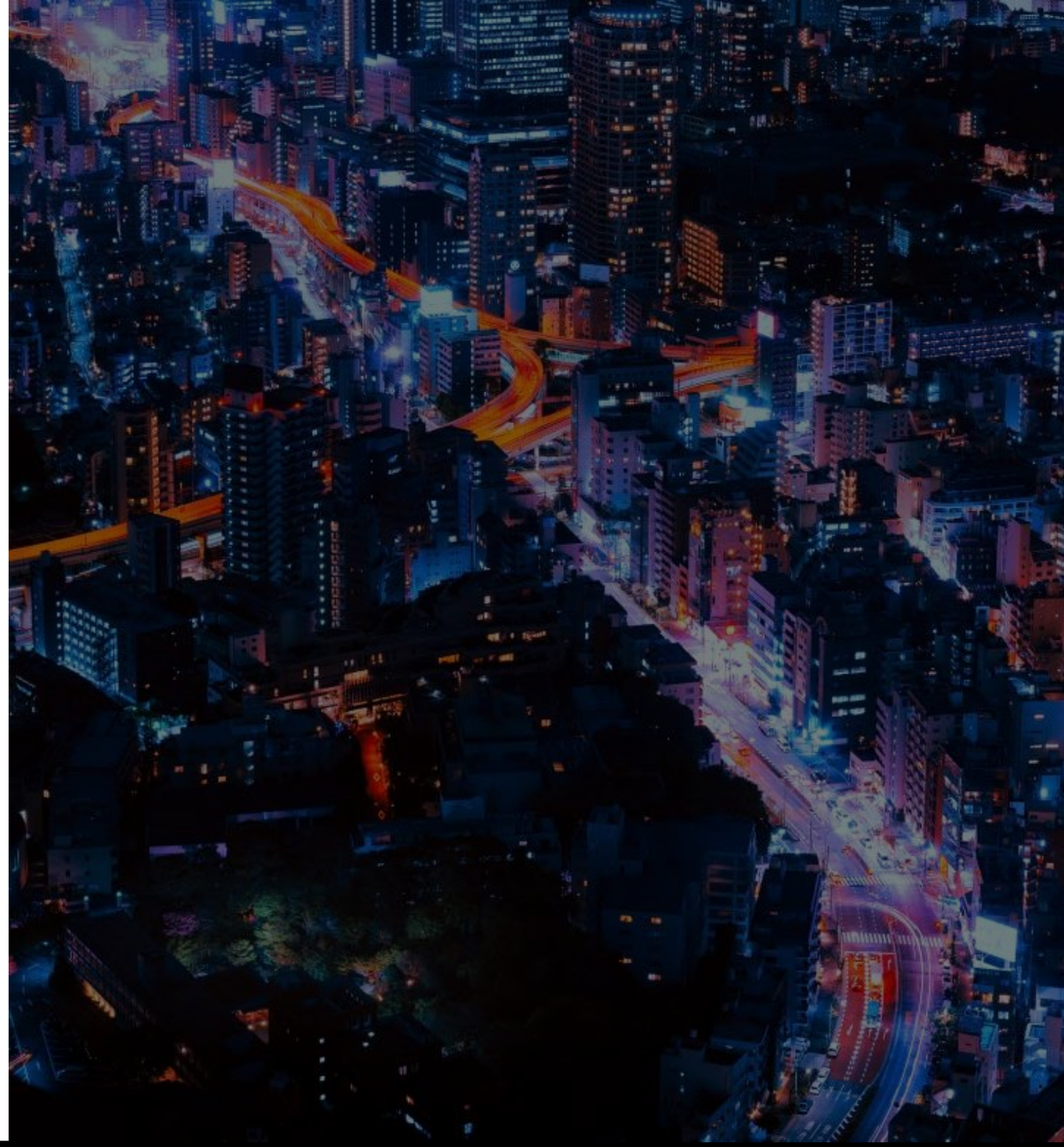
NORDIC INNOVATION HOUSE TOKYO

Innovation Norway

BUSINESS SWEDEN
THE SWEDISH TRADE & INVEST COUNCIL

Agenda

- **Executive summary**
- Background and objectives
- Project approach and plan
- Healthcare sector in Japan
- Digitalisation opportunities and prioritisation
- Digital health stakeholder mapping
- Business model analysis
- Conclusions – Road map for NIH in Japan
- Contact information
- Appendix
  - Summary of sector and their priorities



Executive summary

As one of the largest healthcare markets globally, Japan presents a "can't-miss" opportunity for Nordic digital health startups

- Japan is the 3rd largest economy and healthcare market in the world
- Medical expenditures have increased over 30% since 2000 and now constitute 11% of GDP
- With a population of approximately 120 million people, of which over 30% are projected to be 60 years or older within a decade, Japan's healthcare market will continue to grow – projected CAGR 4% from 2018 to 2024

Lagging with regards to digitalisation, both the private and public sectors are looking to implement digital health solutions

- Digitalisation of Japan's healthcare sector lags other OECD countries – use of electronic medical records hovers between 30% to 40% in Japan compared to 100% in most Nordic countries
- Our interviews with Japanese companies, which included pharmaceutical, medical device, IT, and financial firms, revealed that Japanese companies are mainly interested in complementary diagnostics and other digital services that add value to their core offerings
- Private sector has an appetite for digital healthcare solutions – healthcare/pharmaceutical was a top-10 most funded sector by Japanese VC firms
  - Japan is interested in the Nordic offering as demonstrated by recent partnerships between Nordic startups and Japanese partners
- The Government of Japan is implementing multiple digitalisation initiatives – Society 5.0, Digital Agency, My Number, etc.

Based on the findings presented in this study, we propose a four-step approach to introduce digital health startups to Japan

- Engage with prioritised partners in Nordic, e.g. business regions and local ecosystems that have close contact with startups
- Recruit Nordic startups through regional and local partners
- Engage with Japanese stakeholders, including pharmaceutical, medical device, IT, and financial companies and innovation ecosystems
- Jointly facilitate digital health activities; Nordic-Japan Digital Healthcare Summit and Nordic Japan Healthcare Investor Meeting

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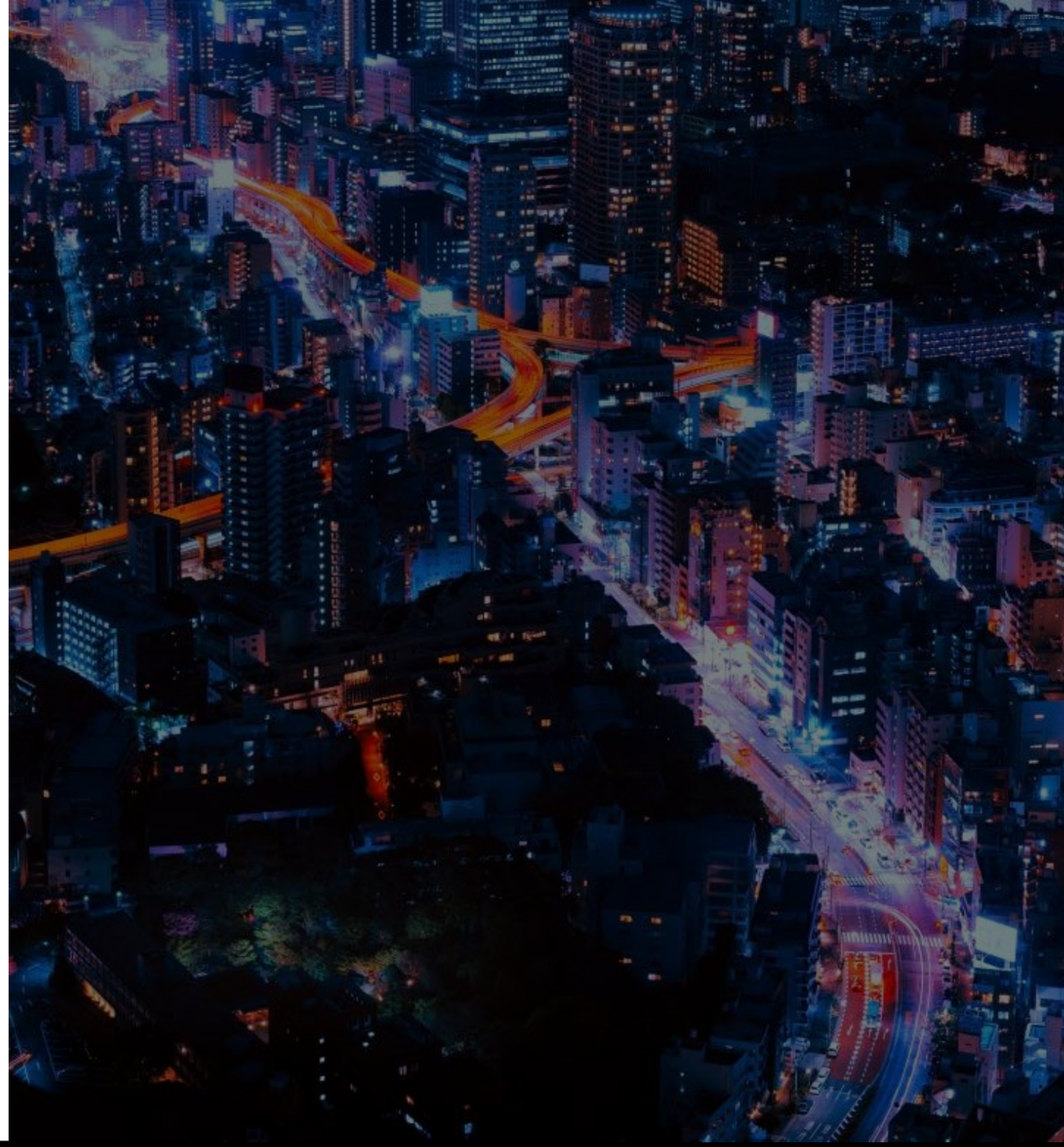

Identification of key opportunities areas within digital health for Nordic startups in Japan

SITUATION

- Nordic Innovation House (NIH) opened in Japan in 2020
- Healthcare has been identified as an area of interest by the five Nordic TPOs – with a particular focus on digital healthtechnology
- NIH wishes to further define its focus within digital healthcare technology in Japan to better understand business opportunities for Nordic startups and scale-ups in this field in Japan
- Business Sweden, Tokyo has substantial experience with supporting Swedish healthcare businesses in Japan, including multiple activities focusing on digital healthcare

COMPLICATION

- Japan has a comprehensive compulsory healthcare insurance system that pays for healthcare in combination with patient co-payments
- Japan's healthcare system is focused on providing treatments in clinical settings and is making advancements in prevention with an annual health check-up system for all residents 40 years or older
- Japan is lagging in use of digital technology in healthcare, partly due to lack of reimbursement
- The main complications facing emerging digital healthcare businesses in Japan are related to
  1. Lack of clarity on business models due to ambiguity concerning government policies and reimbursement
  2. Uncertainty regarding suitable partners for Nordic startups in Japan

OBJECTIVES

- Understand digital healthcare priorities and funding road map in Japan
- Understand challenges and accelerators to increased use of digital solutions by healthcare providers
- Identify key opportunities within digital healthcare in Japan with focus on:
  - Pharmaceutical companies
  - Medical device companies
  - IT sector
  - Financial investors

KEY QUESTIONS

- What are the highest potential opportunities for Nordic digital healthcare technology companies to focus on in Japan?
- How to pitch the opportunities to Nordic startups and scale-ups?

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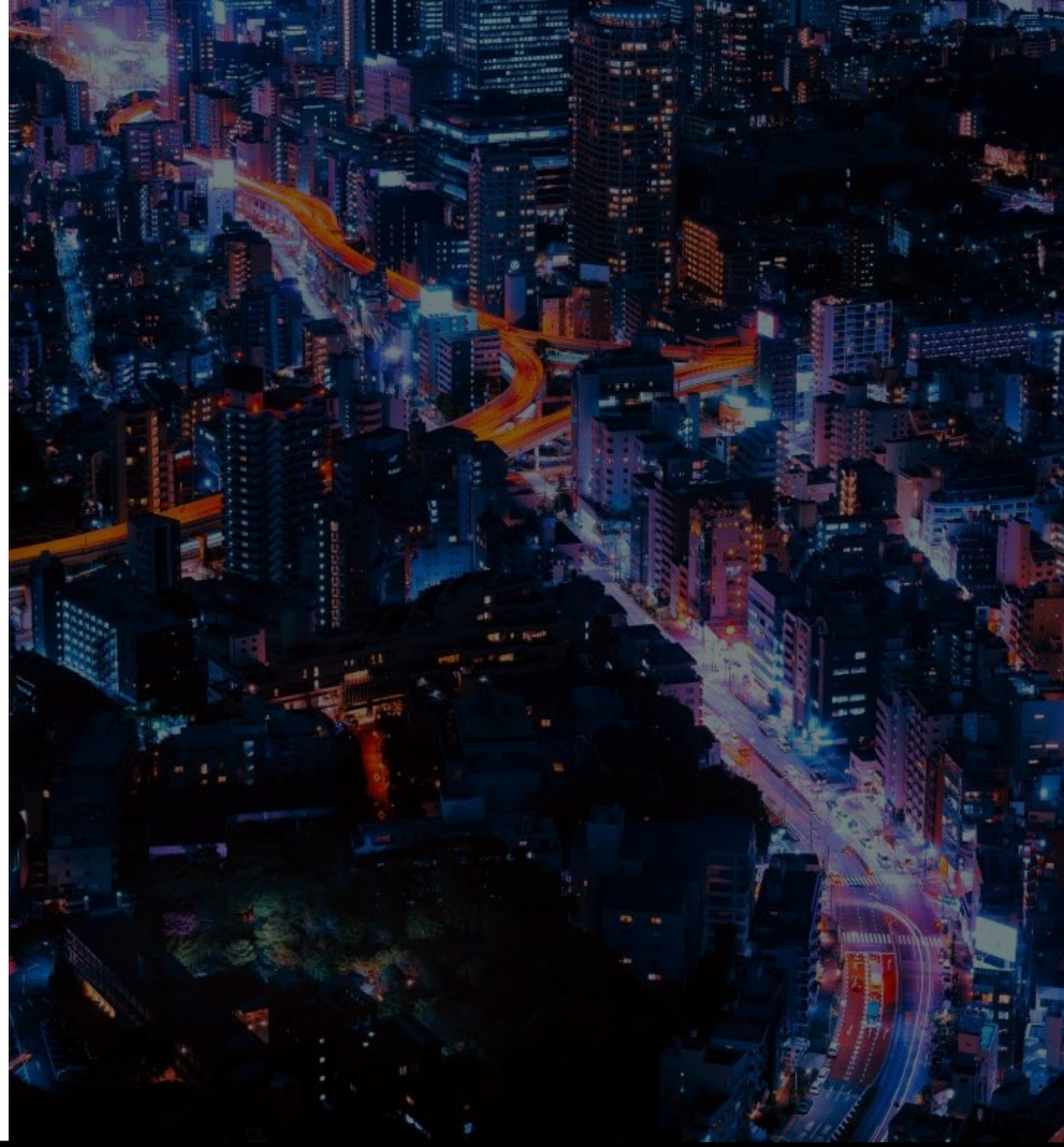

Key questions in multi-sector analysis of key opportunities areas within digital health for Nordic companies in Japan

Key question

What is the ideal offer and fit in Japan of Nordic digital health solutions?

Areas of investigation

1. **Public sector**
   What public funding is available today and what can be expected in the next 5 years?
2. **Healthcare providers**
   What do healthcare providers value and which are the unmet needs?
3. **Private sector**
   What products and business models are in demand?
4. **Road map for NIH**
   What would it take to win in Japan?

Examples of sub-levers

- What digital health products are currently supported by reimbursement or other public funds?
- What are the key public sector stakeholder for the digitalisation of healthcare in Japan?
- What are the priorities and concerns of the different public sector stakeholders?
- How can we expect public funding for digital healthcare to evolve in the next five years?

- What digital health products are currently in use?
- What are the digital healthcare priorities and concerns of healthcare providers?

- Identify companies within pharmaceutical, medical devices, IT and financial sector that prioritise digital healthcare
- What are the focus areas of the these companies?
- What type of products and collaboration projects are of interest?
- What business models are attractive?

- What digital health technology products will be most attractive to the Japanese market?
- What business models and what partners will be key to success?
- How should these opportunities be pitched to Nordic digital health companies?

Expected output from analysis

Public sector roadmap

Assessment of business models, timelines to launch and market potential

Road map, Nordic digital tech in Japan

Comprehensive framework for end-to-end delivery of assignment in four steps

ASSESSMENT OF MARKET POTENTIAL, APPROX. 8 WEEKS

GO-TO-MARKET PLAN & NEXT STEPS
APPROX. 2 WEEKS

Project start | Pre-selection of markets/segments | Final selection of markets/segments | Project completion & next steps

Mobilisation | 1 Public sector | 2 Healthcare providers | 3 Private sector | 4 Road map NIH | Execution of plan

	Public sector	Healthcare providers	Private sector	Road map NIH
Scope	• National government	• Clinics, hospitals and nursing homes	• Pharmaceutical, med. devices, IT, & financial companies	• Prioritisation by target market and business model
Key deliverables	• **Assessment of current public funding and road map of digitalisation:** ○ Description of reimbursement and public funding mechanism ○ Description of public sector digitalisation road map ○ Forecast of future public funding	• **Assessment of needs and challenges of healthcare providers:** ○ Description of challenges by type of providers ○ Description of needs by type of providers	• **Assessment of products and business models that companies want to bring to market or invest in:** ○ Nordic/Japan deals to date ○ Description/prioritisation of products ○ Description and prioritisation of business models	• **Go-to-market plan:** ○ Product/service offering adaptations ○ Business models ○ Timeline ○ Pitches about Japan to Nordic startups based on go-to-market plan
Method	• Desk research • Interviews* with two to three key public sector stakeholder including MHLW and METI	• Interviews* with decision makers at three to four clinics, hospitals and nursing homes	• Desk research • Interviews* with eight companies, two within each of the four sectors	• Analysis of one to three above

Within project scope

Outside of project scope

Workshops

Checkpoints with project management

*Interviews will a mix of face to face and online format. NIH will be invited to join if it is available

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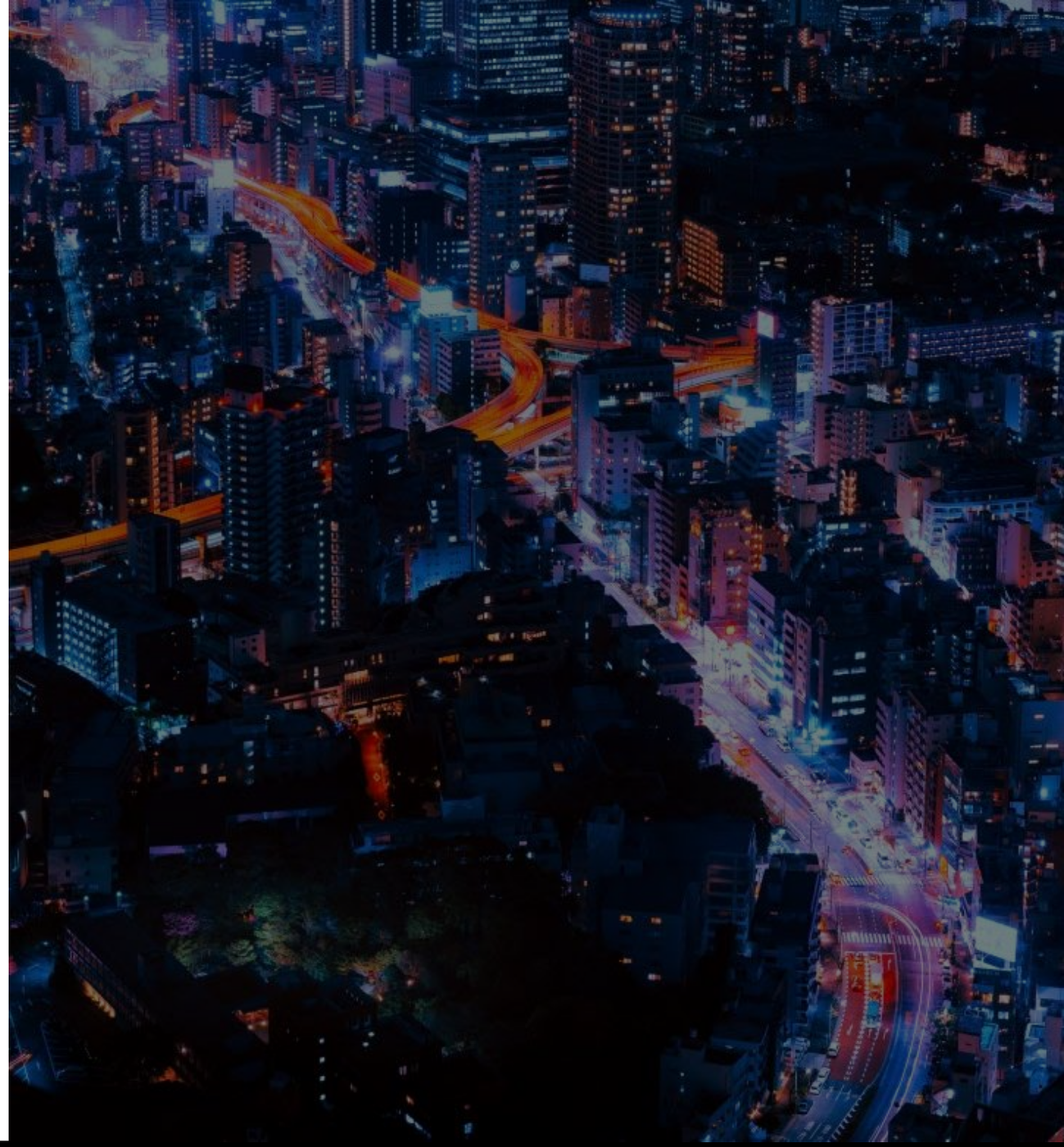
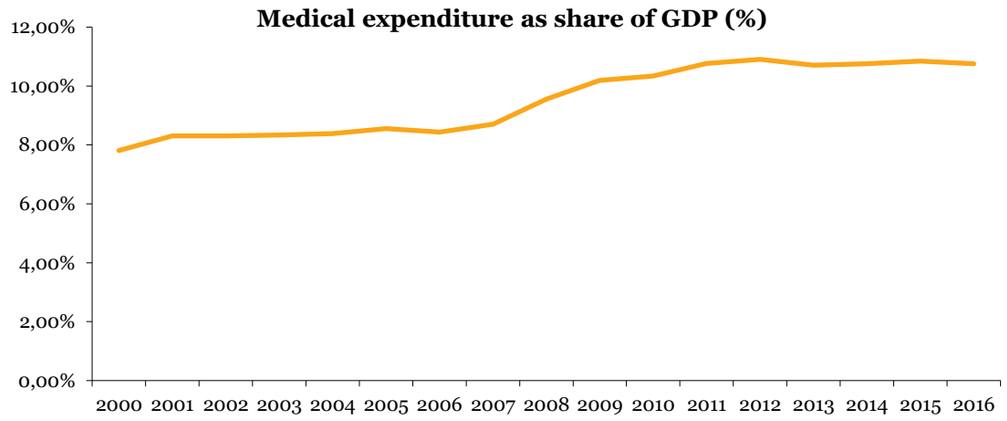
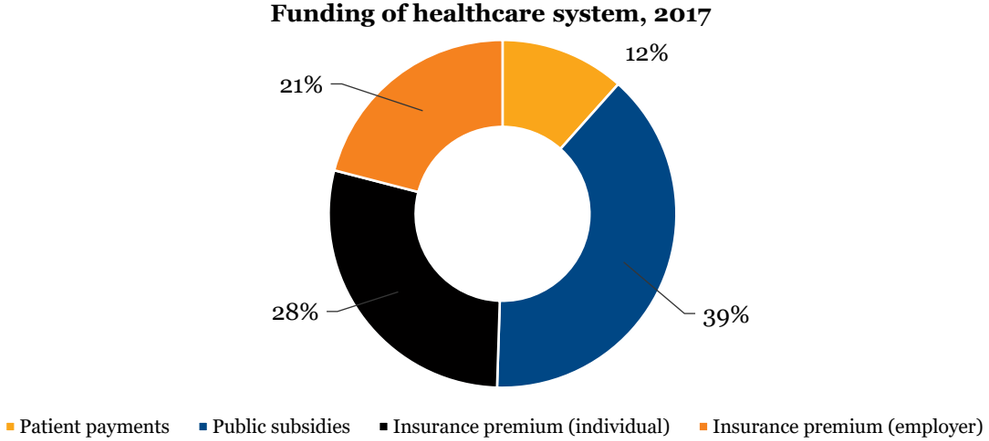


Japan is a top-three healthcare market in the world with continued growth expected, driven by a large, ageing population and mandated universal healthcare

- **Japan is an extremely large market** – with over 120 million people, it is the **3rd largest healthcare market in the world**
  - Projected CAGR of 4% between 2018 and 2024
- **Japan has a comprehensive universal healthcare system** financed through compulsory health insurance in combination with co-payments and government subsidies
  - Patients are free to choose their healthcare provider
- **Public subsidies account for over a third of the funding for Japan's healthcare system**
  - Government exploring cost-containment measures
  - Patient payments are relatively low in Japan – 12%
- **Medical expenditures have increased over 30% since 2000** and now constitute **11% of GDP**
  - 11% is similar to other industrialised countries
- Ownership/organisational structure and sise of healthcare providers vary, but **reimbursement scheme** – managed by Ministry of Health, Labour, and Welfare – **is the same for all**
- **Primary care is provided** by over **100,000 clinics** nationwide

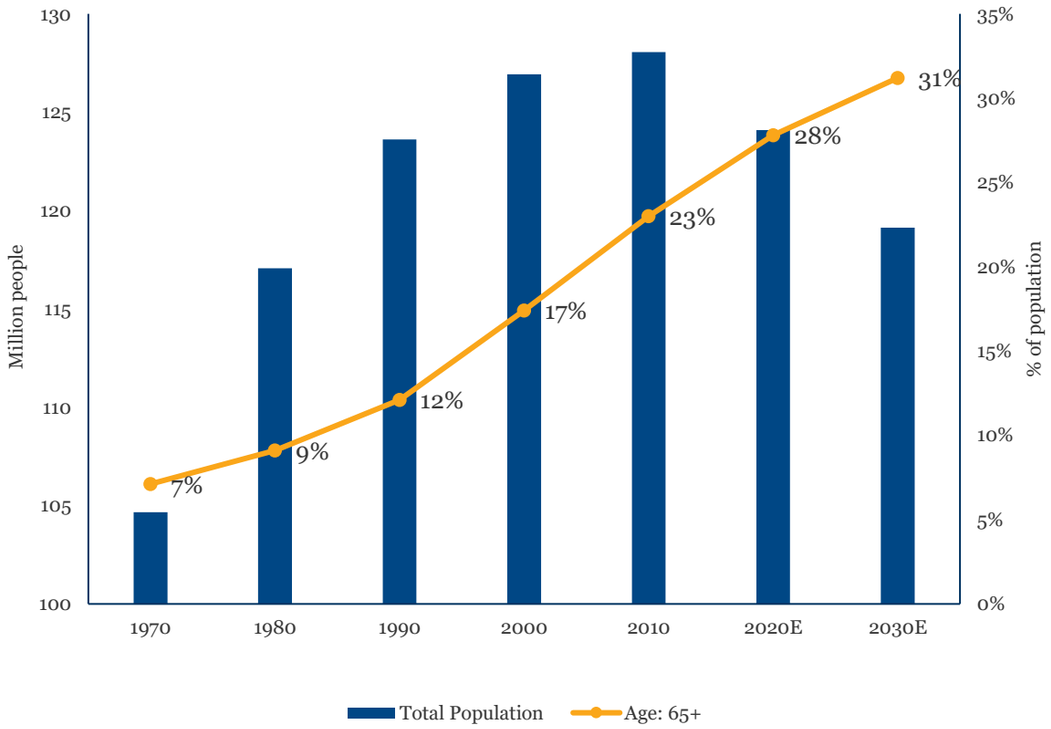




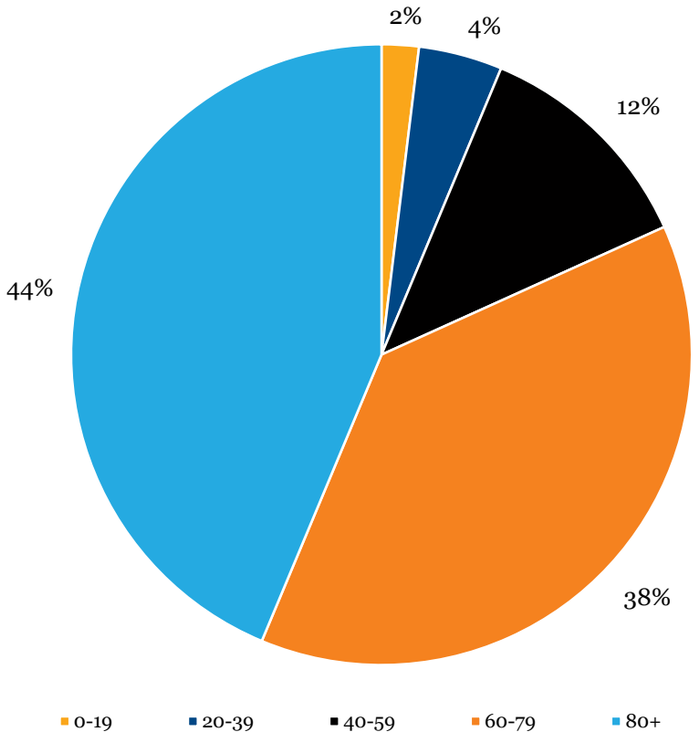
Source: MHLW statistics (2015); World Bank Group 2018 – healthcare market calculated using healthcare spending per capita and population data

A rapidly ageing population is forcing the Japanese government to consider cost-containment measures

Population development (million people and % of population)



% of total healthcare spending, by age cohort



- **Japan's population has been ageing** for quite some time **and started to decrease** in 2010 due to low fertility rate
  - By 2030 approximately a third of the population will be 65+
- **Over 80% of healthcare spending** is **accounted** for by **adults 60 years or older**

Source: MHLW statistics (2015); OECD statistics

Japan's healthcare policy is focused on creating a more efficient market, cost containment, and digitalising health records

The GoJ is deregulating the market in order to promote competition and reduce costs

- **Mixed treatments** – adding non-reimbursed treatment to a reimbursed treatment – **are allowed** in limited cases since April 2016 **to facilitate clinical trials**
  - Mixed treatments are still generally not allowed as it is associated with risk of unsuitable treatment
- **Blood tests at pharmacies** and **online sales of OTC drugs allowed** since 2014
- **Market creation** – encourage development of new drugs, devices and treatments aimed at global use

Japan is lowering reimbursement prices and increasing use of generics to contain expenditures

- **Decreasing reimbursement prices**, and annual review of drug prices replaced biannual system in 2017
- Target to **increase share of generic drugs to 80% by 2020** is nearly reached with current use at 78.3%
- **Group purchasing** of single-use medical devices **introduced at national university hospitals** in 2017

The GoJ is digitalising the health records system to improve information flow and health outcomes

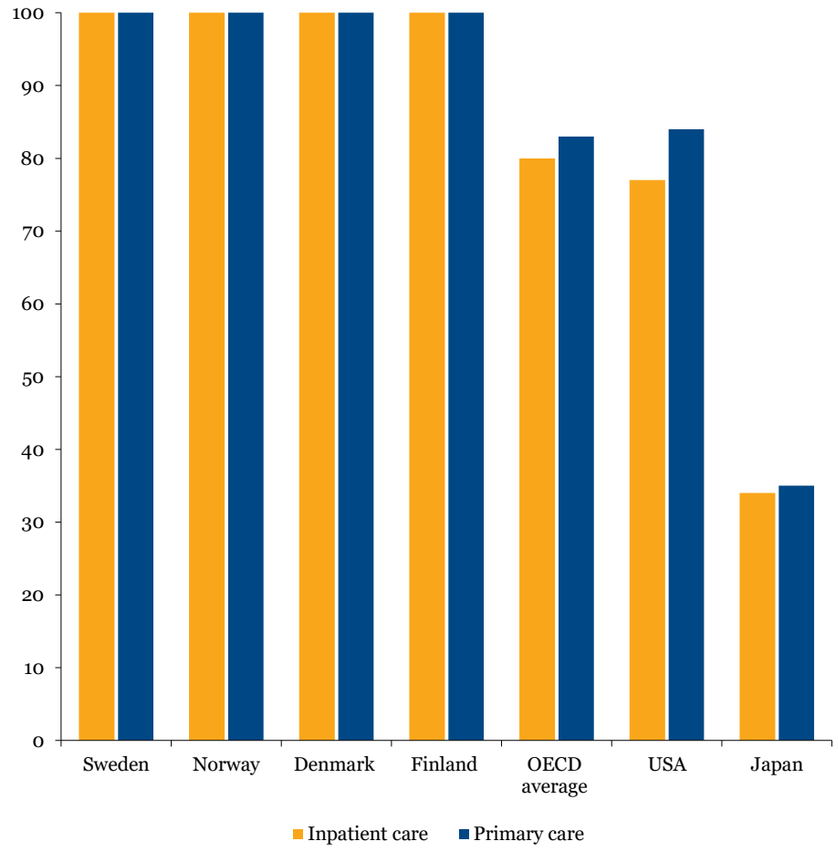
- **GoJ is digitalising health records incrementally** (drug prescriptions – 10/2021, surgery/transplantation – 2022, health checks – 3/2021, other records – scheduled 2022)
- "**My Number**" (similar to personal identification numbers used in the Nordics) is **being introduced in 2021**
- **GoJ** is interested in **using big data to analyse healthcare data** and facilitate possibility of preventive actions
- Improved system for informed consent to ensure patients and medical staff better understand risks

Source: MHLW My number portal Nikkei on generic drugs

Compared to other OECD countries, Japan is lagging in digitalising its healthcare system

- **Digital healthcare reimbursements** from digital imaging and online consultations **account for less than one tenth of total healthcare expenditures –** approximately 120 BJPY
- However, many **new initiatives are focused on digitalising Japanese healthcare**
  - **Society 5.0:** Japan's long-term plan to integrate cyberspace and physical space to create a human-centred society with a focus sector being healthcare
  - **Digital Agency:** Prime Minister Suga committed to establishing a government agency focused on facilitating the country's transition to a digital society
  - **Government support for the venture capital ecosystem:** VC in Japan is growing rapidly with a CAGR of 28% between 2015-2019. In 2019, healthcare was the third largest investment focus (both in VC deal value and number of deals)
- Japan's focus on digitalisation is evident in other sectors as well
  - **QR code-based payments increased by 56%** from January to September 2021
  - **Percentage of household shopping online up from 43% to 49.9%** in 2020
  - Percentage of **companies utilising cloud services grew from 44.5% to 64.7%** between 2015 and 2019

Percentage of primary care physician offices and acute care hospitals using electronic medical records, 2016



Source: OECD, Japan Cabinet Office, INITIAL

Japan is interested in the Nordic offering as demonstrated by recent partnerships between Nordic startups and Japanese partners

Sidekick Health

Country: Iceland/Sweden

Description: Digital therapeutics/gamified digital care

Japan connection: Sidekick Health and Japan insurance conglomerate, SOMPO Digital Lab, are partnering on a pilot project focused on treating diabetes

Coala Health

Country: Sweden

Description: Smart cardiac monitoring

Japan connection: Coala Health and Asahi Kasei Corp. are partnering to evaluate the use of the Coala Heart monitor for remote monitoring and management of patient suffering from heart failure

"We are considering several Swedish digital health investments. As digitalisation is more advanced overseas, we think it would be good to bring overseas solutions to Japan"

Principal, Japanese VC Firm

Nightingale Health

Country: Finland

Description: Blood testing

Japan connection: Nightingale Health is partnering with Kirin Holdings and Mitsui & Co. to launch the company's blood-testing service in Japan as well as develop novel wellness products

OncoImmunity AS

Country: Norway

Description: Machine learning software to support the fight against cancer

Japan connection: Acquired by NEC in 2019

"We recognise the high quality of Nordic startups and understand their good relationships with the public sector. Therefore, we would like to partner with them"

Head of Digital Accelerator, Japanese Pharmaceutical Corporation

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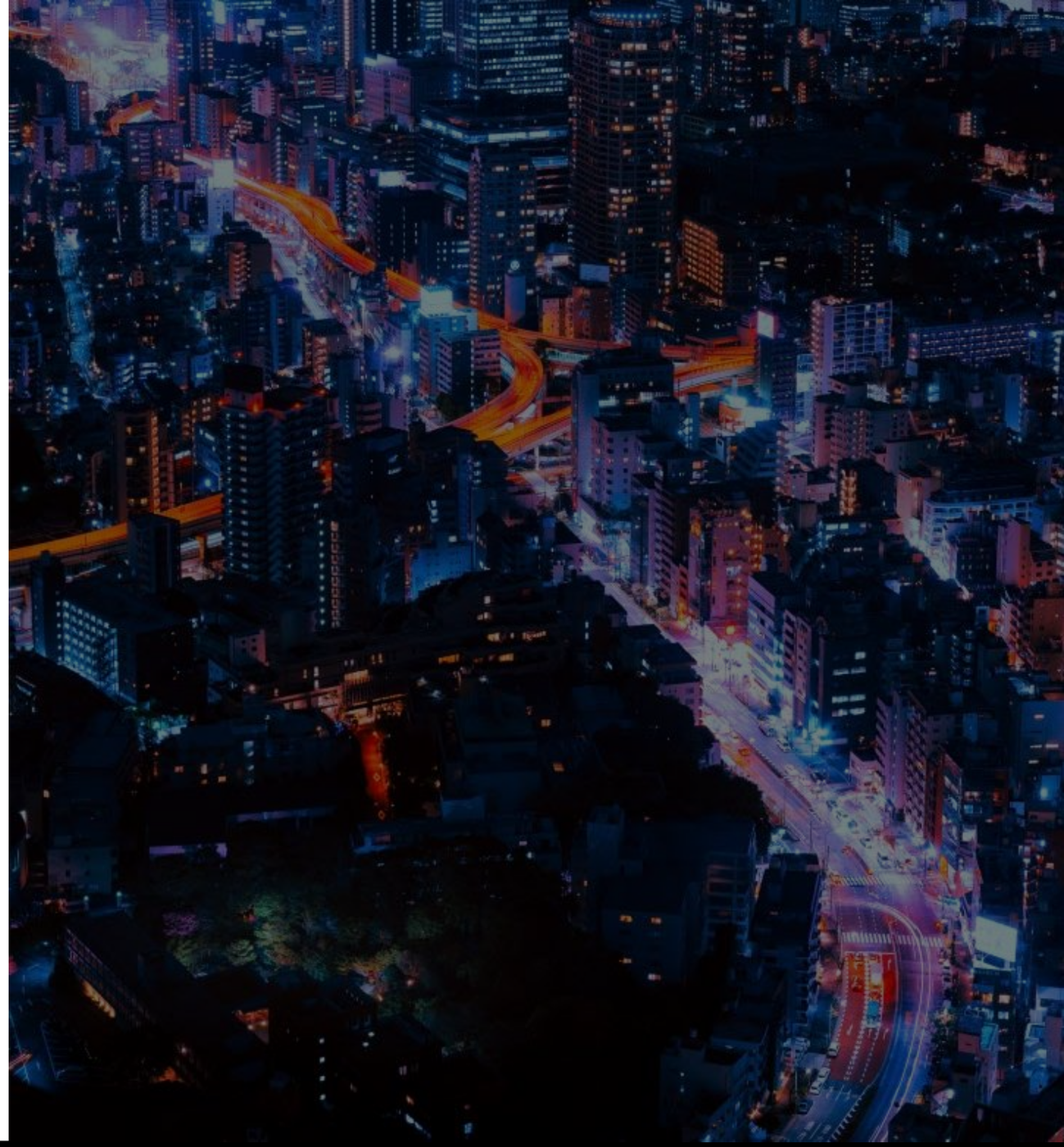
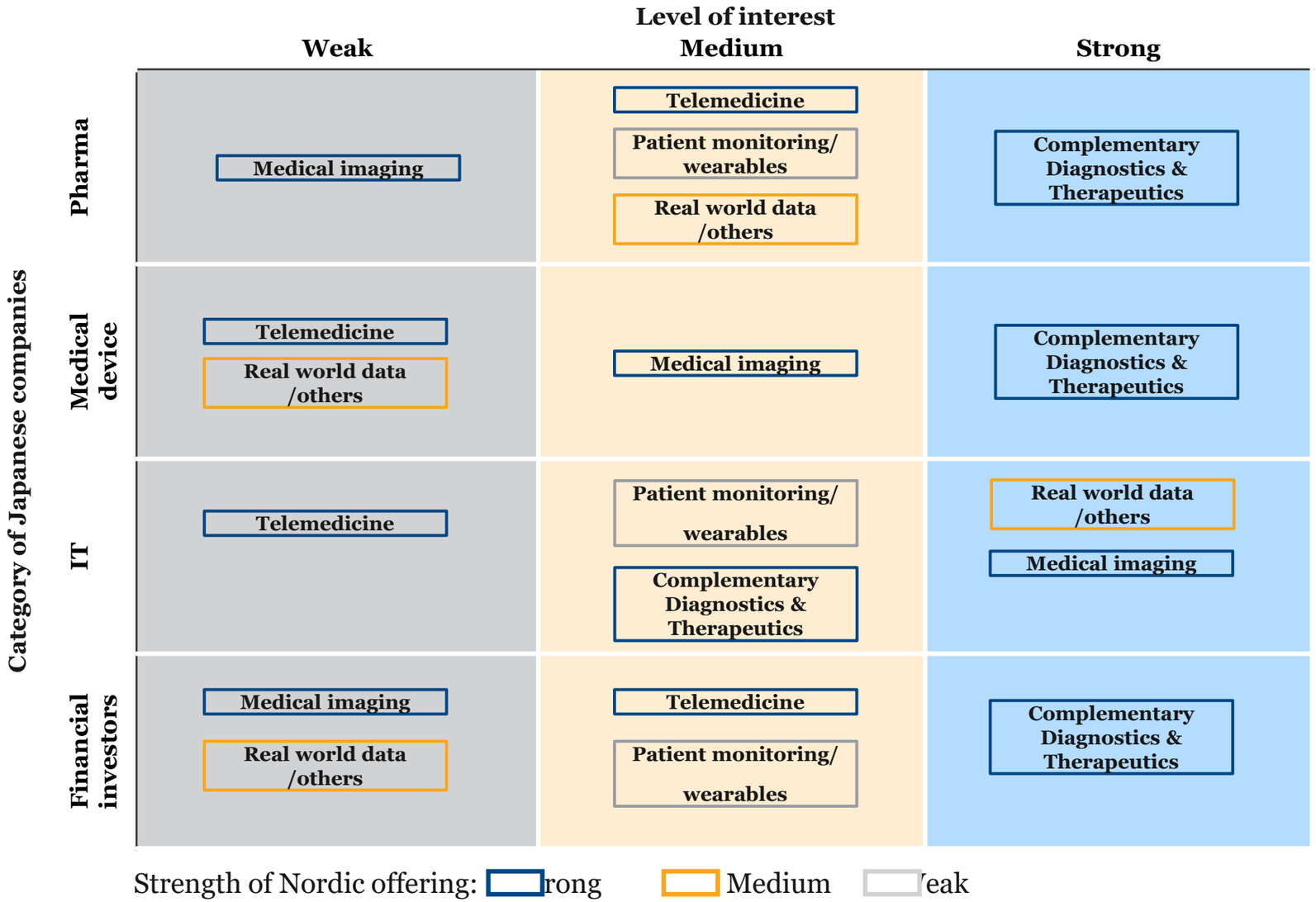


Japanese companies are mostly interested in complementary diagnostics and digital services that add value to their core offerings

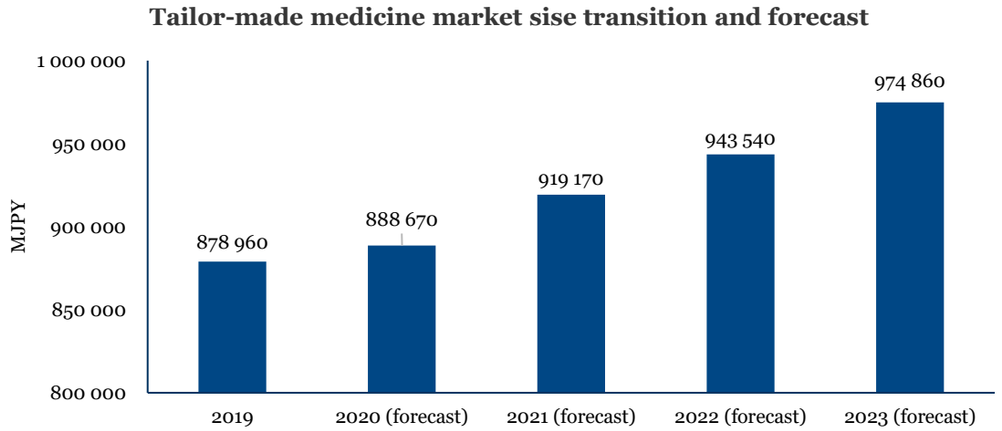
Industry prioritisation matrix



Description

Areas	Description
Complementary diagnostics and therapeutics	Digital services that complement or enhance therapeutic offering (e.g. CurApp)
Real world data	Quantitative use of everyday medical records rather than clinical trial data (e.g. MedEngine)
Medical imaging	Novel technology and software used in medical imaging to improve treatment solutions and aid drug development (e.g. RaySearch and SyntheticMR)
Telemedicine	The practice of providing patient care remotely via video calls or other digital communication platforms. This technology is particularly useful for patients in rural locations (e.g. Kry, Line Health)
Patient monitoring/ wearables	Wearable technologies are healthcare devices which consumers can wear in order to collect health data and monitor performance (e.g. Navigil)

Complementary diagnostics and therapeutics are the primary interest for Japanese firms due to their ability to enhance the profitability of core offerings



Note: Digital solutions enable tailor made medicine

"As hurdles are high for standalone reimbursement, our focus is on enhancing patient experience digitally"

Head of Digital Accelerator, Japanese Pharmaceutical Corporation

Current State

- 7 of the top 10 Japanese pharmaceutical companies are marketing complementary smartphone apps in Japan

Policy Trends

- Smoking cession app CureApp was the first standalone therapeutic app to receive Japanese government approval in June 2020 and reimbursement in November 2020

Tech/Business Trends

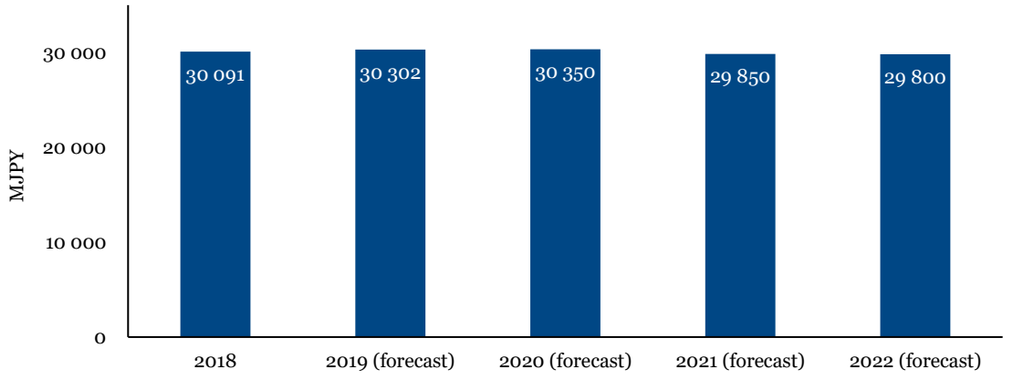
- Tailor-made medicine market expected to grow to 975 BJPY by 2023
- Dependent on roll out of companion diagnostics and companion therapeutics
- Priority for leading Japanese pharmaceutical companies because it creates added value to profitable core products

Note: Among top Japanese pharma companies only Otsuka, Sumitomo Dainippon and Kyowa Hakko Kirin do not offer iPhone apps

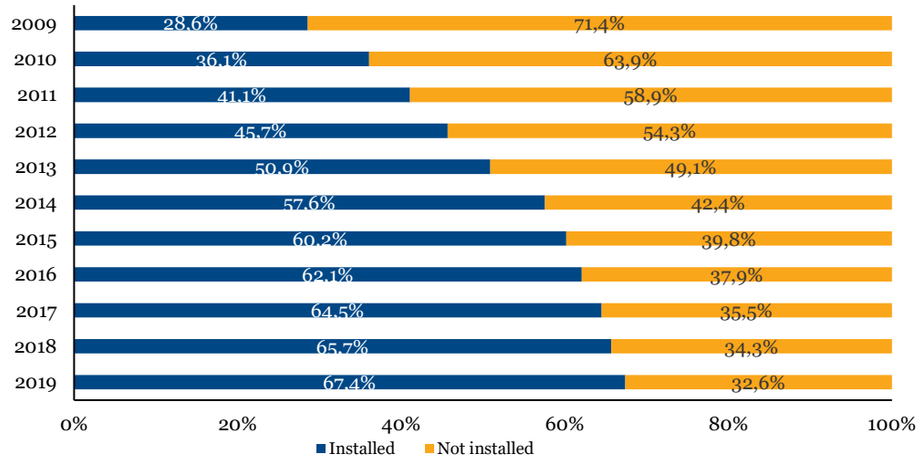
Source: Tailor made medicine in YANO Cure App in NIKKEI

Japanese companies are interested in digital solutions such as AI-powered diagnosis and data analysis in order to increase their local market share

Medical imaging (PACS) market sise transition and forecast



PACS installation ratio



Current State

- Picture Archiving and Communication System (PACS) is a good indicator for the larger digital imaging sector as it enables a large majority of other digital imaging solutions
- PACS market sise is estimated around 30 BJPY and the installation ratio has increased from 28% to 67% over the past decade

Policy Trends

- Market drastically grew with the reform of reimbursement in 2008, when an additional reimbursement introduced for “scan on electronic media”
- High-end CT market growing with the increase in reimbursement for CT with over 64 multi-slice

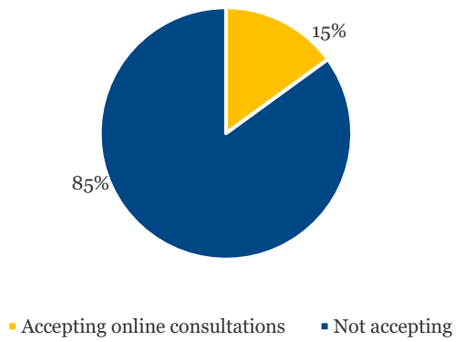
Tech/Business Trends

- Industry actively restructuring with mergers and business transfers
  - Panasonic Medical Solutions merged to Konica Minolta Japan, Yokogawa Medical Solutions acquired by FujiFilm
- Priority for medical imaging companies is to create new businesses using big data in combination with AI to provide value-add services such automated diagnostics

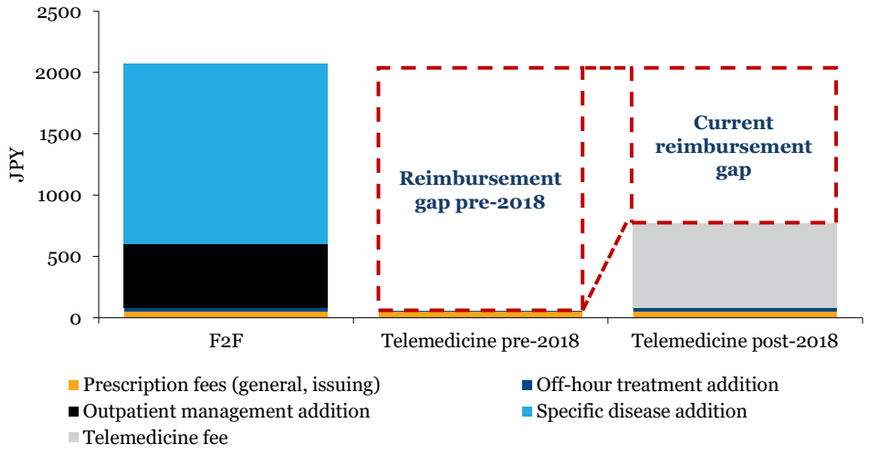
Source: YANO

Large investments from Japanese tech giants and new reimbursement policies spurred the growth of telemedicine growing from 0% in 2020 to 15% in 2021

Healthcare providers accepting online consultation



Reimbursement structure – face-to-face versus telemedicine



Current state

- Telemedicine receiving increased support from the public sector
  - After temporarily allowing teleconsultations during the pandemic, MHLW is aiming to make the policy change permanent

Policy Trends

- Until April 2020, initial medical consultations need to be in person
- Due to the spread of COVID-19, online/telephone consultations were approved even for initial medical examinations and drug prescriptions
- The upper limit of the reimbursement for telemedicine was increased
- In October MHLW announced allowing telemedicine for initial medical examinations as a permanent measure

Tech Trends

- Approximately 15% of healthcare providers offered online consultations by March 2021
- Private companies, including tech giants, are expanding online health consultation services without reimbursement

Source: Japan Times, MHLW, interview with Takeda, Nikkei Shimbun 29 April 2021

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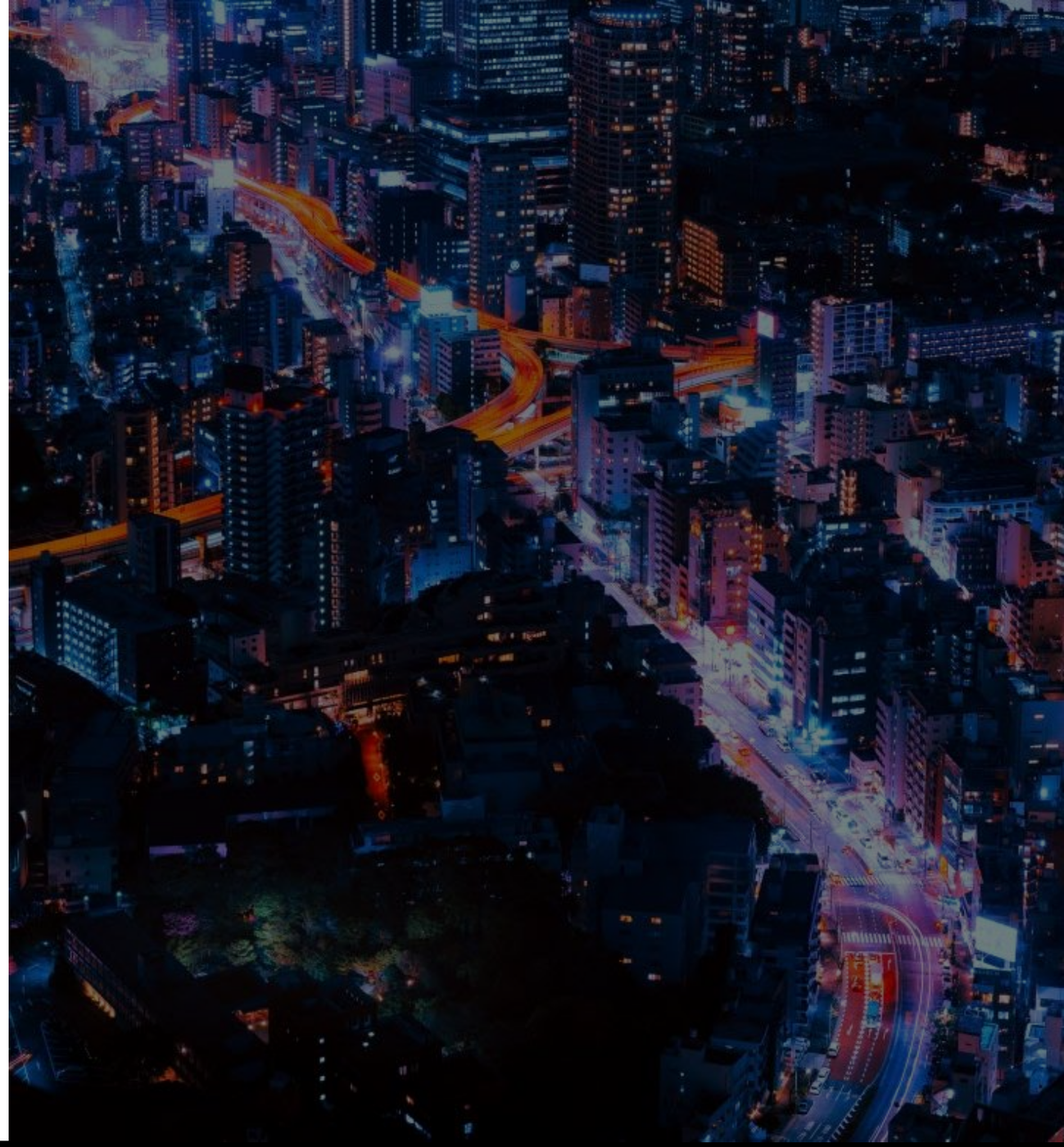
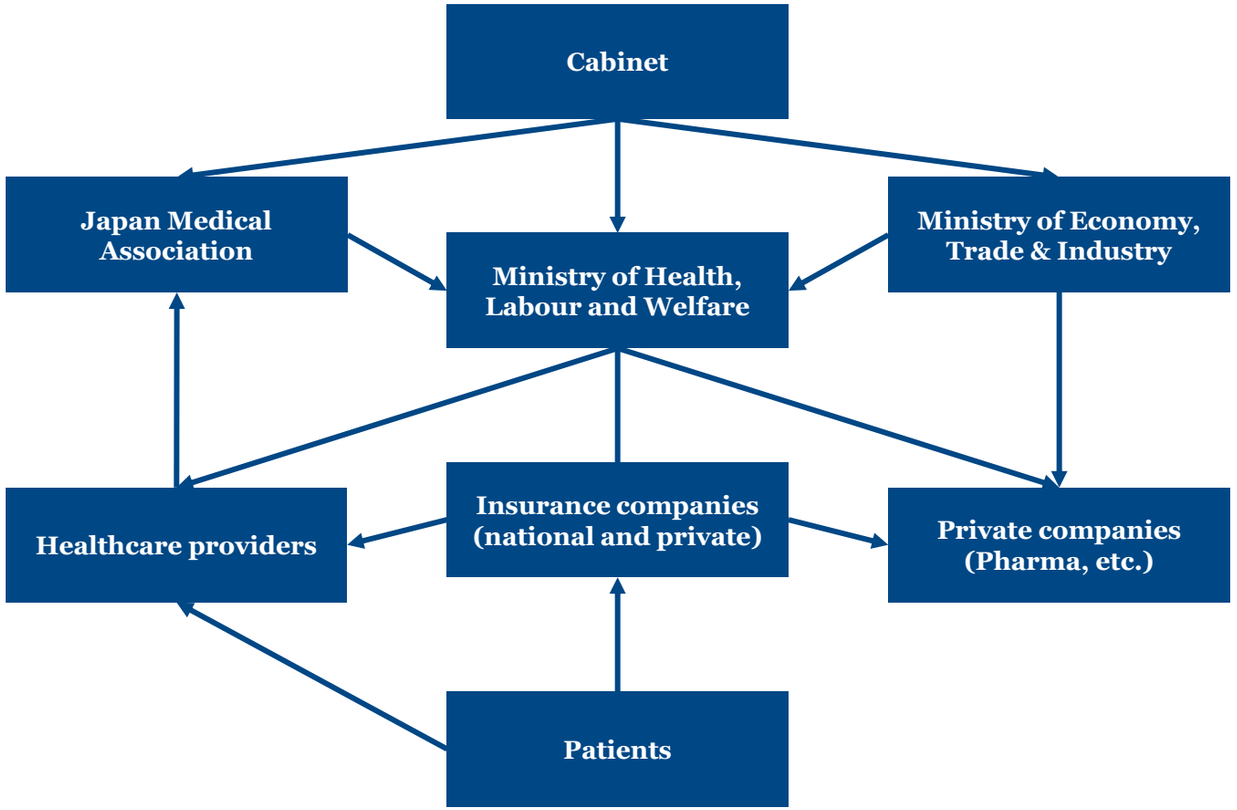


Japan’s healthcare system, although well regulated, is heavily influenced by the doctors’ association, Japan Medical Association

Overview of stakeholder landscape



Roles and mandates

- **The Cabinet** issues policy and oversees ministries
- **The Ministry of Health, Labour and Welfare** manages the healthcare system by controlling the reimbursement system, product approvals and notifications
- **Ministry of Economy, Trade and Industry** regulates aspects of industry that are not subject to MHLW regulations, e.g. non-reimbursed healthcare business
- **Japan Medical Association** is the umbrella organisation of physicians in Japan which is frequently consulted by MHLW when medical expertise is needed. The doctors are also an important intermediary between private and public sectors
- **Healthcare providers** provide patient care and impact policy via the JMA
- **Insurance companies** are regulated by the MHLW and collect payments from patients as well as provide reimbursements to healthcare providers
- **Private companies** are regulated by MHLW and METI and sell mostly to healthcare providers and pharmacies

Source: MHLW, METI, JMA

“I think that digital health is more advanced in the Nordics. In order to expand digital health to Japan, it is quickest to introducing technology that is profitable overseas”

Principal, Global Brain

Private companies are mainly interested in identifying new, complementary technologies

Focus areas

- Complementary digital services to add value to core pharma and medical devices offerings
- Therapeutic focus areas differ by company
- B–C–B is the primary business model being explored by IT companies/system integrators
- Products that have already been launched successfully overseas

Challenges

- High hurdles for standalone reimbursement in combination with weak demand from consumers to pay out of pocket
- Localisation needs high (language, cultural and medical system)
- Weak in-house software experience at pharma and medical device companies

Opportunities for Nordic startups

- Introduce service/product that does not require reimbursement
- Prioritise service with track record outside Japan

“We want to provide more medical information for clinicians to make better informed decisions to provide better care”

Public Health Bureau Official, MHLW

The Government of Japan is focused on improving efficiency and infrastructure

Focus areas

- Establish digital infrastructure to improve efficiency and quality of healthcare
  - Shared medical data between healthcare provides, government, industry and individuals
  - Analyse healthcare data for early diagnostics, promotion of health management and preventative care

Challenges

- Controlling healthcare expenditures despite rapidly ageing population
- Public acceptance of information sharing in order provide useful healthcare data and services to individuals through My Number portal
- Conservative medical profession and limited IT proficiency among elderly
- No road map to expand reimbursement for digital health

Opportunities for Nordic startups

- Provide digital solutions that have track record of increasing efficiency of healthcare
- Provide easy-to-use services that have clear benefits to the individual and indirectly help the government promote digitalisation – e.g. software that allows the government to analyse data gathered through My Number program
- Provide analytical tool use healthcare data for early diagnostics, prevention and health management

“As the majority of diseases treated changes from infectious diseases to non-infectious diseases, the location of care can change away from hospitals, and that is where private companies have a role to fill”

CEO, Kids Public

Healthcare providers want improved medical data in order to provide better care

Focus areas

- Sharing of medical data so medical professionals can make more informed decisions
- Increase the uptake of telemedicine to improve access to care
- Digital monitoring of patients to complement patrolling staff

Challenges

- Initial cost of establishing digital infrastructure
- Conservative medical profession
- Reimbursement system prioritises treatments rather than prevention
- Lower reimbursement for online consultations

Opportunities for Nordic startups

- Provide solutions that do not require new digital infrastructure
- Provide services that do not require reimbursement
- Use track record among medical professionals in home markets to win over Japanese doctors

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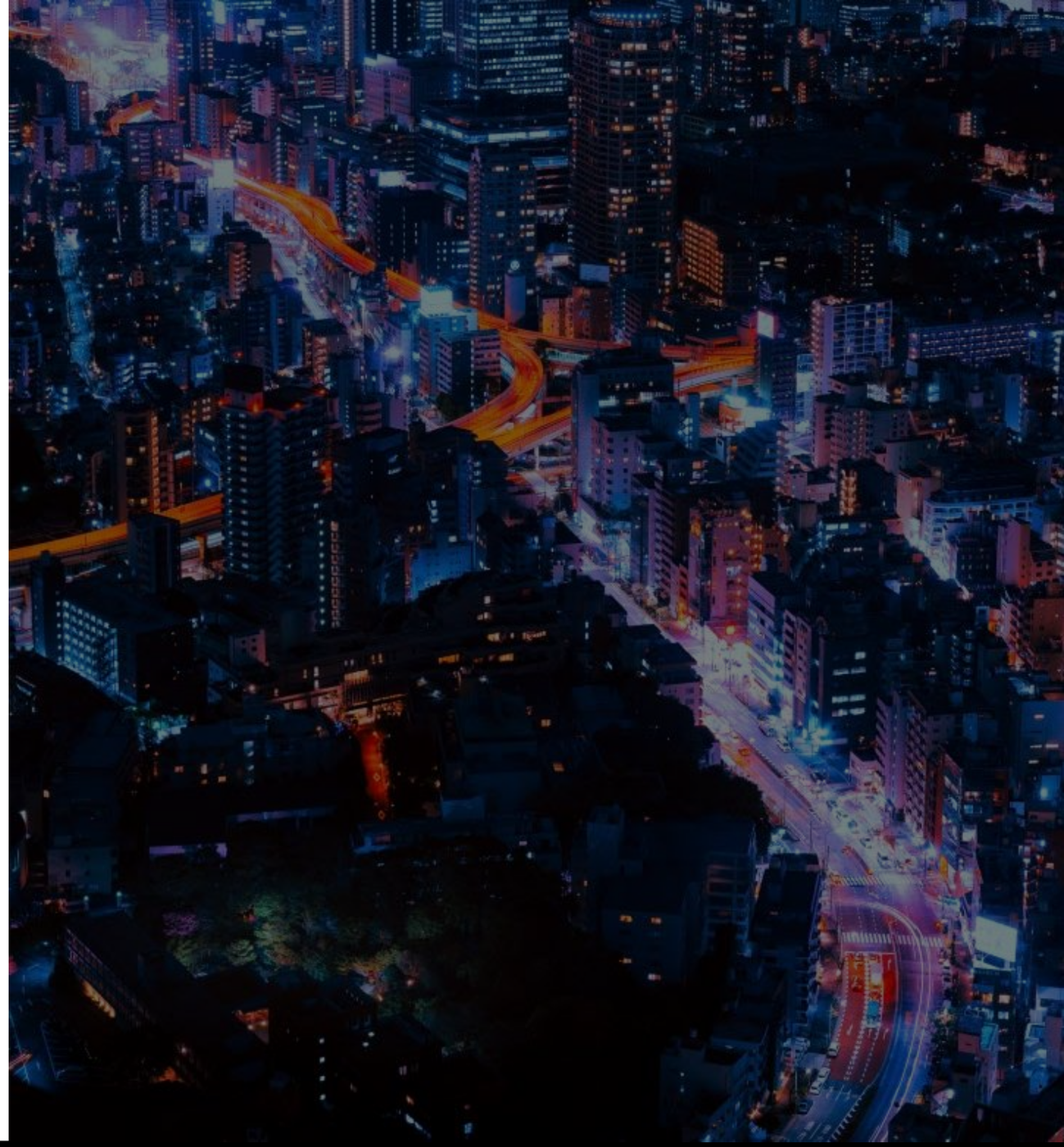


New business models enable Nordic startups to sidestep hurdles associated with traditional reimbursement model

	Business models		
	Reimbursement	**Complementary**	**B-C-B**
Description	MHLW sets reimbursement prices for medicine and medical devices. Customer that buys products receives reimbursement after purchase occurs	Product and services that are used to complement medicine or medical devices – e.g. apps that collect information concerning medication and promote behaviours to enhance treatment	Customer uses services that are billed to a third-party company that indirectly benefits from the customer's use – e.g. employers benefit from the improved health of their employees
Technology application	Traditionally restricted to physical products. However, CureApp, an app that helps patients quite smoking, was granted standalone reimbursement in 2020	Complementary diagnostics (e.g. apps), patient monitoring, wearables	Online medical consultation, wearables, & health monitoring apps
Key stakeholders	• MHLW • PDMA • Pharmaceutical companies • Medical device companies • Healthcare providers • New entrants	• Pharmaceutical companies • Medical device companies • Healthcare providers • New entrants	• Pharmaceutical companies • Medical device companies • Healthcare providers • New entrants • Employees • Insurance companies

Although highly desirable, qualifying for national reimbursement model is difficult for many digital health companies

Payment model

- Requires products registration followed by reimbursement approval from MHLW. It is the classic business model for prescription drugs and medical device where the reimbursement system shoulders most of the cost (typically 70% of the reimbursement price) and the patient makes a smaller co-payment

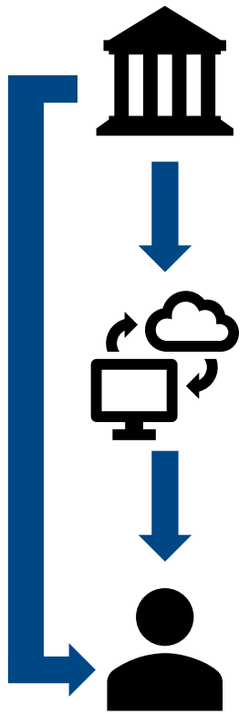
Trends

- Private companies generally pessimistic with regards to expansion of public reimbursement for digital health solutions
- Annual review of drug reimbursement prices started in 2017 to control medical cost
- Expansion of reimbursement for medical imaging over past 20 years
- Expansion of reimbursement for online consultation in 2020 expected to continue

Case study

- In 2020 smoke session CureApp was the first standalone digital therapeutics services that received reimbursement
- Pharmaceutical companies that are launching non-reimbursed apps hope to be able to gain reimbursement as evidence of benefits and savings accumulate over time

Reimbursement model



Government sets reimbursement policy and price for product/solution

Nordic startup solutions sold to healthcare provider in Japan

Healthcare provider receives solution/product and is reimbursed by the government in addition to receiving co-payment from user

Complementary business model is gaining popularity as large Japanese health companies look to increase their market shares and profits

Payment model

- Services provided free of charge that add value to medicine or medical devices typically sold by the same company
- Seen as relatively easy way of gaining digital foothold as it does not require reimbursement

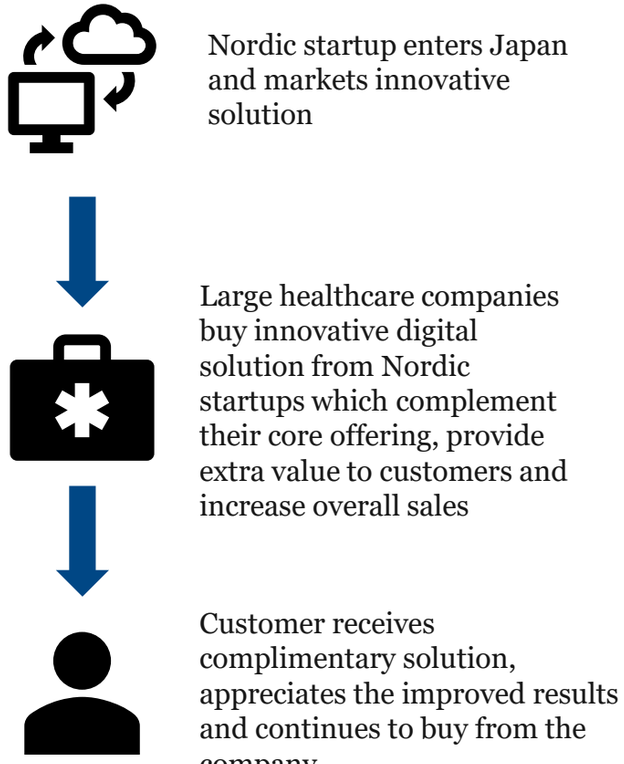
Trends

- Leading Japanese pharma companies including Takeda, Astellas and Eisai have launched free smartphone apps
- Chronic diseases such as dementia, Alzheimer's and diabetes are of particular interest

Case study

- Easiit dementia management app provided by Eisai
- The app enables to users to assess their cognitive abilities and track development of the disease
- Launch in Japan is a result of Eisai's partnership Cogstate, an Australian neurotechnology company, but has also involved DeNA
- Though currently providing as complementary free service, Eisai's ambition is to gain regulatory approval and standalone reimbursement for the digital solution
- An example on how Japanese pharma companies can benefit from overseas partnerships to launch digital services

Complementary model



B-C-B business model enables startups to bypass issues associated with the reimbursement system as well as consumer reluctancy to pay

Payment model

- Services provided to consumers but paid for by a third-party company which indirectly benefits from the consumer's use of the product. Third-party companies are typically employers or insurance companies
- This provides innovative companies a way to bypass the hurdles of public health insurance reimbursement and low willingness to pay by consumers

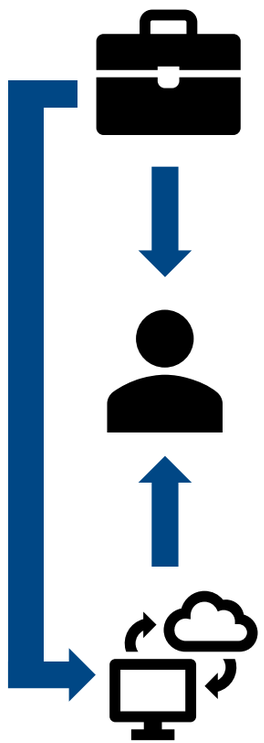
Trends

- As the business model is mainly used for online medical consultation, it has grown with increased demand for telemedicine during the pandemic

Case study

- Paediatric and maternity online consultation company, Kids Public, provides services that are charges to employers or insurance companies
- Employers and insurance companies create contract with Kids Public in order to improve the health outcomes of their employees and customers

B-C-B model



Japanese business recognises the value of service for its employees/customers and pays Nordic startup directly

Customer receives service directly from Nordic startup

Nordic startup provides service to consumer, receives payment from Japanese business

Agenda

- Executive summary
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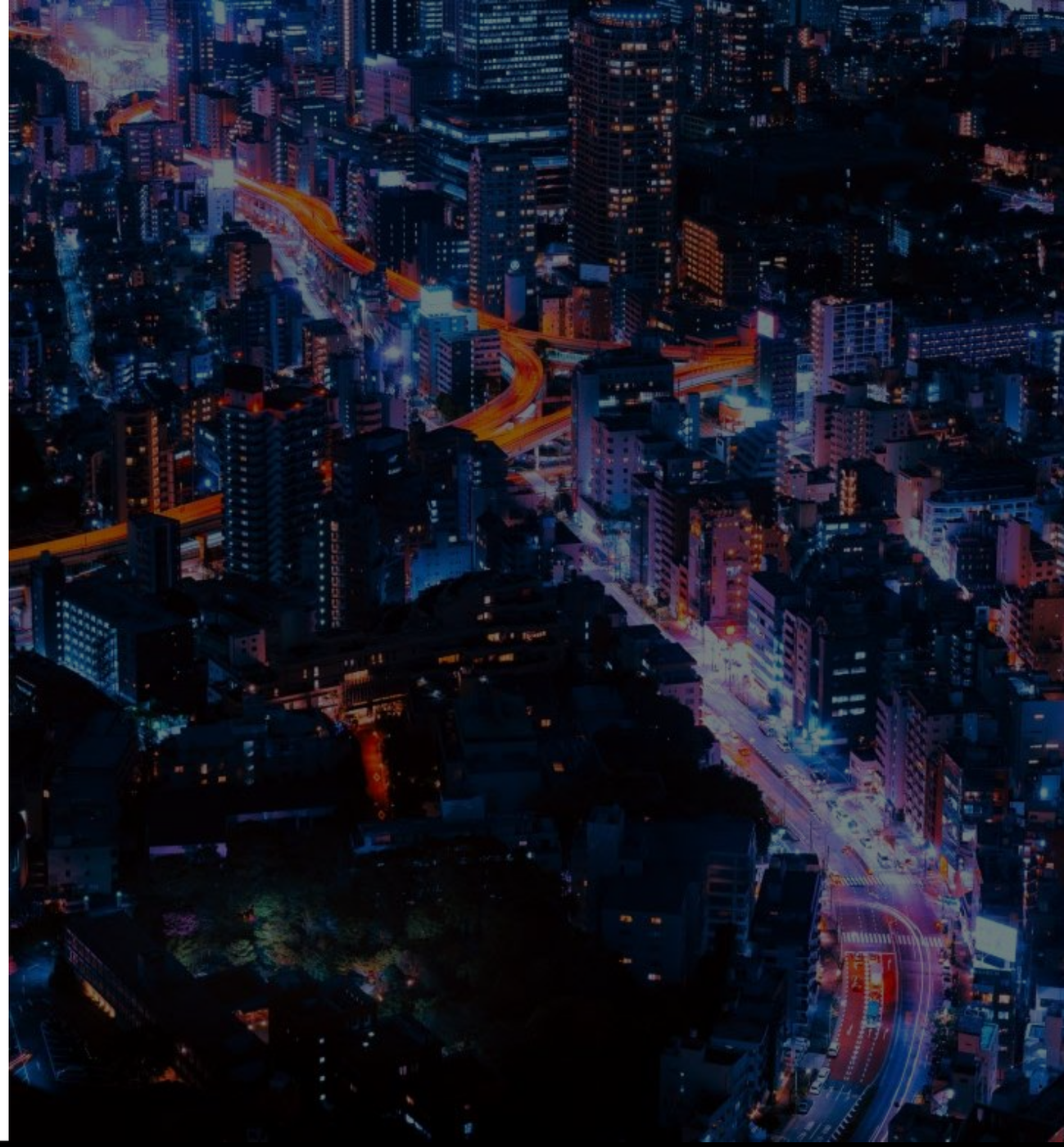
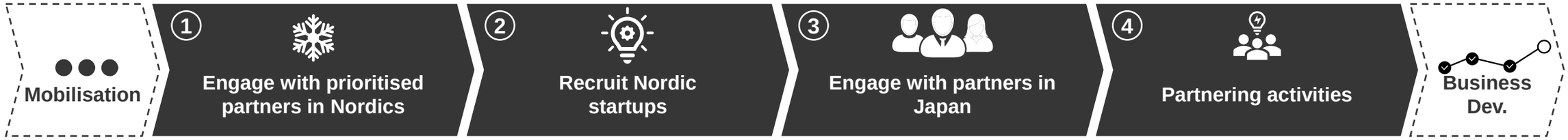
- Project approach and plan
- Healthcare sector in Japan
- Digitalisation opportunities and prioritisation
- Digital health stakeholder mapping
- Business model analysis
- **Conclusions – Road map for NIH in Japan**
- Contact information
- Appendix
  - Summary of sector and their priorities



Nordic Innovation House should utilise a four-step approach to maximise its impact for Nordics startups in Japan



Scope	**Nordic**	**Nordics**	**Japan**	**First contact between Nordic startups and Japanese partners**
Key tasks	**Engage with high-level promotional partners in Nordics** ○ Sell Japan story ○ Set common agenda ○ Engage to recruit Nordic startups	**Reach out to Nordic startups through partners in the Nordic** ○ Describe opportunities in Japan ○ Explanation of current business models in Japanese market	**Engage with partners in Japan** ○ Pharma and medical device firms ○ Description and prioritisation of products ○ Description and prioritisation of business models	**Events and visiting program** ○ Hybrid events where Nordic companies join from home ○ Delegations to Japan ○ Delegations to Nordics
Focus areas	**Priority Nordic partners:** ○ Regions, innovation agencies, etc ○ Investors ○ Ecosystems	**Startups with solutions in high-potential areas:** ○ Complementary diagnostics and therapeutics ○ Digital imaging ○ Real world data	**Partners in Japan:** • Pharma companies • Medical device companies • System integrator and other IT • Financial investors • Japanese innovation hubs	**Type of partnerships:** • Minority stake investment • Licencing • Co-development • Mergers • Acquisitions

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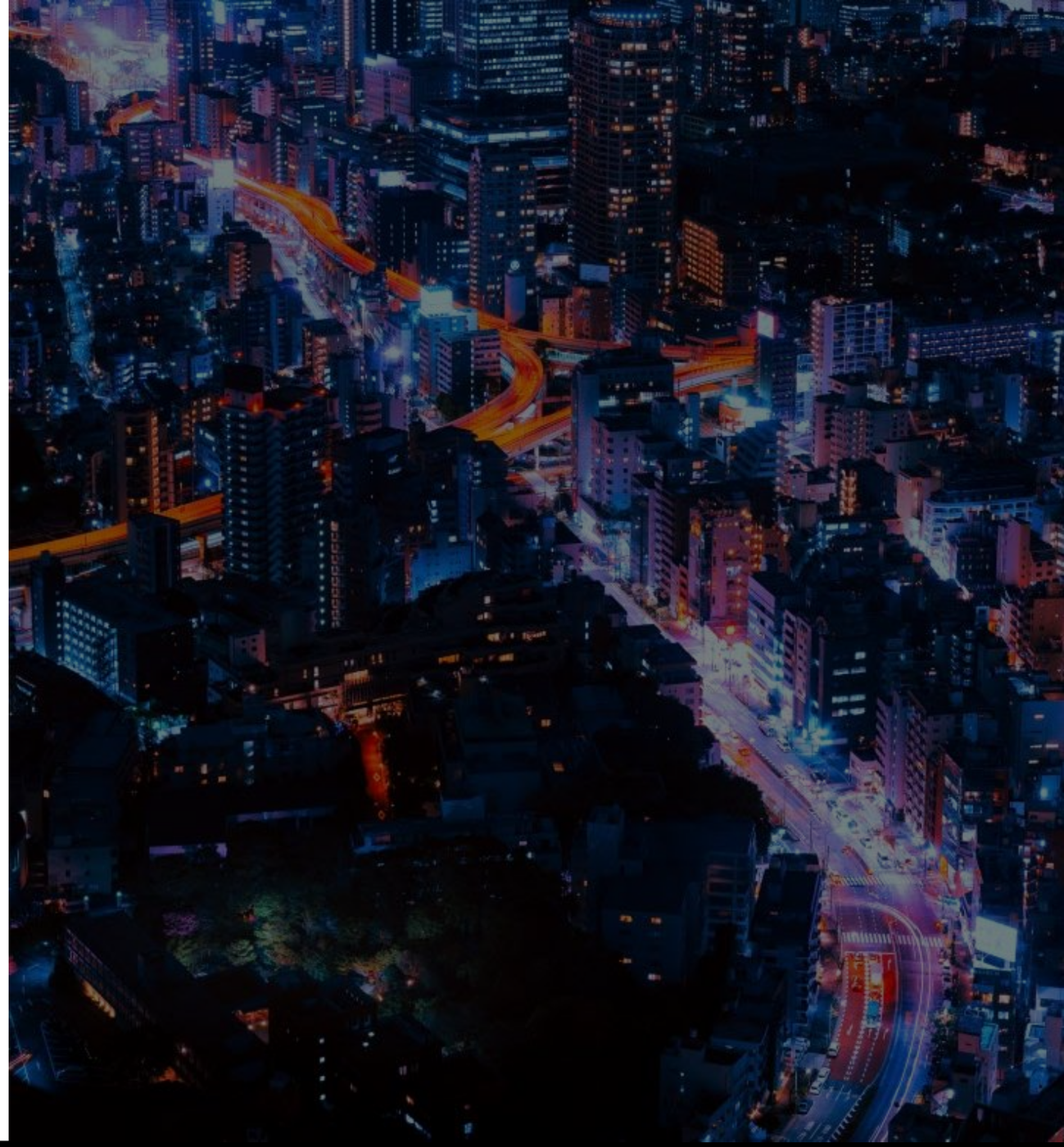

For access to the full report, please contact your country's Trade Promotion Office or the Nordic Innovation House Tokyo

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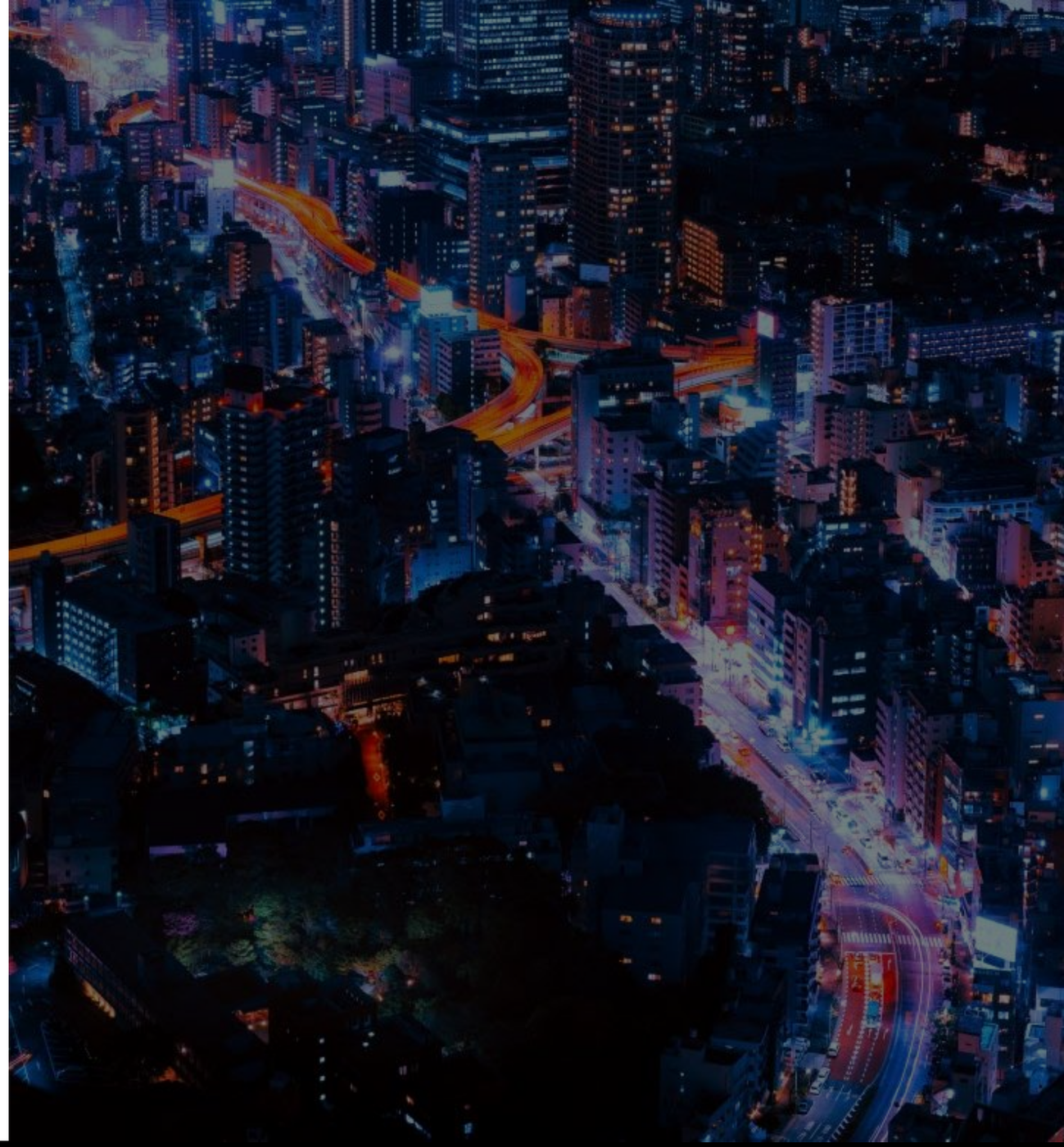

Appendix: meeting summary – Pharmaceutical company 1

Description

- Private pharmaceutical company
- YM, Conversion Science office
- March 10th

Digital health priorities and openness to collaboration

- Top priority is to develop and launch complementary services that add value to core pharma business
- Facing hurdles to receive standalone reimbursement for digital products
- Building a digital platform in dementia field
- Launched a dementia app through collaboration with a US company
- Actively searching for new collaborations with international healthtech companies

Implications for Nordic startups

- Open for collaboration, such as licensing, co-development, investment and business partnership with Nordic healthtech companies
- Focus on dementia and oncology

Appendix: meeting summary – Financial investor 1

Description	• Private venture capital company • TM, Director, NS, Principal, YS, Principal investment group • March 16th
Digital health priorities and openness to collaboration	• Focus on digital health technologies backed by scientific evidence • Interested in digital health products for prevention, healthcare, early diagnosis, telemedicine, diagnostic imaging, mental health, medical data collection and analysis, and VR/AR solutions • Makes minority stakes investment with 5-year investment horizon in early-stage foreign companies • Very actively searching for new investment in international digital health companies
Implications for Nordic startups	• Japanese investors very open for capital investments in Nordic healthtech companies • Can support Nordic companies to entry into the Japanese market. Establishment a local office, human resources, strategic business plan, developing networking and public relations

Appendix: meeting summary – Financial investor 2

Description	• Trading company • KA, TOKQE Section, Medical Business Team, Chemicals Division • March 12th
Digital health priorities and openness to collaboration	• Invested in a social networking platform for doctors in Asia, with focus on China • Interested in solutions that can launched in several countries in East Asia including China • Interest in digital health products which have already approval overseas and are relatively easy to launch in Japan and China • Interested in digital services that do not require reimbursement, such as a platform of gene analyses and risk factor test in cancer and diabetes field
Implications for Nordic startups	• Investors in Japan are very open for business partnerships and licensing with Nordic companies • Supporting Nordic companies to establish a local office/joint venture and use their wide range of sales network in Japan and China • Very interested in imaging analysis technologies of Nordic companies, especially MRI in dementia field

Appendix: meeting summary – Kids Public Inc

Description

- Online medical consultation service (paediatrics)
- Kids Public Inc
- Mr. Naoya Hashimoto, CEO
- March 18th

Digital health priorities and openness to collaboration

- KP is shifting its focus to preventative telemedicine in order to address non-infectious diseases/psycho-social problems such as child abuse, developmental problems, absent from school, allergy, etc.
- KP currently builds B-C-B business model where companies/municipalities pay for the users
  - Looking to expand to online medical care which is subject to reimbursement, but B-C model may be challenging as medical care for children is free under national scheme
- KP is interested in using machine learning (to automate the Q&A in online consultations) & wearables (to improve accuracy) – open for collaboration, mainly to expand their service overseas

Implications for Nordic startups

- Since Japan has a universal health insurance, it is challenging to sell medical services & products directly to consumers/patients. Currently many companies build B-C-B business model
- In Japan there is a stigma for psycho-social problems and patient tends to be reluctant to visit a clinic. Online medical consultation and medical care could reach out and accommodate those patients
- The COVID-19 pandemic accelerated the of spread of online services including medical solutions resulting in the government taking temporary measures to improve reimbursement for digital health services

Appendix: meeting summary – Ministry of Health, Labour and Welfare

Description

- Public sector
- Ministry of Health, Labour and Welfare
- NU, Health Policy Bureau
- March 19th, 2021

Digital health priorities and openness to collaboration

- Purpose of digitalisation: to provide proper medical care, to refer to the medical record of a patient in case of emergency, and to decrease unnecessary drug prescription
- My Number portal and online qualification as a foundation of digitalisation
- Medical prescription record to be shared among healthcare providers, starting with drug prescription record from October 2021 and other record including surgery/transplantation record by the summer 2021
- Unification of electronic medical record
- Record utilisation on My Number portal by a third party via API to be discussed after the surgery records are launched in the summer 2022

Implications for Nordic startups

- Limited funding available for healthcare digitalisation such as online qualification device, unified electronic medical record, etc
- Budget for funding telemedicine device to be increased from FY2021
- New technology and devices will be examined by a council in terms of quality, benefit of a patient, etc. to determine whether they will be subject to reimbursement

Appendix: meeting summary – IT company 1

Description	• Information technology and electronics company • Mr. I and Mr. Y Social/public business innovation unit (Medical device related) • March 24th
Digital health priorities and openness to collaboration	• Believes that prevention and aftercare will gradually shift to outside hospital/home with digitalisation • Main business within digital health is electronic medical record. The current function is an operational support of hospital through system integration, and hospital pays for the medical device • Planning to apply their technologies and solutions to the following new field of business in the coming five years: AI drug discovery in collaboration with other companies, medical device program, medical device support/diagnosis support service, etc. • Is already collaborating with overseas company on AI drug discovery. They are also interested in applications and solutions which could work together with electronic medical record
Implications for Nordic startups	• Seeking an opportunity to enter healthcare industry utilising their technologies and solutions, and they do so in cooperation with companies that have knowledge of the domain • Electronic medical records is one of the prioritised digital health by the Japanese government to utilise its data by standardising the record format. Although there are localisation issues in the record itself, there might be some opportunities for related applications and services

Appendix: meeting summary – IT company 2

Description

- Private IT services provider
- IT company 2
- DM, AG, Medical Solutions, Healthcare Division
- March 16th

Digital health priorities and openness to collaboration

- Developing the platform of the medical system in Japan
  - Remote ICU support, AI engine of diagnostic imaging, electronic medical records with AI
- Collecting medical data of 4 million employees from 2000 customers for the health databank
- Licencing with the foreign digital health company
- Presenting open innovation contest in order to meet international digital health companies

Implications for Nordic startups

- Open for licensing of products from Nordic digital health companies
- Focus on digital health technologies which are not related to the medical insurance system in Japan

Appendix: meeting summary – Medical device company 1

Description

- Medical device and electronics company
- Mr. MY General Manager, Cardiovascular Business Department
- March 22th

Digital health priorities and openness to collaboration

- Focus on personalised medicine utilising vital data outside the hospital and telemedicine
- In the U.S./Europe, copmany has started a scheme to acquire data from at-home sensors to inform doctors and improve medical care treatment/intervention
  - Aims to expand the same business model to Japan, but is struggling due to reimbursement model
- As the company is strong in B-C, they continue to develop new sensing devices as well as digital add-on services for existing products. Also interested behavioural focused health apps – focus on addressing blood pressure
- Company is open to collaboration - already works with a company specialising in ECG hardware/software for mobile devices, a telemedicine service provider in Netherlands, and a Finnish smart cardiac analysis company

Implications for Nordic startups

- There is an opportunity for digital health at medical products and equipment company, where digital solutions add value to their existing business/products, e.g. to utilise the data for medical care intervention. Sensing device and wearable device are of some interest
- Building a new business model could be challenging since doctors do not have economical benefit under the current reimbursement system

Appendix: meeting summary – Primary Care Association

Description

- Healthcare provider
- Primary Care Association
- HO, Vice Chief Director and NY, Director in charge of ICT
- February 24th

Digital health priorities and openness to collaboration

- Data centralisation to understand the actual situation of how patients use primary care institutions as well as to decrease unnecessary use and to increase desirable use
- "D-P-D" model to connect specialised doctor remotely and the patient, with primary care doctor nearby
- Telemedicine (healthcare providers are looking for know-how to provide telemedicine in an appropriate way)
- PHR (Personal Health Record) to integrate both data of preventive medicine and healthcare services provided by health insurance, which provide evidence what kind of preventive medicine has an effect

Implications for Nordic startups

- Data centralisation to expand the possibilities for private companies to utilise it for new service development
- Telemedicine-related services and know-how demanded by healthcare providers

Appendix: meeting summary – Healthcare providers

Description

- Long-term care provider
- KI, Chairman
- March 1st

Digital health priorities and openness to collaboration

- Telemedicine to enrich and compliment medical care services for situations where there is no full-time doctor
- Monitoring support robot to complement staff patrols and to increase around-the-clock safety of elderly patients
- Digitalised care plan to effectively share information and improve cooperation among staff
  - In the future for risk foresight via AI analysis

Implications for Nordic startups

- Various type of subsidiary aid provided by the government and municipality when installing device and equipment
- Additional nursing care compensation to be introduced from 2021 for those providing care data, as the government aims to extend “healthy life expectancy”

Appendix: meeting summary – Pharmaceutical company 2

Description

- Private pharmaceutical company
- MO, Head of Digital Accelerator Japan, Digital Unit
- March 9th

Digital health priorities and openness to collaboration

- Digital Health unit consists of approx. 40 people and is growing
- Focus on adding impact of medicine with complementary digital products
- Hurdles for reimbursement of standalone digital products to remain high as regulators demand evidence that digitalisation lead to savings
- Investments in a number of overseas companies recently
- Very actively searching for new collaborations with international healthtech companies

Implications for Nordic startups

- Very open for collaborations with Nordic healthtech companies
- Focus on complementary diagnostics and therapeutics solutions
- Greatest opportunities in offerings that are related to the company's therapeutic focus areas: oncology, rare diseases, neuroscience, gastroenterology, plasma-derived therapies and vaccines. AI for drug discovery and digital solutions for R&D also of interest

Appendix: meeting summary – Medical device company 2

Description

- Medical products and equipment manufacturer
- RS, Business development division
- March 18th

Digital health priorities and openness to collaboration

- Company's focus for digital health is to add value to their existing products/business domain
  - Healthcare trending towards data-driven personalised medicine, especially for chronic disease such as diabetes. Institutions also looking to improve work efficiency via tech implementation
- The company has various blood glucose meters which can be used both at home/hospital
  - Next step is to support medical care intervention utilising monitoring data from their devices – business model uncertainty (subscriptions, volume of usage, etc.?)
- Open for collaboration mainly in aresa related to their existing business. Company recently acquired the U.S. digital health company which develops a software to support clinical decisions

Implications for Nordic startups

- There is an opportunity for digital health at medical products and equipment company, where digital solution adds value to their existing business/products
- Building a new business model could be challenging since doctors benefit economically under the current reimbursement system which does not accommodate subscription model

Appendix: meeting summary – Ministry of Economy, Trade and Industry

Description

- Public sector
- Ministry of Economy, Trade and Industry
- YI, Planning officer and Izumi Kamata from Healthcare Industry division
- March 4th

Digital health priorities and openness to collaboration

- Special health check-ups record to be shared from March 2021
- Drug prescription record on medical prescription to be shared from October 2021
- Accumulation of health check-ups and medical examination record from birth to be examined in relation to My number and PHR and to be put on the schedule by the summer of 2022
- Surgery/transplantation record to be shared from around summer of 2022
- Electronic prescription to start in around summer of 2022
- Sharing of other medical records to be determined by the summer of 2022

Implications for Nordic startups

- PHR access by private companies to expand the possibility of new service development, such as healthcare support, health management, etc.
- Digitalisation to make a way for new kind of services, especially for disease prevention
- Healthcare industry as a whole to expand beyond healthcare providers and long-term care providers, and to connect more stakeholders such as restaurants, retailer, schools, like a smart city with the theme of health

Appendix: Growth Strategy 2018 sets out new measures to realise next-generation healthcare system, slide 1

Data centralisation and utilisation among various institutions	• Utilisation of the My Number Card as a health insurance card and centralise the data • Cooperation and utilisation of health/medical information at medical institutions utilising prescription records, and introduction of electronic prescriptions as a future possibility • Information sharing among various long-term care occupations (in-home/home-visit etc) to enable effective and efficient cooperation, as well to improve the efficiency and productivity of long-term care • Creation of PHR (Personal Health Record) accessible by individuals which also allows data utilisation by private service providers to promote new kind of services • Establishment of an information analysis infrastructure for health, medical and long-term care as a Big Data
Health promotion and disease/long-term care prevention at workplaces and communities	• Promotion clarifying disease state and aim for establishing early detection, prevention and diagnostic methods for dementia through further cooperation between domestic database and registry • Advance health promotion, disease and severity prevention, and health management using insurers' data

Appendix: Growth Strategy 2018 sets out new measures to realise next-generation healthcare system, slide 2

Efficient and effective, high quality medical/long-term care	• Development and introduction of robot sensors and AI • Document reduction, work efficiency, and productivity improvement by using ICT, the robot and etc • Promotion of online medical care including medication guidance and monitoring, to improve convenience of patients, to reform work methods of medical professionals and to promote efficiency and effectiveness of medical care
Development of advanced medicine and medical equipment; the structural transformation of the healthcare industry	• Utilisation of technologies including AI in 6 focused area (genomic medicine/image-based diagnosis/diagnosis and treatment support/drug development/long-term care and dementia/surgical support) • Promotion of a comprehensive healthcare solution, which aims to improve the quality of lifestyle mainly for patients and individuals, and includes prevention and posttreatment monitoring.

Appendix: Medical expenditure by segment, 2018