

# Countermeasures against **COVID-19**

# Evidence-based medicine & COVID-19 prevention

This self-learning material on evidence-based COVID-19 prevention has been developed as part of the Japan International Cooperation Agency (JICA) Partnership Program “Promoting Evidence-based Patients-centered Health Services in Southern Vietnam: University & Medical Association Partnership Initiative”. The project has implemented research training courses jointly organized by the Fukushima Medical University, the University of Medicine and Pharmacy, Ho Chi Minh City, and the Ho Chi Minh City Medical Association, partnering with JICA for a decade. This material is developed for past, present, and future course participants and beyond: the gatekeepers of people’s health.

# INDEX

- Course background
- COVID-19 prevention at a tertiary hospital in Japan
- COVID-19 prevention at a tertiary hospital in Vietnam with a comparison of data between two countries
- How to interpret screening test results



JICA Partnership Program

# Epidemiological Research Training



- Our long-term goal is to strengthen the application of the research findings to public health and clinical practice in Vietnam.
- By collecting, analyzing, and interpreting data, local health professionals and policymakers will be able to realize, prioritize, and act towards their country's health problems.
- We first started with teaching about the analysis of hospital data and have moved on to teaching about the analysis of patients' voices as our focus shifted from a disease-specific approach to a comprehensive care approach.

# Course objectives

The primary objective of this course is to enable participants to understand scientific evidence and develop their own based on analysis of both clinical data and patients' voices.

- To reinforce basic knowledge of epidemiology, biostatistics, and qualitative research
- To provide technical competencies required for research: literature searching, critical appraisal of published medical evidence, study designing, questionnaire development, data handling, data analysis, and publication skills.
- To facilitate a multifaceted view of scientific evidence.

# Course organization

## Instructors

Hanoi Uni. of  
Public Health

Kagoshima  
University

Juntendo  
University

National Research  
Institute

Universities  
in the US

Local NGOs

## Supporting agencies

Japan Epidemiological Association  
Ho Chi Minh City Health Service  
VN Ministry of Health



## Partners



Partnership  
Program

Local companies

## Organizers



University of Medicine  
and Pharmacy, HCMC



HCMC Medical  
Association



Fukushima Medical  
University



Fukushima Prefecture

# Course participants

- There have been thirteen courses held in HCMC since 2004, with a total of 790 graduates: 128 from Courses I-IV, 262 from V, 203 from VI, 129 from VII, and 68 from VIII. In the project management cycle, the participant evaluation results were reviewed and reflected upon in the next course, which was selected as JICA's model initiative.
- From 2018, the course expanded to An Giang province with 124 participants across two courses, and this outreach was given an award by the local committee.

# Project expansion



	Courses I - IV	Course V (Three-part)	Course VI - (Two-part)
Time	2004 – 2009	2010-2012	2013-present
Grant	Gov. research grants	JICA	JICA + MA
Accreditation	University	University + City	University + City + Ministry (textbook)
Target	Physicians at universities	Physicians in cities	Physicians in the south of VN
Lectures	Epi and Bio	Epi and Bio	Epi, Bio and Qualitative research
Lecturers	JP	JP + VN + Third country	JP + VN + Third country

# Course textbook is available on the web and in print

## EBM Promotion

University-centered capacity building toward evidence-based medicine among health care professionals in the South of Vietnam

Home

Project background and goals

Course description

Course materials

Publications

### Course materials

#### Course textbook

(Vietnamese version with a recommendation letter from MOH, [pdf file](#))

(English version with a new chapter on qualitative data, [pdf file, digital book version](#))

Recommendation message “This book is an ideal training material for doctors, nurses and health care professionals to have comprehensive understandings on epidemiology, biostatistics, and clinical research, which is essential for creating evidence based medicine. Designed for health staff without much prior knowledge in research, this digital book could reach a wide range of health professionals in Vietnam. It will provide much more emphasis on practical issues that broadly reflect clinical research. It will definitely help Vietnamese health professionals to capture research skills and to design better studies especially in primary care settings.” (Associate Professor Ho Thi Hien, Hanoi University of Public Health)

### 1. Go to the following website

[https://www.fmu.ac.jp/home/public\\_h/ebm/materials/index.html](https://www.fmu.ac.jp/home/public_h/ebm/materials/index.html)

### 2. Click on the “pdf file” link to download

or

### Click on the “digital book version” to read digital book

[pdf file, digital book version](#)

# Project history

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Group photos of trainers from training courses in Japan

## Project managers:

### Aya Goto

Center for Integrated Science and Humanities  
Fukushima Medical University

### Nguyen Thy Khue

Department of Endocrinology  
University of Medicine and Pharmacy, Ho Chi Minh City  
Ho Chi Minh Medical Association

### Nguyen Quang Vinh

Department of Health Activities Direction, Department of  
Obstetrics and Gynecology, & Clinical Epidemiology Unit  
Nguyen Tri Phuong Hospital



Training of Trainers, 2010



Training of Trainers, 2012



Training of Trainers, 2015



Training of Trainers, 2017  
(At Fukushima Prefectural office)





Training of Trainers, 2018 (With student project participants)

# Project history

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Group photos from courses  
in Vietnam



Course I, 2004



Course II, 2006



Course III, 2007



Course IV, 2009



Course V-1, 2011 (Instructors)



Course V-3, 2012



Course V-2, 2012

Course VI-1, 2014



Course VI-2, 2015



Course VII-1, 2016



Course VII-2, 2017

## Course in An Giang, 2018



Course VIII-1, 2018

## Course VIII-2, 2019



Course in An Giang, 2019

A large, stylized white outline of a virus particle with a circular head and several protruding spikes, set against a blue gradient background. A smaller, similar virus particle is visible in the lower right quadrant of the blue area.

# COVID-19 prevention at a tertiary hospital in Japan

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Department of General Medicine,  
Juntendo University School of Medicine

Hirohide Yokokawa

Outpatient  
reception and  
waiting area for  
fever



## First station

Interview by doctor,  
assistance by nurse



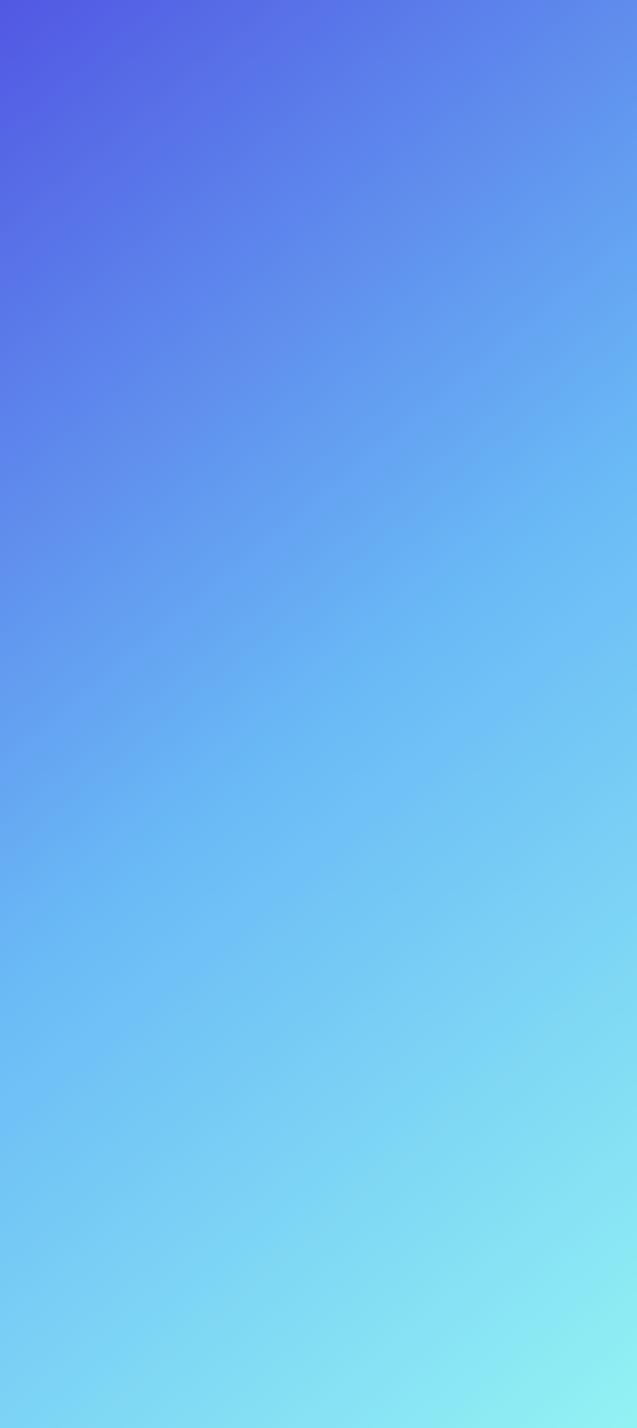
Command space with outpatient leaders, deputy leaders, administrative staff, and infection control room staff; walkie-talkie used by medical interviewer to talk



## Second station

Collection of  
nasopharyngeal swab  
fluid for PCR

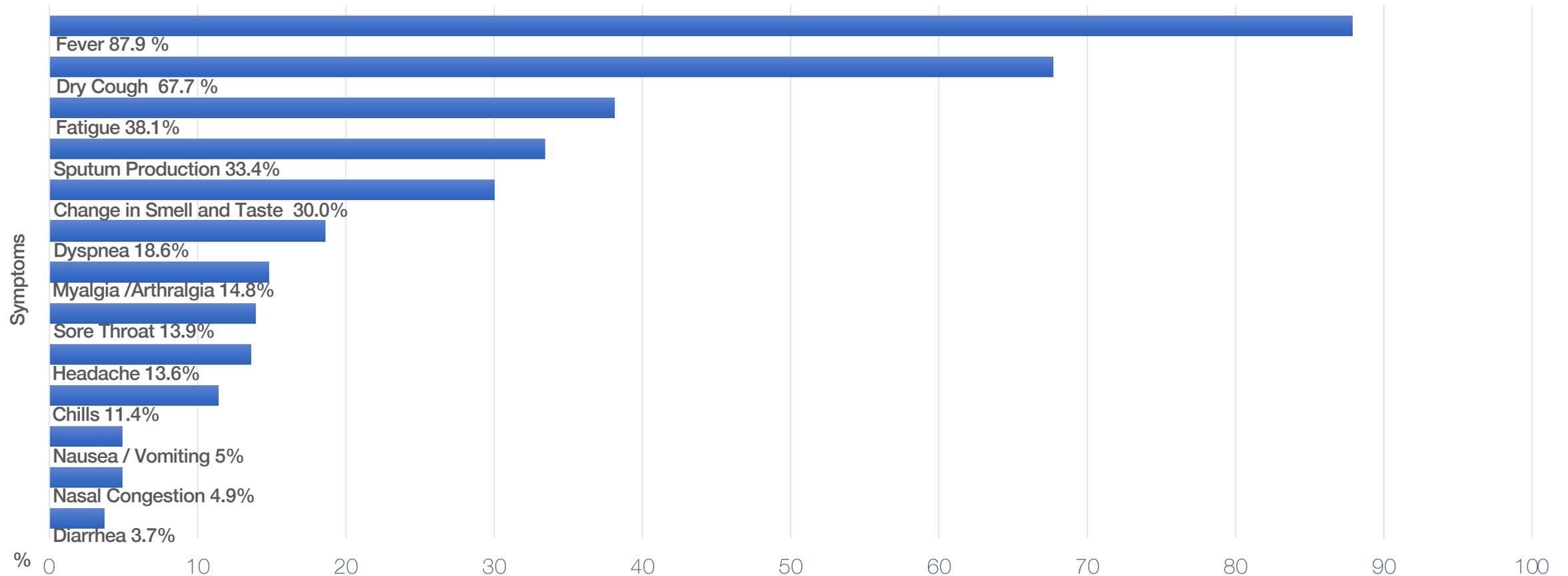




Dedicated beds  
for COVID-19



# Symptoms of COVID-19



1. Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19)
2. Burke et al, MMWR report, 17 July 2020, 69(28);904–908

## Characteristics of people testing positive in PCR

Number of PCR submissions at Juntendo University  
Nerima Hospital: 336 cases

Positive: 76 cases (22.6%)

$p < 0.05$

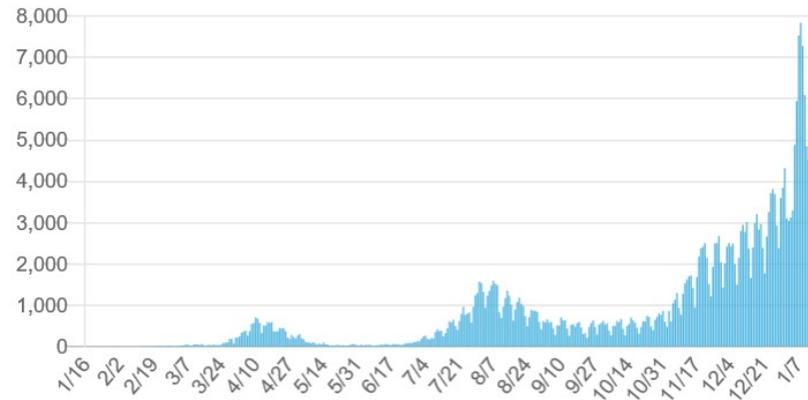
- ✓ History of close contact
- ✓ Taste impairment
- ✓ Olfactory impairment
- ✓ Oxygen saturation
- ✓ WBC
- ✓ AST
- ✓ CRP
- ✓ CT: Frosted shadow present
- ✓ CT: Multi-segmental
- ✓ CT: Bilateral
- ✓ CT: Peripheral shadow

Fukui S, et al., Clinical prediction rule for COVID-19: Using a Chi-Squared Automatic Interaction Detector (CHAID) Decision Tree Analysis Model.

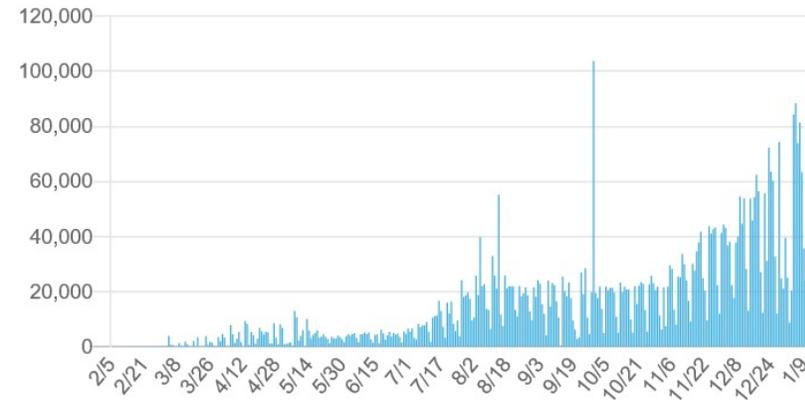
(submitted)

# Trends of COVID-19 indicators in Japan

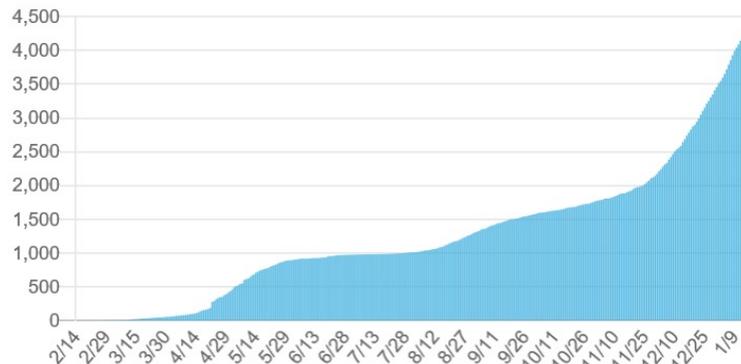
**Number of people testing positive** 6,598 people  
(Cumulative total: 307,756 people)



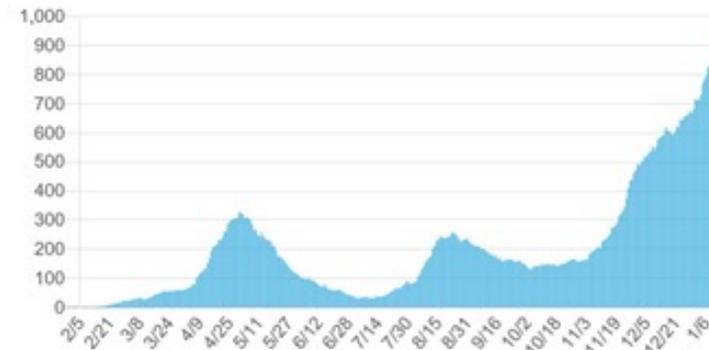
**Number of people PCR tests performed on** 101,255 people  
(Cumulative total: 5,281,131 people)

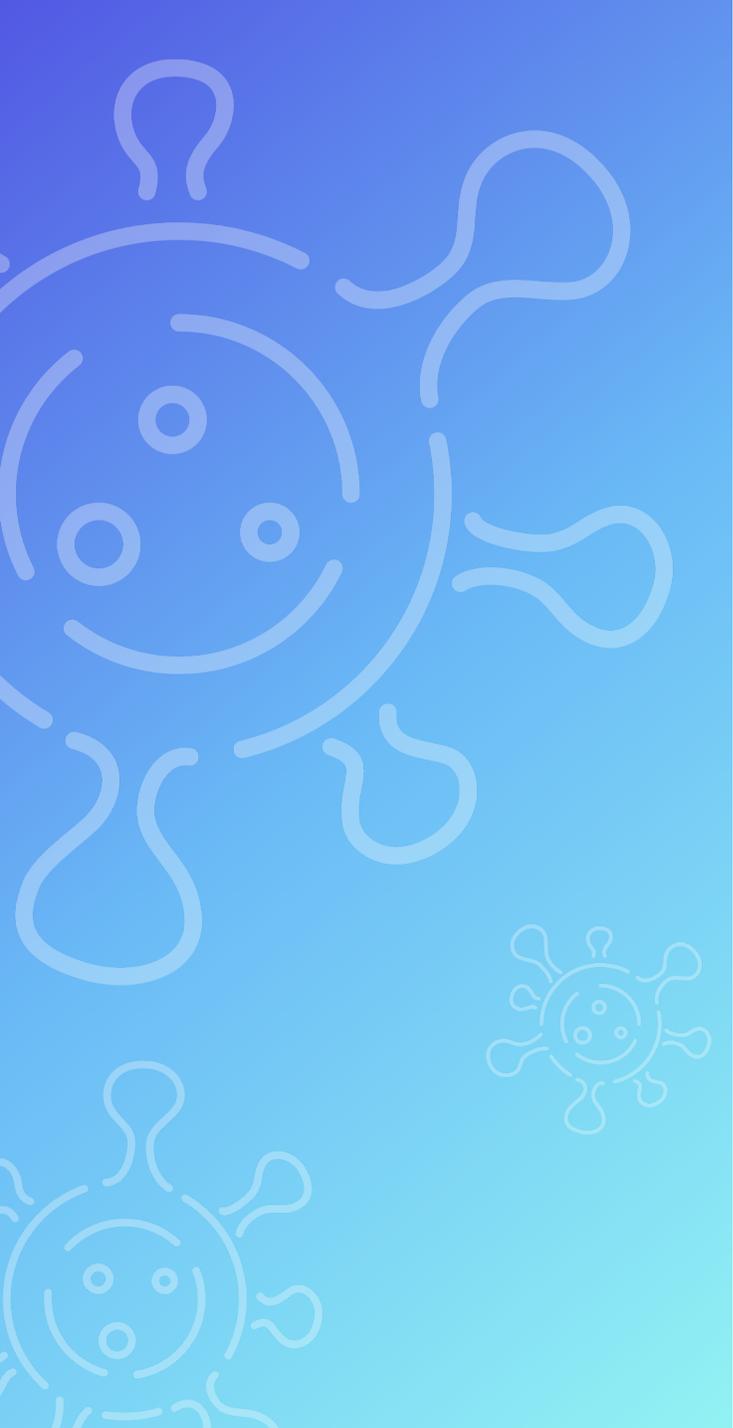


**Number of deaths (cumulative total)** 4,314 people  
(+82 people compared to the previous day)



**Number of people with serious symptoms** 934 people  
(+14 people compared to the previous day)





# COVID-19 prevention at a tertiary hospital in Vietnam

with a comparison of data between two countries

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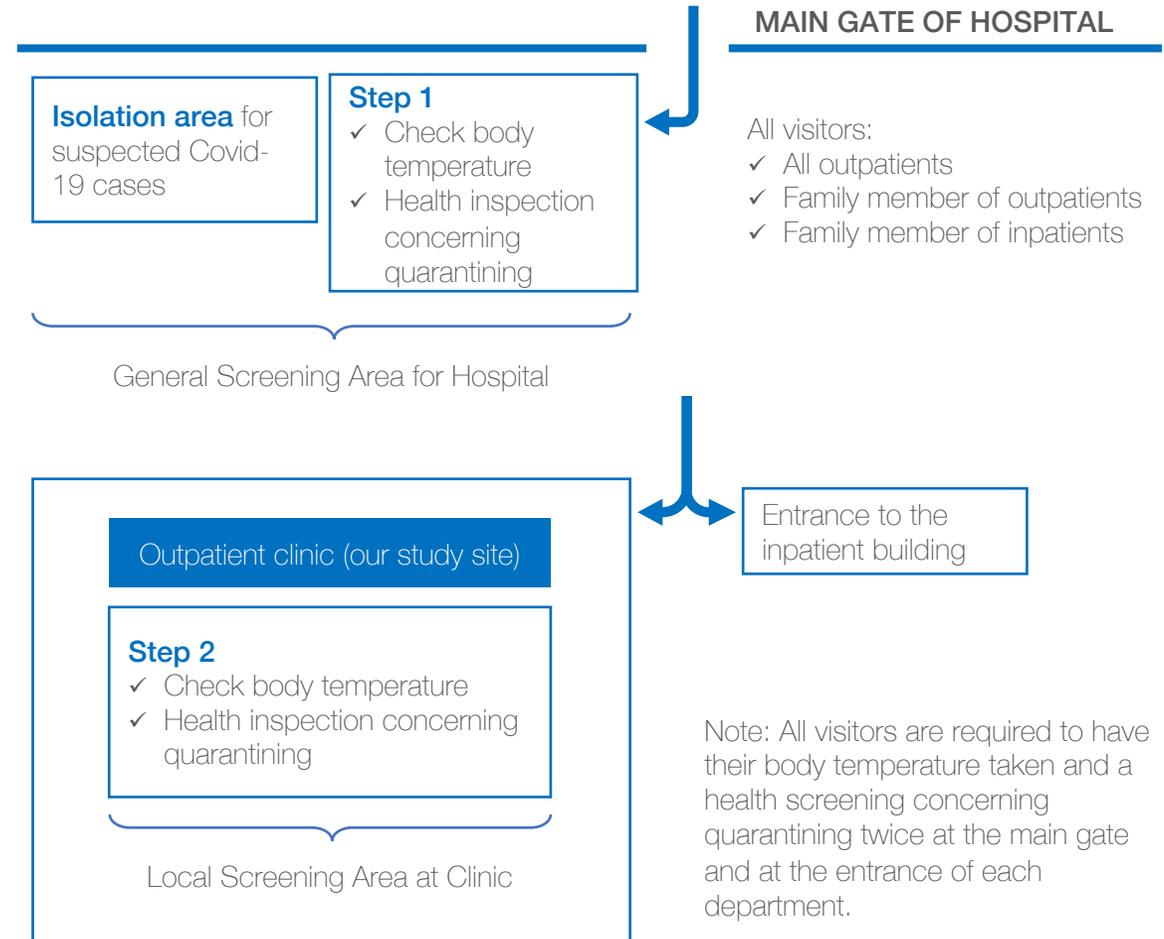
Department of Endocrinology  
People's Hospital 115, Ho Chi Minh City

**Vo Tuan Khoa**

# Screening procedure for COVID-19 at People's hospital 115

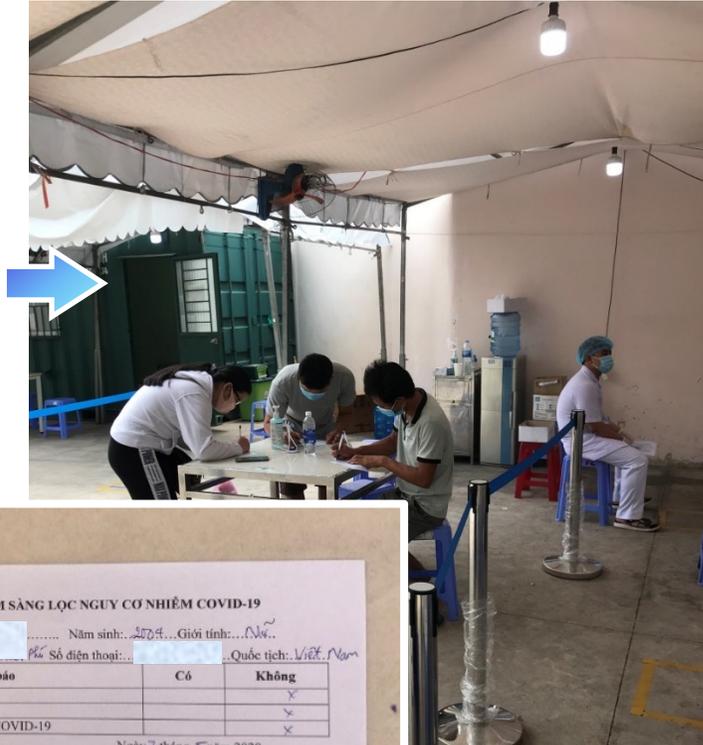


Health inspection concerning quarantining notice for all hospital visitors



# Screening procedure for COVID-19 at People's hospital 115

Isolation room



Bệnh viện Nhân dân 115

PHIẾU KIỂM SÀNG LỌC NGUY CƠ NHIỄM COVID-19

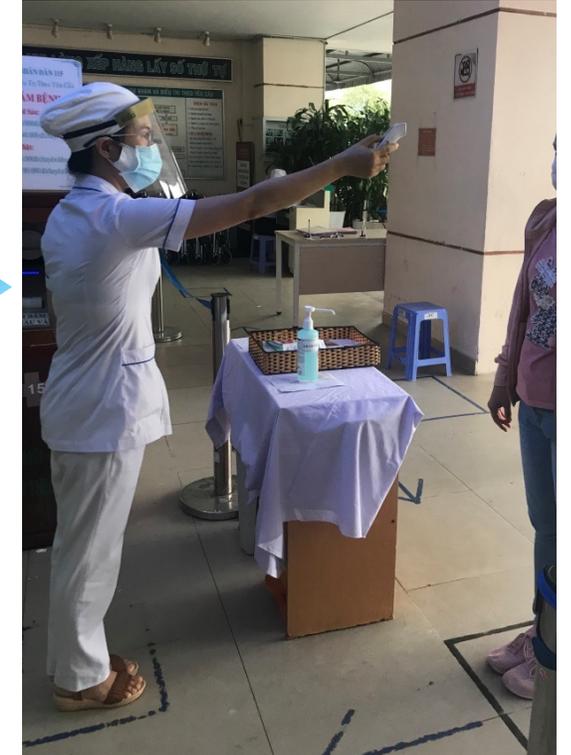
Họ tên: [redacted] Năm sinh: 2004... Giới tính: Nữ...  
Địa chỉ: [redacted] Số điện thoại: [redacted] Quốc tịch: Việt Nam

TT	Thông tin cần khai báo	Có	Không
1	Sốt/ho/đau họng/khó thở		<input checked="" type="checkbox"/>
2	Từ nước ngoài về trong vòng 14 ngày		<input checked="" type="checkbox"/>
3	Tiếp xúc gần người nghi ngờ hoặc xác định COVID-19		<input checked="" type="checkbox"/>

Ngày 7 tháng 5 năm 2020

Người tiếp nhận thông tin (ký và ghi rõ họ tên) [redacted]  
Người khai thông tin (ký và ghi rõ họ tên, mối quan hệ) [redacted]

Filling in a form



Local screening area at the entrance  
of each department  
Checking body temperature

# “Survey on behavior changes among the Japanese general public in the wake of coronavirus disease 2019 (COVID-19) pandemic”

## **Principle investigator:**

Kohta Suzuki (Aichi Medical University)

## **Collaborators:**

Aya Goto (Fukushima Medical University)

Chihaya Koriyama (Kagoshima University)

This study aims to understand how people’s perception of diseases and daily practices have changed in response to the COVID-19 pandemic. We started off with an anonymous mail survey of a random sample of residents in Fukushima, Tokyo, Aichi and Kagoshima. In this survey, we asked questions concerning their attitude towards COVID-19, prevention practices, and information sources including social media platforms. We are now expanding this survey to neighboring Asian countries in the hope that this study can contribute to disease prevention.

# “Perceptions on COVID-19 and preventive measurements in Vietnamese adults: Results in a hospital based cross-sectional survey”

## Vietnamese team:

Vo Tuan Khoa (Endocrinology Department, People’s Hospital 115)

Ngo Thi Gam Hoa (Outpatient Department, People’s Hospital 115)

A long border and active trading with China put Vietnam at high risk in terms of the COVID-19 outbreak. However, the country has been successful in preventing the disease in communities despite a modest budget. In light of this success, our survey of Vietnamese adults concerning health literacy and prevention measures will provide useful information for ongoing prevention efforts.



We conducted a cross-sectional survey during a one-month period between April and May 2020 at the People’s Hospital 115 in Ho Chi Minh City, Vietnam. Those surveyed were enrolled through convenience sampling from an outpatient clinic. A total of 524 participants were invited, of which 517 completed the questionnaire (response rate 98.7%) with the mean age being 40 years (SD 12), and 60% of the participants women.



🕒 17/11/2020 11:00

## Khảo sát tại Bệnh viện Nhân dân 115: Người dân rất tin tưởng các thông tin COVID-19 từ chính phủ và cơ quan y tế

### Kết luận

Trong suốt đại dịch COVID-19 tại Việt Nam, kiến thức và nhận thức phòng ngừa bệnh (đặc biệt là đeo khẩu trang) của người dân đã thay đổi đáng kể theo chiều hướng tích cực. Hầu hết trong số họ đã xem các thông tin COVID-19 trên các phương tiện thông tin đại chúng kể cả mạng kết nối xã hội hiện nay. Quan trọng là mức độ tin tưởng của người dân rất cao đối với các thông tin có nguồn gốc chính thống như chính phủ, chính quyền địa phương và cơ quan chuyên trách y tế. Điều này có thể góp phần không nhỏ lý giải các thành công trong cuộc chiến chống lại COVID-19 tại Bệnh viện Nhân dân 115 nói riêng và tại Việt Nam nói chung.

<http://benhvien115.com.vn/tin-tuc-va-hoat-dong/khao-sat-tai-benh-vien-nhan-dan-115ngoi-dan-rat-tin-tuong-cac-thong-tin-covid-19-tu-chinh-phu-va-co-quan-y-te/20201117103636814>

Reported on the hospital's website

# Reported on at the 2020 annual HCMC Medical Association conference



# TÌM HIỂU NHẬN THỨC VỀ COVID-19 Ở NGƯỜI VIỆT NAM TRƯỞNG THÀNH ĐẾN KHÁM TẠI BỆNH VIỆN NHÂN DÂN 115

*Võ Tuấn Khoa\* Ngô Thị Cẩm Hoa\* Aya Goto<sup>2\*</sup> Chihaya Koriyama<sup>3\*</sup> và Kohta Suzuki<sup>4\*</sup>*

Reported on in the Medical Association journal

## TÓM TẮT

Đặt vấn đề: Đại dịch COVID-19 đã và đang trở thành vấn đề sức khỏe cộng đồng nghiêm trọng trên toàn thế giới

Mục tiêu: Nghiên cứu này nhằm đánh giá nhận thức về phòng ngừa và tìm hiểu nguồn thông tin liên quan COVID-19 trên truyền thông đại chúng và mạng xã hội kết nối người dùng trong số người đến khoa Khám bệnh tại Bệnh viện Nhân Dân 115.

Đối tượng và Phương pháp nghiên cứu: Chúng tôi tiến hành khảo sát cắt ngang bằng bộ câu hỏi phỏng vấn từ 1/5/2020 đến 15/5/2020 tại bệnh viện Nhân Dân 115. Bộ câu hỏi tiếng Việt gồm 20 câu được phát cho những người đến khoa Khám bệnh. Bộ câu hỏi được biên soạn do đại học y khoa Aichi phối hợp với đại học y khoa Fukushima và đại học Kagoshima bao

Tác giả liên hệ: ThS BS Võ Tuấn Khoa, khoa Nội tiết, Bệnh viện Nhân Dân 115. Email: tkhoa.vo@gmail.com. Điện thoại 09 3776 3774

## ABSTRACT

### COVID-19 AWARENESS AMONG VIETNAMESE ADULTS: A HOSPITAL-BASED SURVEY

Background: The COVID-19 pandemic has become a major public health concern around the worldwide.

Objectives: This study aimed at assessing the overall awareness of prevention of COVID-19 using media and social network system (SNS) among Vietnamese adults visiting People's Hospital 115.

Materials and method: We had conducted a questionnaire-based survey during between 1/5/2020 and 15/5/2020 at People's Hospital 115. A

# How worried are you about COVID-19?

	 Vietnam		 Japan	
	N	%	N	%
Not at all	31	6.0	51	1.4
Somewhat worried	169	32.7	1,017	28.7
Clearly anxious	<b>198</b>	<b>38.3</b>	<b>1,433</b>	<b>40.5</b>
Not only anxious but also fearful	119	23.0	1,037	29.3

# How much do you know about COVID-19?

	 Vietnam		 Japan	
	N	%	N	%
Nothing at all	9	1.7	21	0.6
Aware of the name	21	4.1	75	2.1
Have a little understanding	96	18.6	<b>2,124</b>	<b>60.0</b>
Am interested and have researched it	<b>288</b>	<b>75.0</b>	1,302	36.8
Other	3	0.6	16	0.5

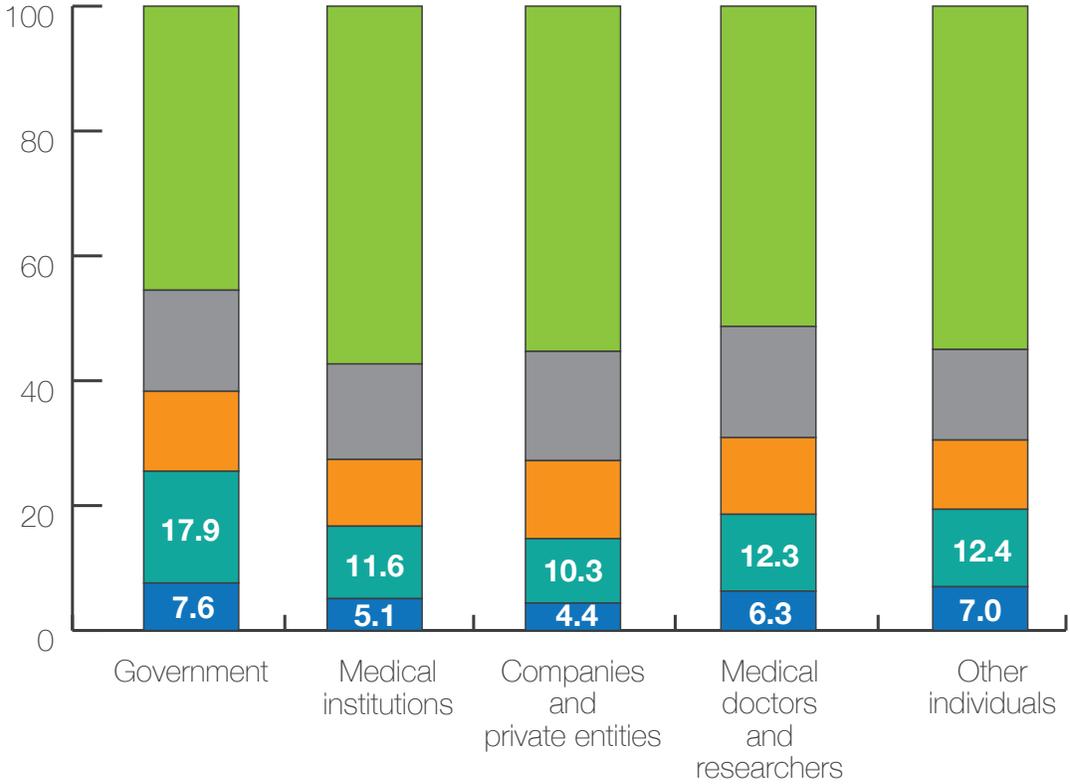
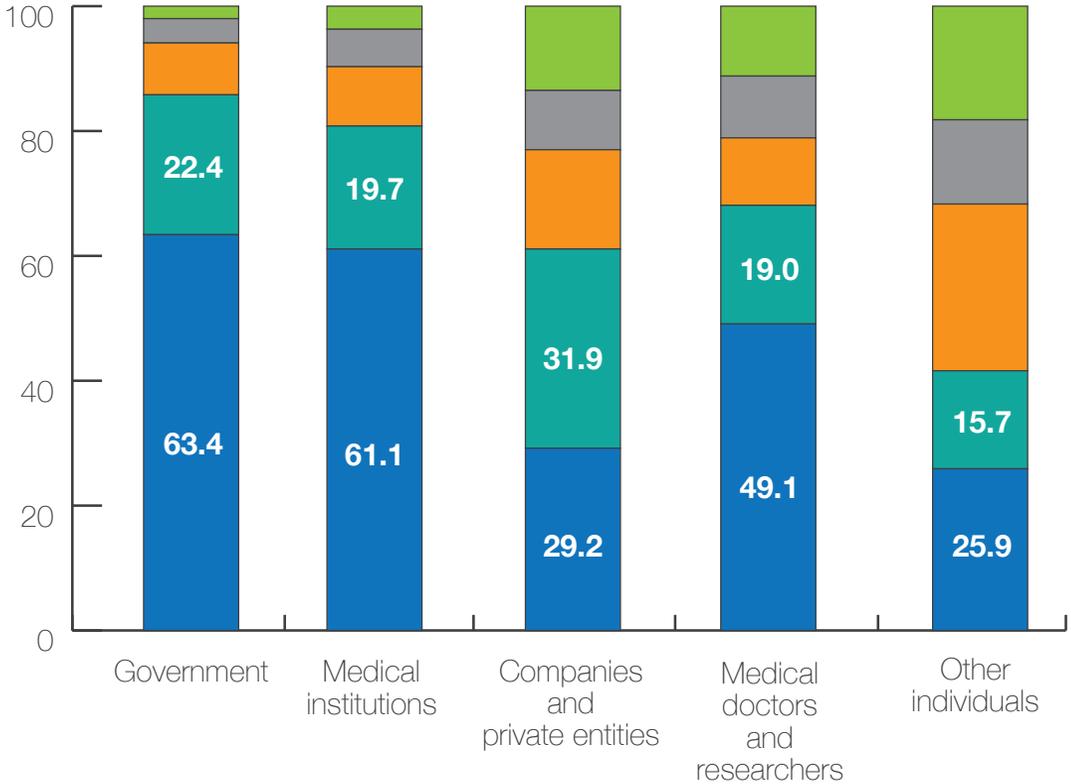
# Frequency of reading about COVID-19 on social media



**Vietnam**

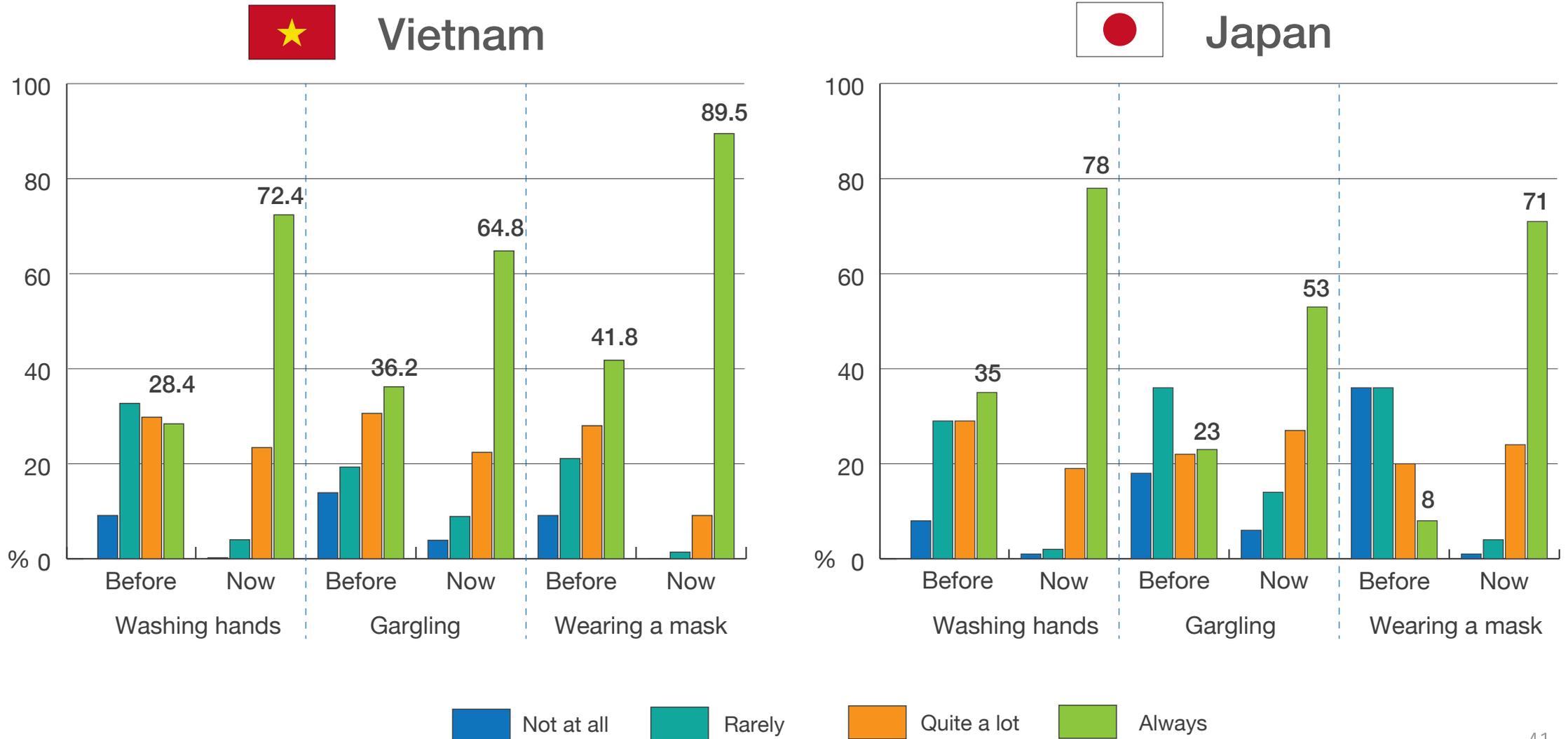


**Japan**



■ Less than once a week    
 ■ About once a week    
 ■ 3 to 4 times a week    
 ■ About once a day    
 ■ Several times a day

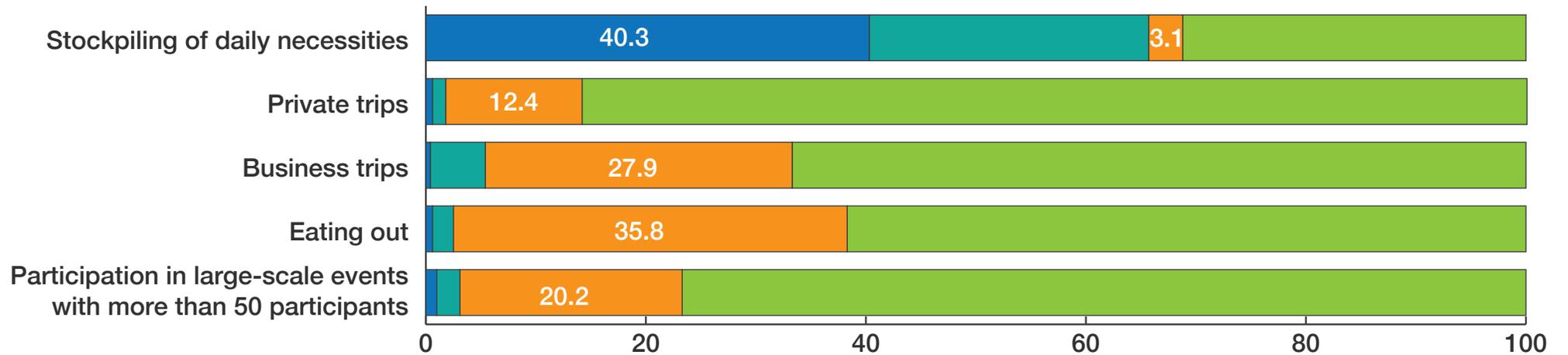
# Frequency of preventive practices



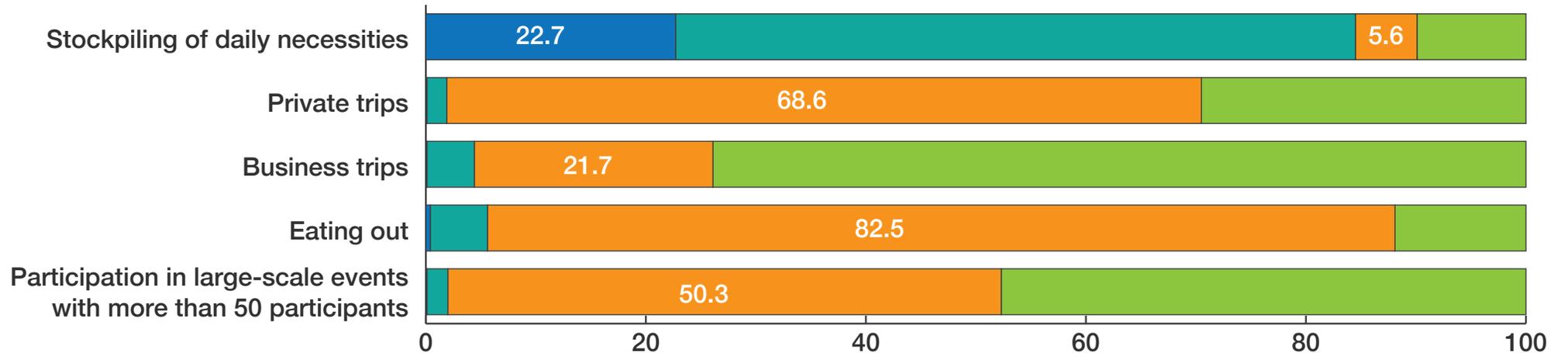
# Frequency of daily activities



Vietnam

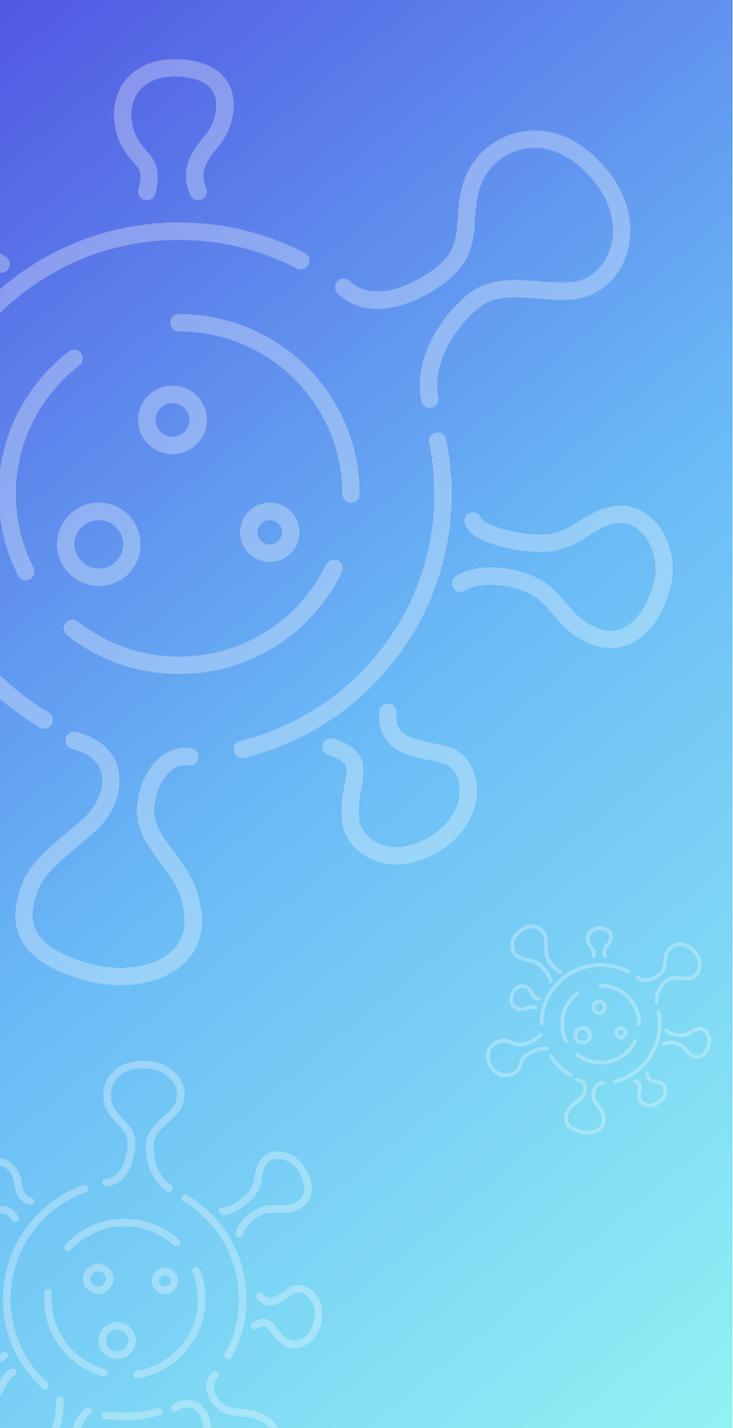


Japan



■ Increased 
 ■ Unchanged 
 ■ Decreased 
 ■ Almost never as before

- ✓ Respondents in both countries were worried about COVID-19. Over 20% were fearful of the disease.
- ✓ Vietnamese were more active in becoming aware and confident in their knowledge of COVID-19.
- ✓ Changes in preventive practices and daily activities were observed in both countries.
- ✓ The usage of masks was much higher in Vietnam even before the pandemic.
- ✓ Reduction in certain daily activities was more prevalent in Japan. Vietnamese were less frequently travelling and eating out before the pandemic.



# How to **interpret** a screening test

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Department of Epidemiology and Preventive Medicine  
Kagoshima University Graduate School of Medical and  
Dental Sciences

**Chihaya Koriyama**

Department of Health Activities Direction, Department of  
Obstetrics and Gynecology, & Clinical Epidemiology Unit  
Nguyen Tri Phuong Hospital

**Nguyen Quang Vinh**

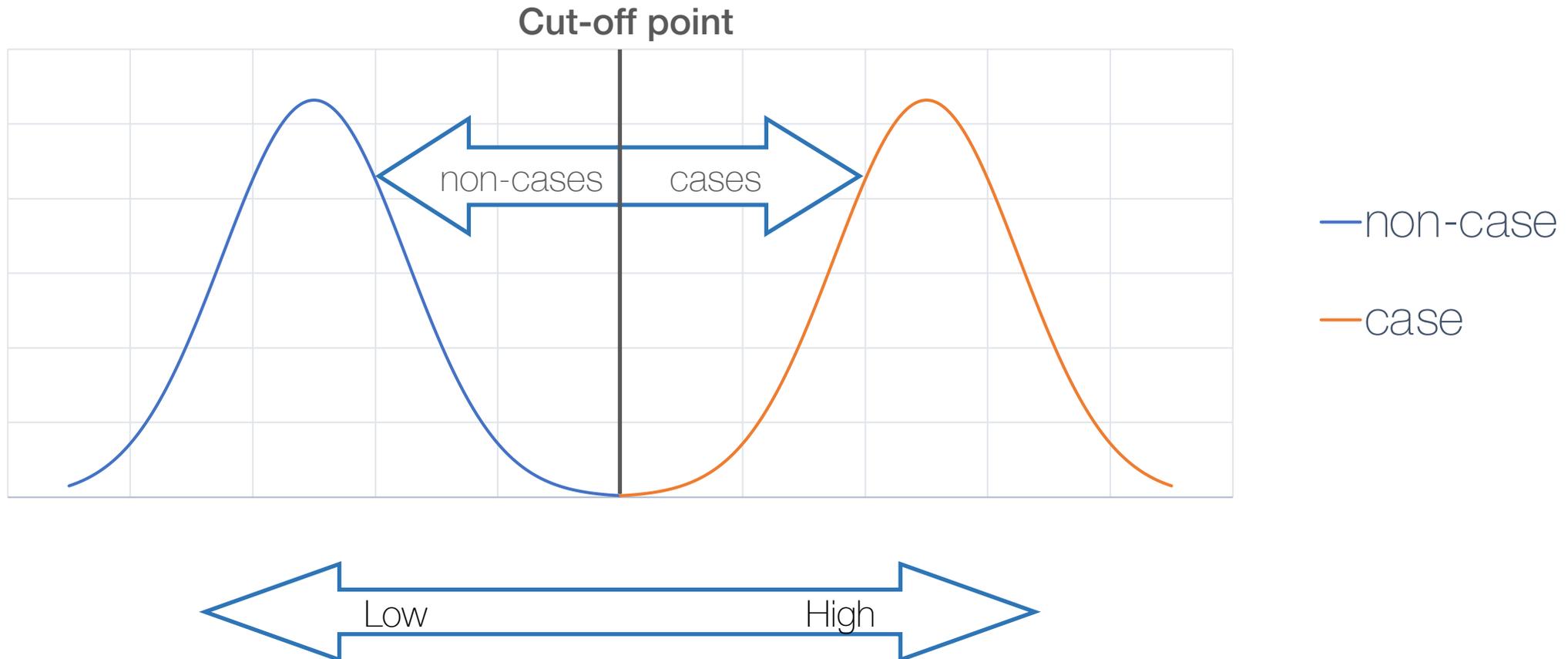
# Do you think that screening tests are **100%** accurate?

Actually, they are not.

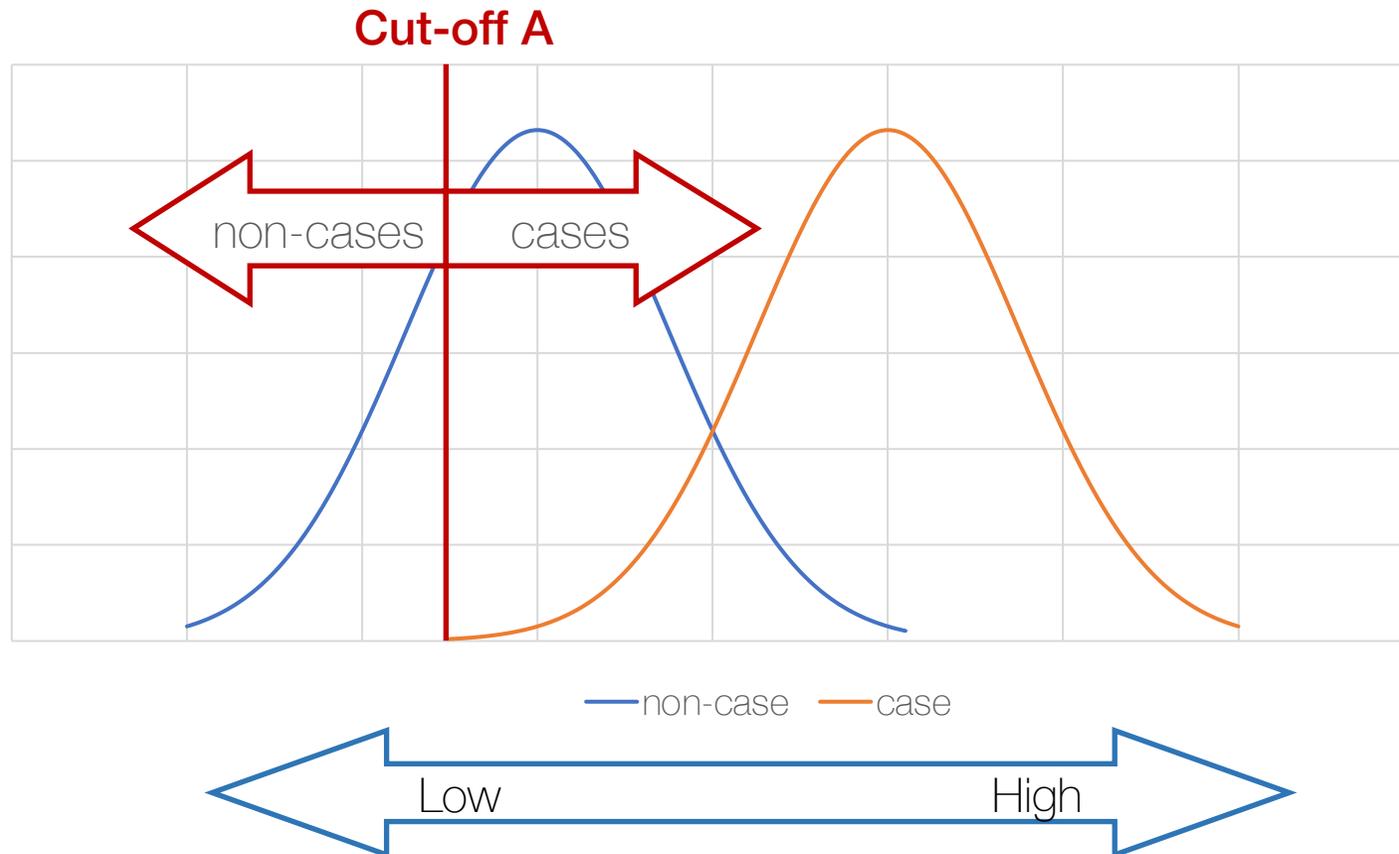
Let's find out why together.

Screening tests are tests to determine whether a person is likely to have the disease by detecting disease **markers** (indicators).

If markers are distributed this way into case and non-case groups, respectively, then, it is ***easy to distinguish between cases and non-cases (a good marker).***

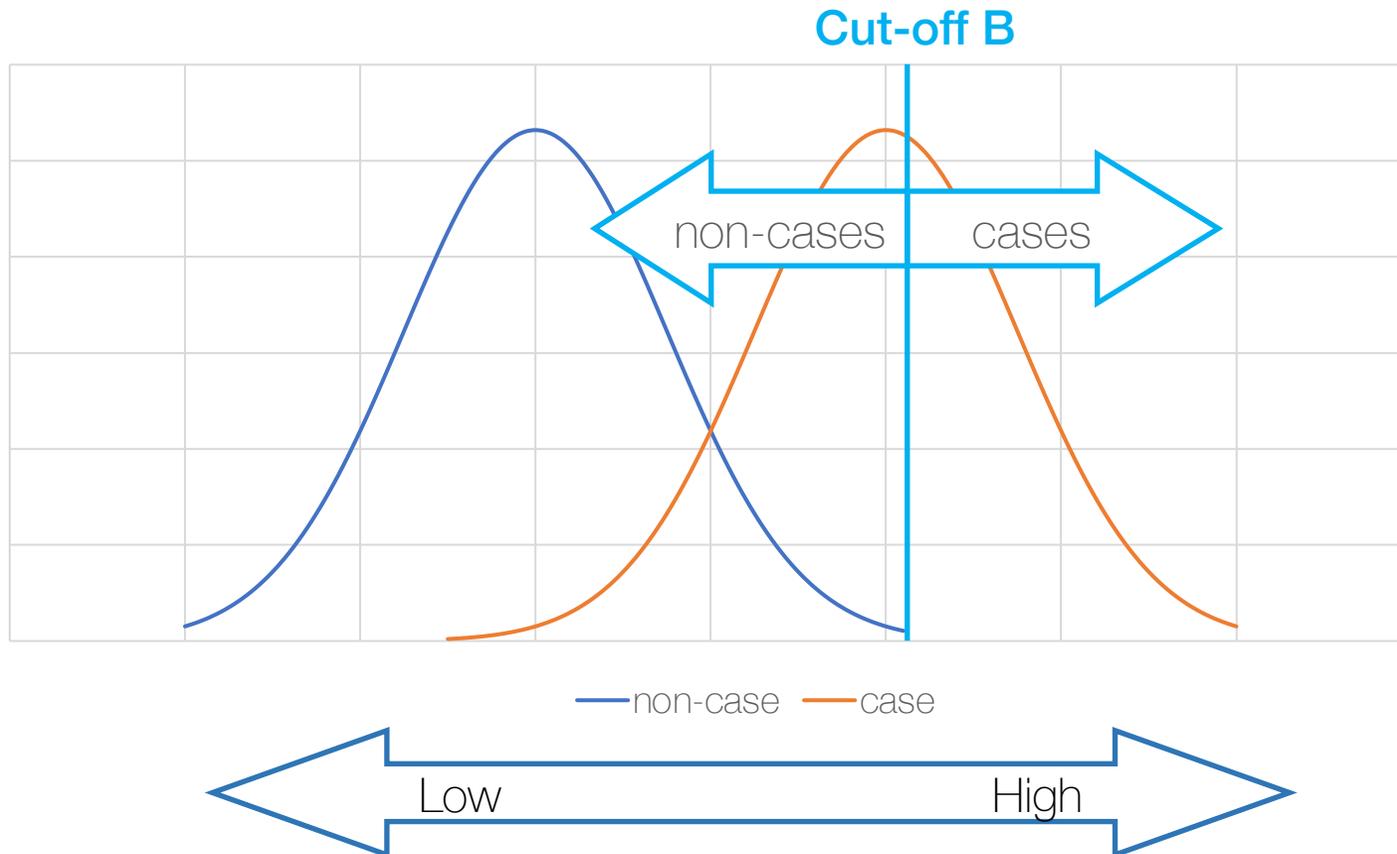


*In reality*, as shown here, the marker distribution for case and non-case groups often **partially overlaps** so it is NOT easy to distinguish between cases and non-cases.



If we choose **cut-off A**:  
cases are determined perfectly but many non-cases will also be classified as cases.

However, if we choose **cut-off B**:  
non-cases are determined perfectly but many cases will also be classified as non-cases.



Which cut-off point  
should we take?



There is a trade-off  
concerning reliably  
detecting a case and  
reliably detecting a  
non-case.

## Assessment of screening test

	Cases	Non-cases
Positive test	A (true positive)	B 😞 (false positive)
Negative test	C 😞 (false negative)	D (true negative)

**Sensitivity:** proportion of positive tests in true cases,  $A/(A+C)$

**Specificity:** proportion of negative tests in true controls,  $D/(B+D)$

Since we do not want to miss any cases, we try to minimize false negatives in screening tests.

# Screening test for secondary prevention

A screening test detects diseases early **when**:

- They are still **asymptomatic**, and
- **Early detection** can stop the disease spreading to a wider population, **and/or**
- **Early treatment** can stop the disease from progressing.

# The most important issues concern

## Effectiveness of Early Detection, including:

1. **Efficacy** of the management/treatment.
2. Patients' **compliance**.
3. **Early** management/treatment more effective than later.

# How useful is the screening procedure in terms of:

**Acceptability:** simplicity, low cost, safety.

**Accuracy** of the screening test:

- **Sensitivity:** is always **high** in a screening test. When a test shows a positive result, the use of a higher or lower sensitivity test doesn't influence the probability of the presence of a disease (in conjunction with the prevalence) at all! So, a screening test is **only valuable** when there is a **negative** test **result**.
- **Specificity:** is very helpful for positive predictive values, when high enough. A screening test is also usually not very helpful when a positive result is displayed, since the specificity of any screening test is usually **not** too **high**.

# How harmful is the screening procedure in terms of:

Effects of “labeling”:

- There are situations that are classed as “cases”, which are in fact just “high-risk”
- Whether medical conditions can be solved (efficacy of management)

There are risks of false positive results, especially when looking for a rare disorder.

Minimized by:

- ↑ prevalence by carrying out tests in selective high-risk groups
- tests used: the fewer the better
- clearly describing the standards for a positive screening test before being used