



# Maritime Health Trainings for Seafarers and Doctors

## «Training 4- Common Maritime Diseases»

ERASMUS+ KA2 - Cooperation for Innovation and the Exchange of Good Practices  
KA202 - Strategic Partnerships for vocational education and training



REPUBLIC OF TURKEY  
MINISTRY OF HEALTH  
GENERAL DIRECTORATE OF HEALTH  
FOR BORDER AND COASTAL AREAS OF TURKEY



AP&A  
GROUP

## Familiarization to Shipboard Working Environment

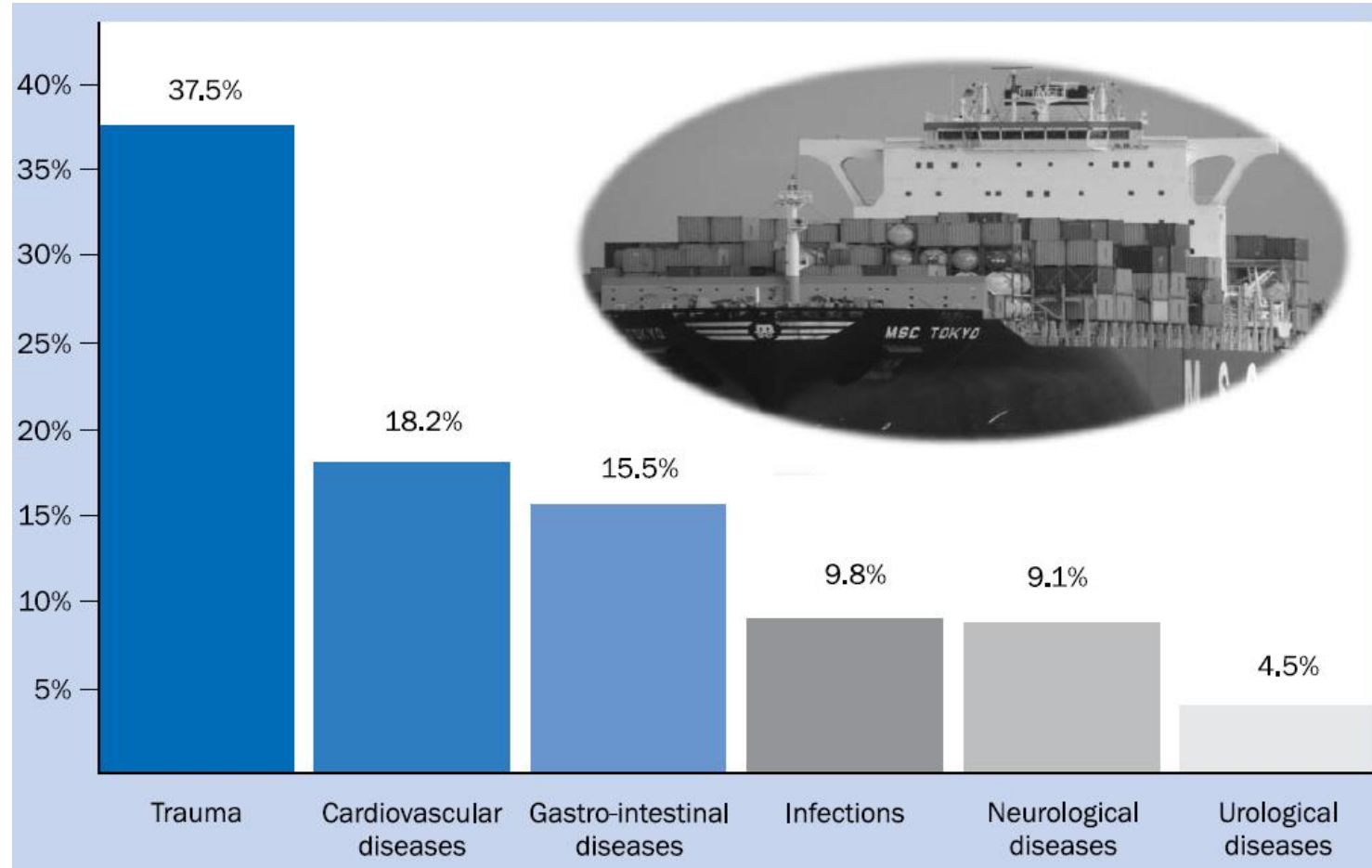
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✓ ***Learning Objective;***

The aim of this section is to provide the knowledge to the Maritime Medical Doctors about common maritime diseases. Upon completion of this section, trainers will be able to gain information about:

- Cancer
- Cardio-Vascular Disease (CVD)
- Fatigue
- Hand Arm Vibration Syndrome (HAVS)
- Hypertension
- Musculoskeletal Disorder (MSD)
- Pandemic and Epidemic Diseases
- Seasickness
- Sexually Transmitted Disease (STD)

## COMMON MARITIME DISEASES

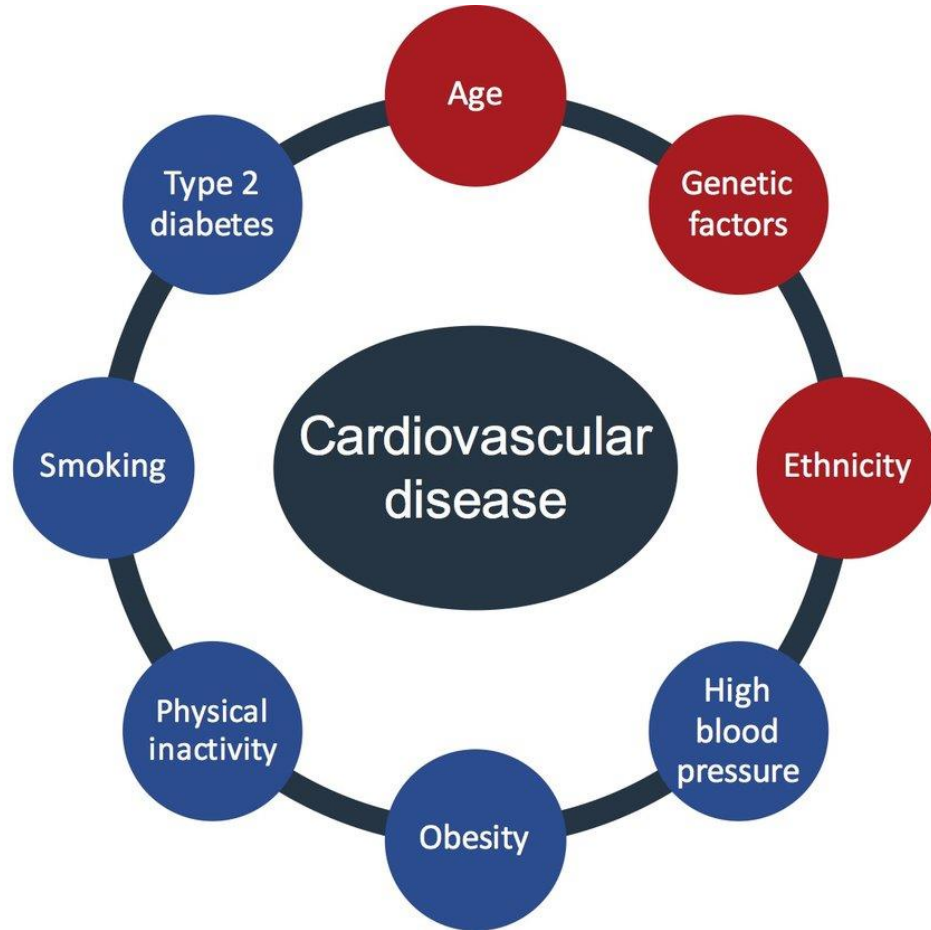


# 1. CANCER



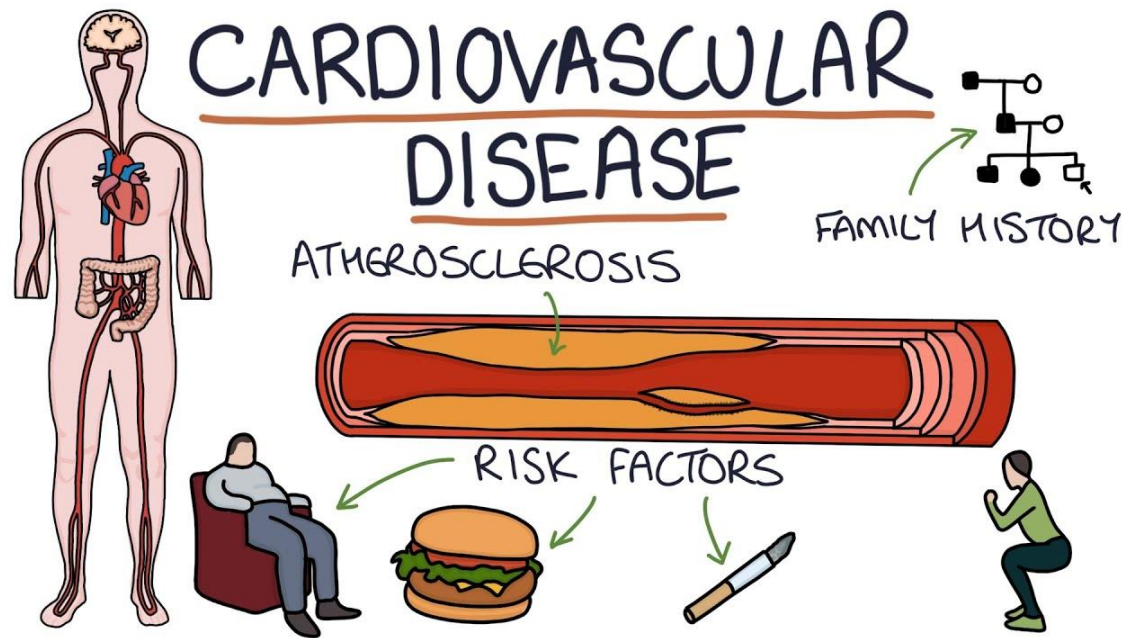
- Officers and crew members working on both deck and engine departments fall prey to this deadly disease due to continuous exposure to toxic substances.
- Personnel working on oil, chemical and product tankers are majorly exposed to chemicals and the risk of developing various types of cancer, including brain cancer and leukaemia, is extremely high.
- Tobacco Use; the 33.41% of seafarers declared to smoke little, the 40.89% enough, the 19.63% a lot, and the 6.1% very much. Smoking remains the biggest single risk factor, with tobacco linked to approximately one third of all cancers.
- Other factors such as smoking, exposure to UV radiation, lack of sleep etc. also aggravate conditions leading to cancer

## 2. CARDIO-VASCULAR DISEASE (CVD)



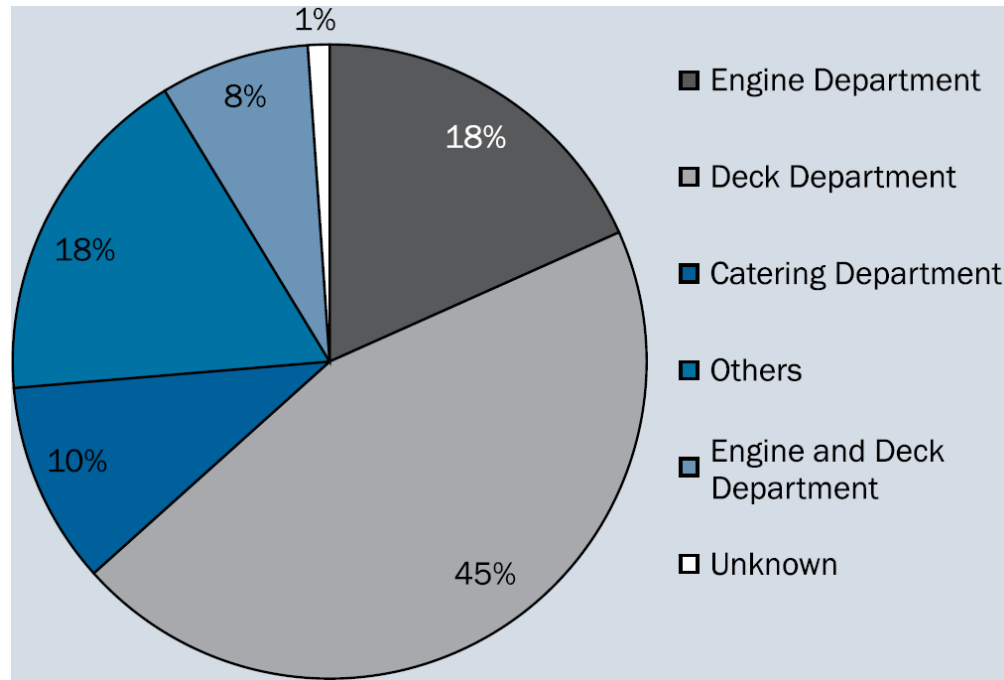


## 2. CARDIO-VASCULAR DISEASE (CVD) – *Risk Factors*



Stress; Job-related stress poses a contributing risk factor for CVD. The employment in the maritime sector is also associated with specific psychosocial stressors (including long-time separation from the family, mental stress, extremely long working hours, permanent changing crews, reduced duration and quality of sleep on board, irregular working time, and permanent physical impacts such as ship movements, noise and vibration) .

### 3. HYPERTENSION



Hypertension is mentioned as one of the major occupation hazards onboard merchant and offshore fleets. Excessive stress, fatigue, loneliness, smoking, consumption of alcohol, lack of physical activity etc. are the main causes for the same. Hypertension can also lead to other illnesses like stroke, renal failure etc. Change in lifestyle and food habits, quitting smoking and alcohol, engaging in physical activities such as exercises, swimming, yoga etc. can reduce hypertension to a great extent.

The studied seafarers covered all workplaces on board (in above Figure) and the prevalence of hypertension differed in between them. Almost half of the seafarers who worked in the engine room had hypertension, followed by those who worked on deck.

### 3. HYPERTENSION – *Risk Factors*

A multitude and combinations of risk factors on board can have an adverse health effect on seafarers’ cardiovascular health and lead to elevated blood pressure (BP) in seafarers. Health consequences such as overweight and diabetes are other frequent consequences of life at sea that are related to hypertension.

*Nutrition*; In spite of the fact that the seafarers’ food is vital to their health they have limited choices for healthy food on board. Overweight, which is an essential risk factor for the development of hypertension, becomes a frequent and severe problem among seafarers.





## 4. FATIGUE – *Risk Factors*



Fatigue is a symptom, a sign that something is going on which is damaging the physical and mental wellbeing of the sufferer. At sea, this is likely to be overwork and lack of sleep, and is often worsened by loneliness, isolation and perhaps even depression. There are many different causes – but for a seafarer perhaps the most common include:

*Sleep problems:* Shift patterns at sea can cause problems sleeping – even the normal 4 on, 8 off. However, this can be heightened dramatically if work demands increase. The 6 on, 6 off is particularly hard for people to cope with. Throw cargo watches, port calls or mooring stations into the mix and sleep patterns can become extremely confused and messed up.

## 5. HAND ARM VIBRATION SYNDROME (HAVS)



Vascular Injury



Musculoskeletal injuries



Neurological injuries

Hand transmitted vibration is one of the major hazards that several seafarers face during their course of work. Operating power tools such as chipping machine (rust bust), needle guns and hand held grinders is the main reason for such syndrome. Frequent and prolonged exposure to such power tools results in hand –arm vibration syndrome and it may lead to permanent disability if not treated in time.

The common symptoms of this hazard are tingling of fingers, numbness and blanching and even pain in the arm and wrist. Lack of awareness and improper guidelines on safe limits of usage or exposure to such tools and machinery, along with other factors such as smoking, circulatory problems and improper diet etc. make seafarers more vulnerable to this disease.

## 5. HAND ARM VIBRATION SYNDROME (HAVS) – *Risk Factors*



Crew members on ships, primarily engine-men, are also exposed to vibrations transmitted to the feet while standing on vibrating surfaces and consequently experience health effects on the lower extremity analogue to upper limb HAVS. Seafarers are affected considering their frequent and prolonged exposure to power tools such as chipping machine (rust bust), needle guns and hand held grinders during operations.

*Tingling 'whiteness' or numbness in the fingers:* In such case, the blood vessels and nerves are affected. As the condition becomes more severe, the whole finger down to the knuckles may become white. Feeling may also be lost.

## 6. MUSCULOSKELETAL DISORDER (MSD)



MSD are injuries or pain on our body's joints, ligaments, muscles, nerves, tendons and structures that supports our limbs, neck and back. Seafarers acquire MSD because of sudden lifting of heavy object and from making repetitive action. Exercise and stretching can prevent MSD among seafarers, as most of them do straight 12 hours duty onboard.

Seafarers were reported to suffer from serious disorders related to muscular and skeleton structure of their body according to a survey conducted by a European based health research facility on board.

MSD is a main cause for many seafarers to take longer breaks from sea life, sometimes even leading to disability. As they say prevention is better than cure, exercise and stretching is recommended to prevent Musculoskeletal Disorder. Modern ships have good gym facilities but lack of time and motivation is a great challenge faced.



## 6. MUSCULOSKELETAL DISORDER (MSD) – *Risk Factors*

Most work-related MSDs develop over time. There is usually no single cause of MSDs; various risk factors often work in combination, including physical and biomechanical factors, organisational and psychosocial factors and individual factors [20].

*Physical and biomechanical risk factors may include:*

- Handling loads, especially when bending and twisting
- Repetitive or forceful movements
- Awkward and static postures
- Vibration, poor lighting or cold working environments
- Fast-paced work
- Prolonged sitting or standing in the same position



## 7. PANDEMIC AND EPIDEMIC DISEASES



Because of their nature of work, seafarers are bound to visit many ports in different parts of the world and are thus exposed to various pandemic and epidemic diseases such as malaria, cholera, yellow fever, tuberculosis etc. Seafarers are vaccinated and medically checked thoroughly; however they are in major danger of being exposed to sudden outburst of new diseases in areas they visit.

An example can be the recent outburst of EBOLA in West African countries. The best practice for such situations is to use all preventive measures to contain the spread of contagious diseases on board. The master and the crew should be informed about the diseases before docking and restriction of people embarking the vessel and shore leaves can be effectively controlled to prevent such illness from spreading.



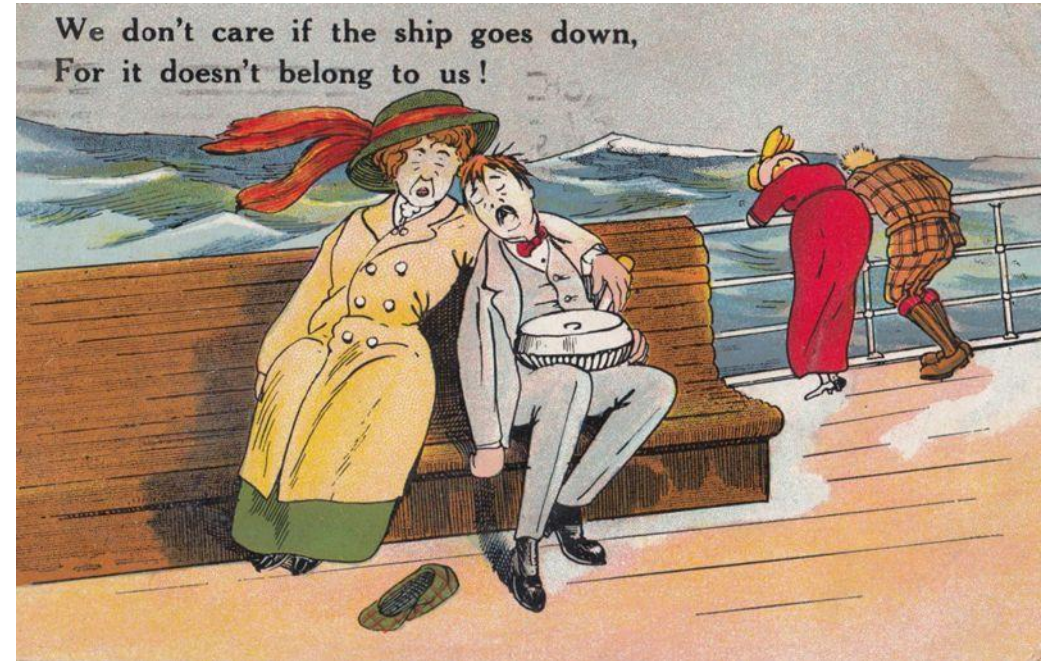
## 7. PANDEMIC AND EPIDEMIC DISEASES – *Risk Factors*

The difficulties surrounding repatriation and crew changes also have a major impact on the shipping industry and have been identified as a priority issue. The matter has been expressed the concern about the growing humanitarian and safety crisis facing seafarers around the world, and called on all countries to formally designate seafarers and other marine personnel as “key workers” by IMO and ensure crew changeovers can safely take place.



## 8. SEASICKNESS

One of the least pleasant aspects of going to sea is the possibility of getting seasick. An individual's susceptibility to seasickness is highly variable. Seasickness is a result of a conflict in the inner ear, where the human balance mechanism resides, and is caused by a vessel's erratic motion on the water. Additionally, an affected person's symptoms can be magnified by the strong odors of things like diesel fumes and fish. Seasickness usually occurs in the first 12 to 24 hours after "setting sail," and dissipates once the body acclimates to the ship's motion. It's rare for anyone to get or stay ill beyond the first couple of days at sea—unless the vessel encounters really rough waves.



## 8. SEASICKNESS – *Risk Factors*



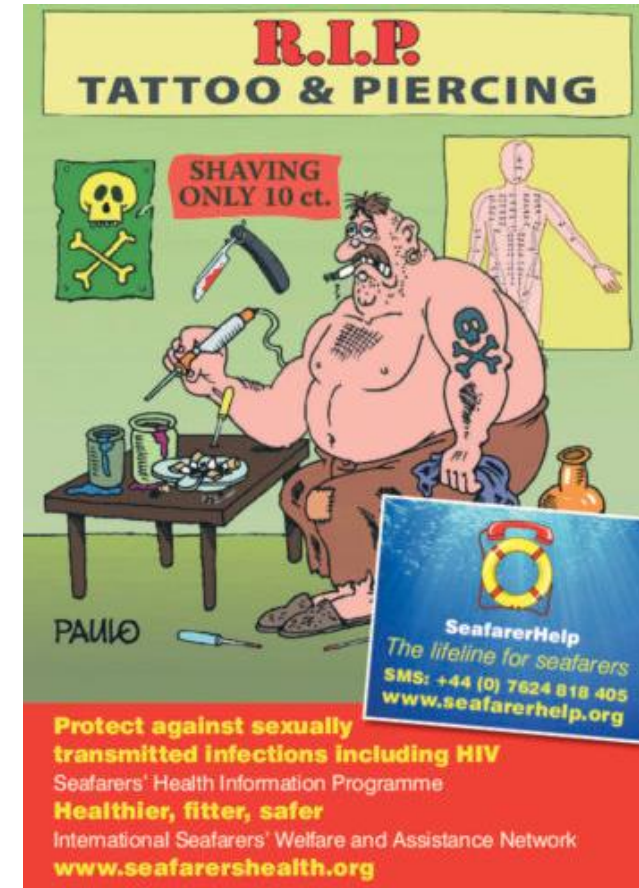
Dizziness, fatigue and nausea are the most common symptoms of sea sickness. Sopite syndrome, in which a person feels fatigue or tiredness, is also associated with sea sickness. If the motion causing nausea is not resolved, the sufferer will usually vomit. Vomiting often will not relieve the feeling of weakness and nausea, which means the person might continue to vomit until the cause of the nausea is treated.

Seasickness is hardly fatal, but with symptoms such as nausea, stomach cramps and vomiting, it can certainly dampen the spirit of a seafarer and adversely impact his/her performance.



## 9. SEXUALLY TRANSMITTED DISEASE (STD) – *Risk Factors*

Sexual or blood borne transmission are not likely routes for the transmission of infection in the normal course of work at sea. Occupational exposure risks are slight and limited to the treatment of injuries and to procedures undertaken by the small number of healthcare staff working on large vessels. HIV/AIDS is a maritime issue. Not only because it affects the workforce, but also because ships have a role to play in the wider struggle to limit the spread and effects of the epidemic.



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