



IMPLICATION OF COVID-19 PANDEMIC ON THE RELEVANCE OF ROBOT NURSE

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THE FUTURE OF NURSING

**WILL NURSES EVER BE REPLACED BY
ROBOTS ?**

Just wonder if this will really happen?

WHEN. Technology is primarily designed to make people's lives easier, we're increasingly removing the "*human*" from the equation and the fear surrounding a less human approach within the nursing profession is particularly palpable.



**If the rise of the robot nurse is inevitable,
where does that leave real nurses**



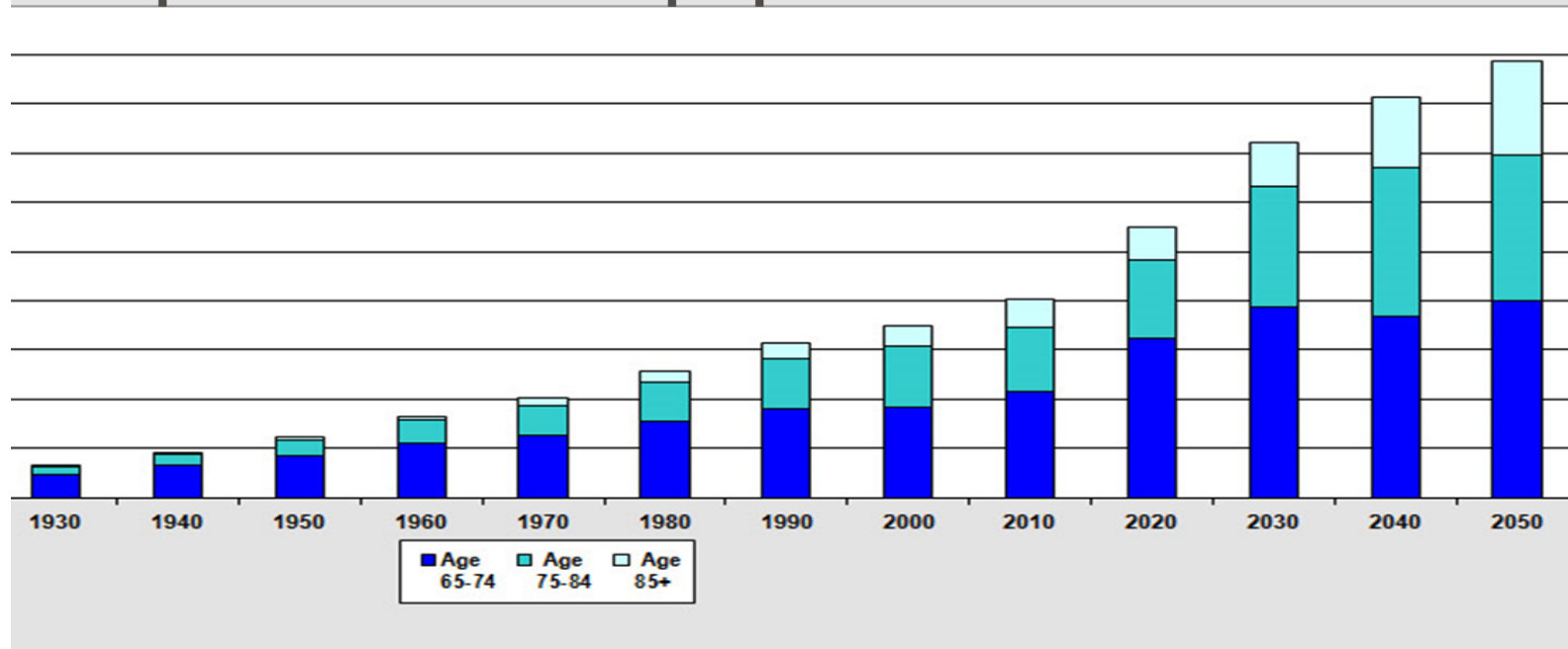
ROBOTS TO THE RESCUE

THE REASON FOR THE RISE OF ROBOT NURSE

Effects of Technology on Population

Population 65+ by Age: 1900-2050
Source: U.S. Bureau of the Census

There will be 78 million people aged 65 and older by **2035**, compared to 76.4 million people under 18.



Nearly one in three individuals is over 65. With only about 1.2 births per woman, there aren't enough people entering the workforce to replace for those leaving. These numbers translate to a significant shortage of nurses in healthcare to care for the elderly

(US Dept. of Health & Human Services, Administration on Aging "Projected Future Growth of the Older Population" 2010)

- Over the last decades, technology has advanced at a rapid rate and spread around the globe
- The affordability and accessibility of technology has improved quality of life, and a higher average life expectancy in several countries.
- Many people are living until old age but...
- Not enough children are born to make up the difference..
- There are fewer and fewer resources to take care of older generations.



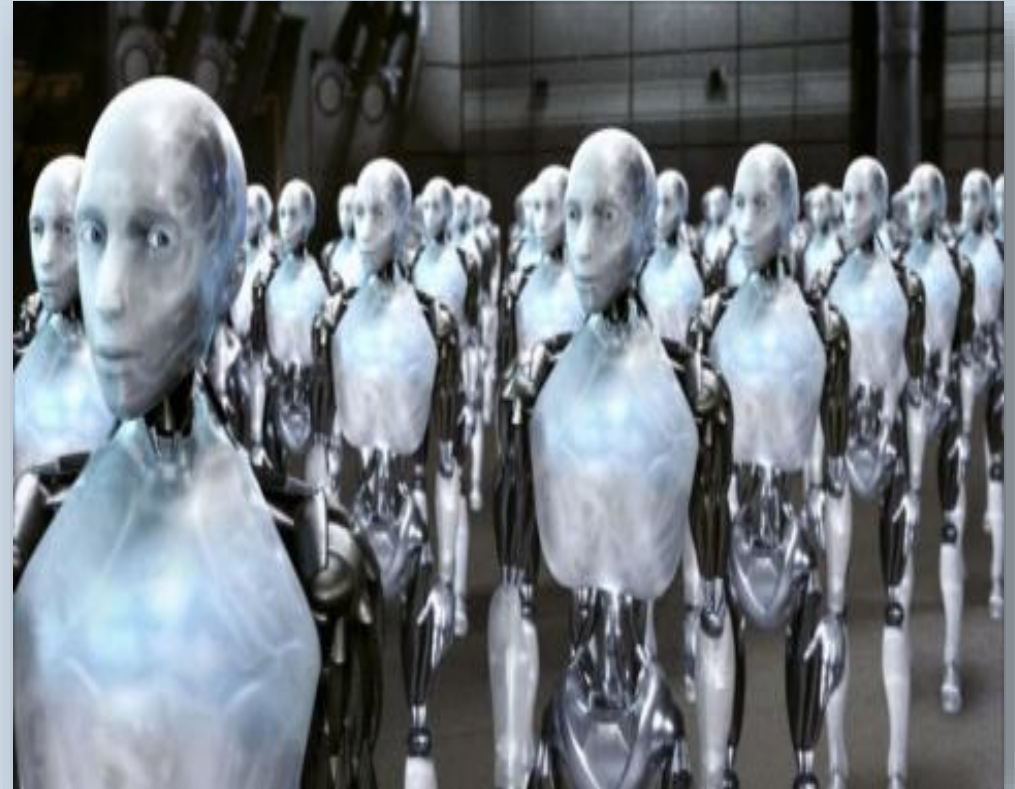
- Japan's hospitals are already in **shortage of nurses**, and according to Japan's Machine Industry Memorial Foundation,
- The proposed solution is to build **robotic nurses** that will help administer care and support to people in hospitals, care facilities, and homes.
- **Today**, robotic nurses are robots that help patients physically move around or perform simple tasks like taking vital signs or delivering medicine.
- Some robotic nurses serve as **interfaces** for doctors to use over distances to communicate with patients.
- The country could save 2.1 trillion yen (**about \$21 billion**) in health care costs each year by using robots to monitor the nation's elderly.



The nation has the world's oldest population but not enough young people to help care for them. Japan is now turning to foreign nurses to help make up for that deficit.

THE JAPANESE ROBOT MARKET

- An estimated 5,000 nursing care institutions are testing robots.
- The market is expected to more than triple by 2020, where it's projected to reach \$480 million.
- Currently, Japanese manufacturers deliver 52% of the world's supply of industrial robots.



All Joke aside!!

Believe It or Not!

- And....Today Very little question over whether these supplemental robots can replace nurses for the time being.





Japan has become a test market for new technologies to care for the elderly

PARO

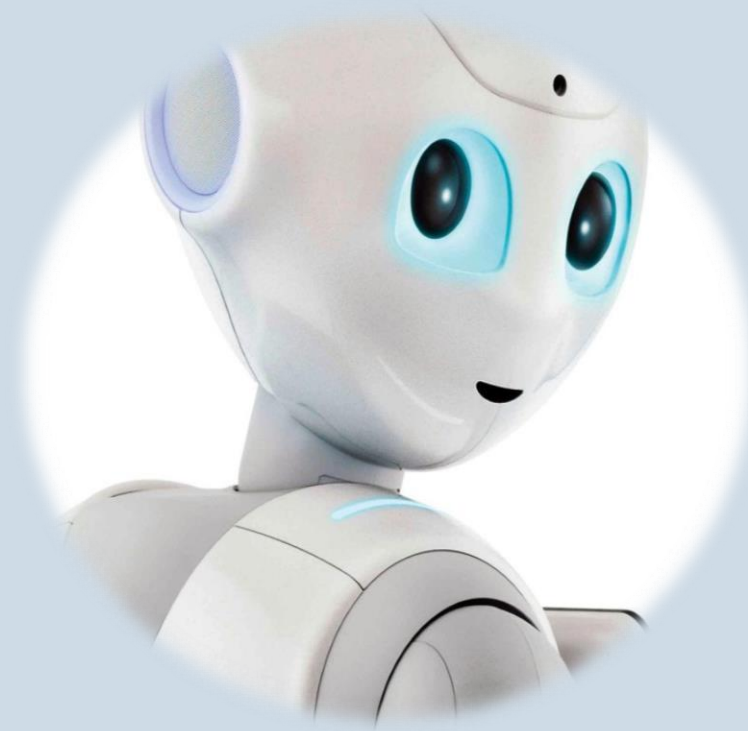


- Paro is a robotic baby harp seal covered in soft white fur and exhibits many of the same behaviours as a real pet.
- Designed to be cute and elicit an emotional response from patients in hospitals, nursing homes and to help Dementia patients



PEPPER

Meet Pepper, the world's first robot who can understand your feelings.



AIBO

A robot will now greet you at the front door



Aibo will walk up and say hello every time you open the front door and say "I'm home."

the adorable robot just like a flesh-and-bone doggy would.



ROBEAR



He can pick up weight more than 60kg



Robear, is “a strong robot with the gentle touch,” and a cuddly look — touted as strong enough to lift up elderly Japanese and bring them to the bathroom, but also gentle enough to provide them support as they sit down in wheelchairs.

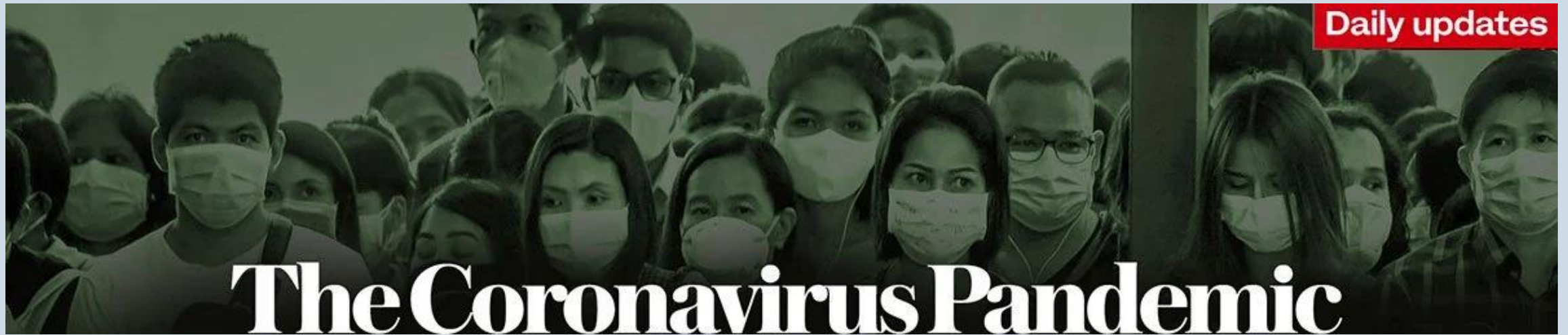
**We can forget our
*Three Men Lift Method of lifting***

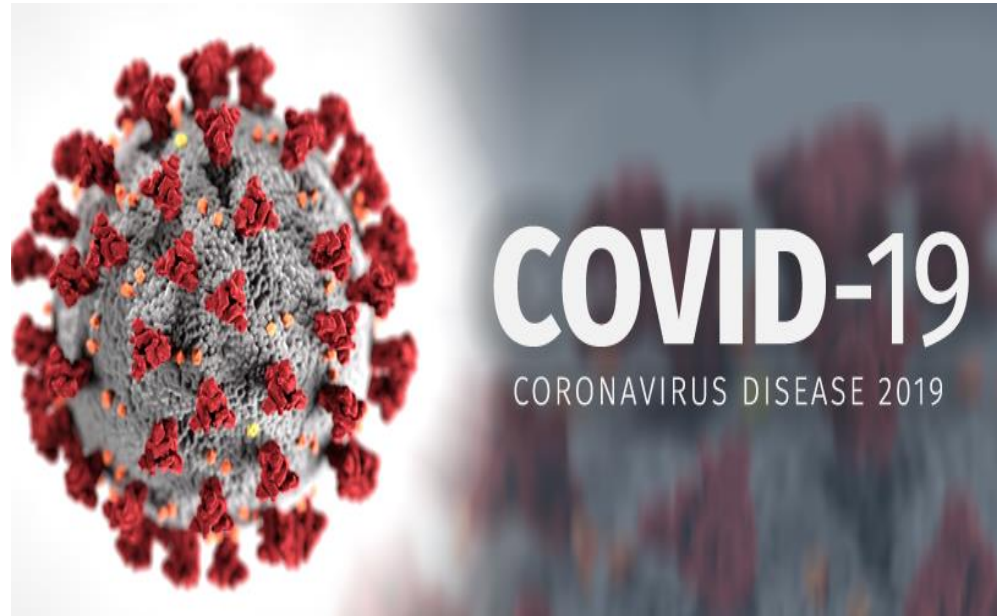


COVID-19 PANDEMIC PROMPTS MORE ROBOT USAGE WORLDWIDE

The Rise of the Robot Nurse - 2

COVID-19 PANDEMIC PROMPTS MORE ROBOT USAGE WORLDWIDE

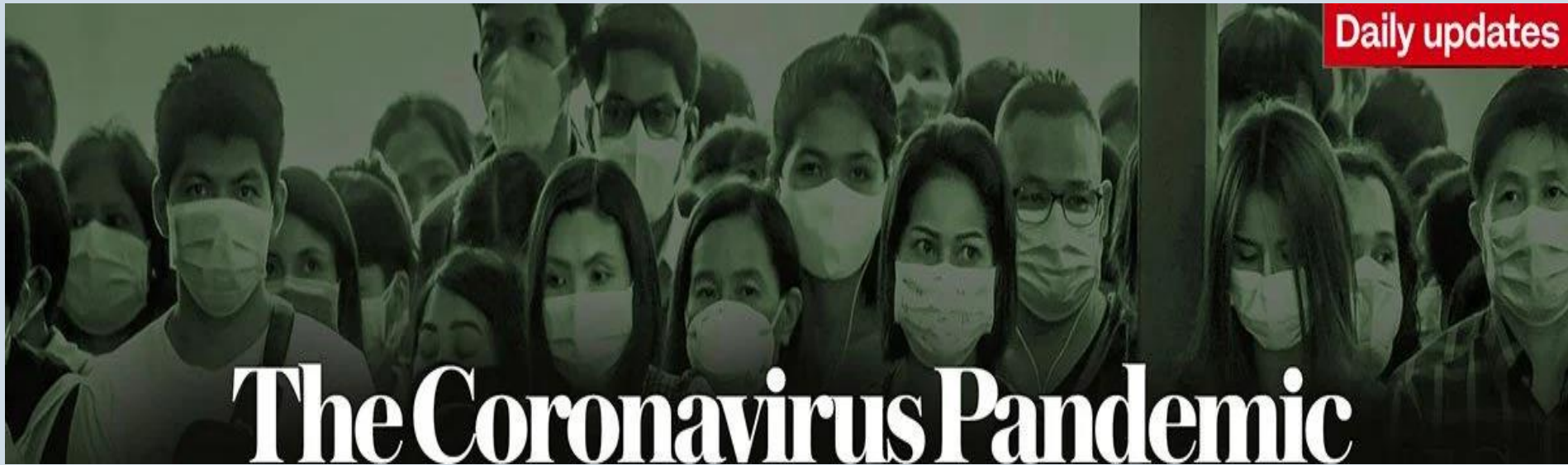


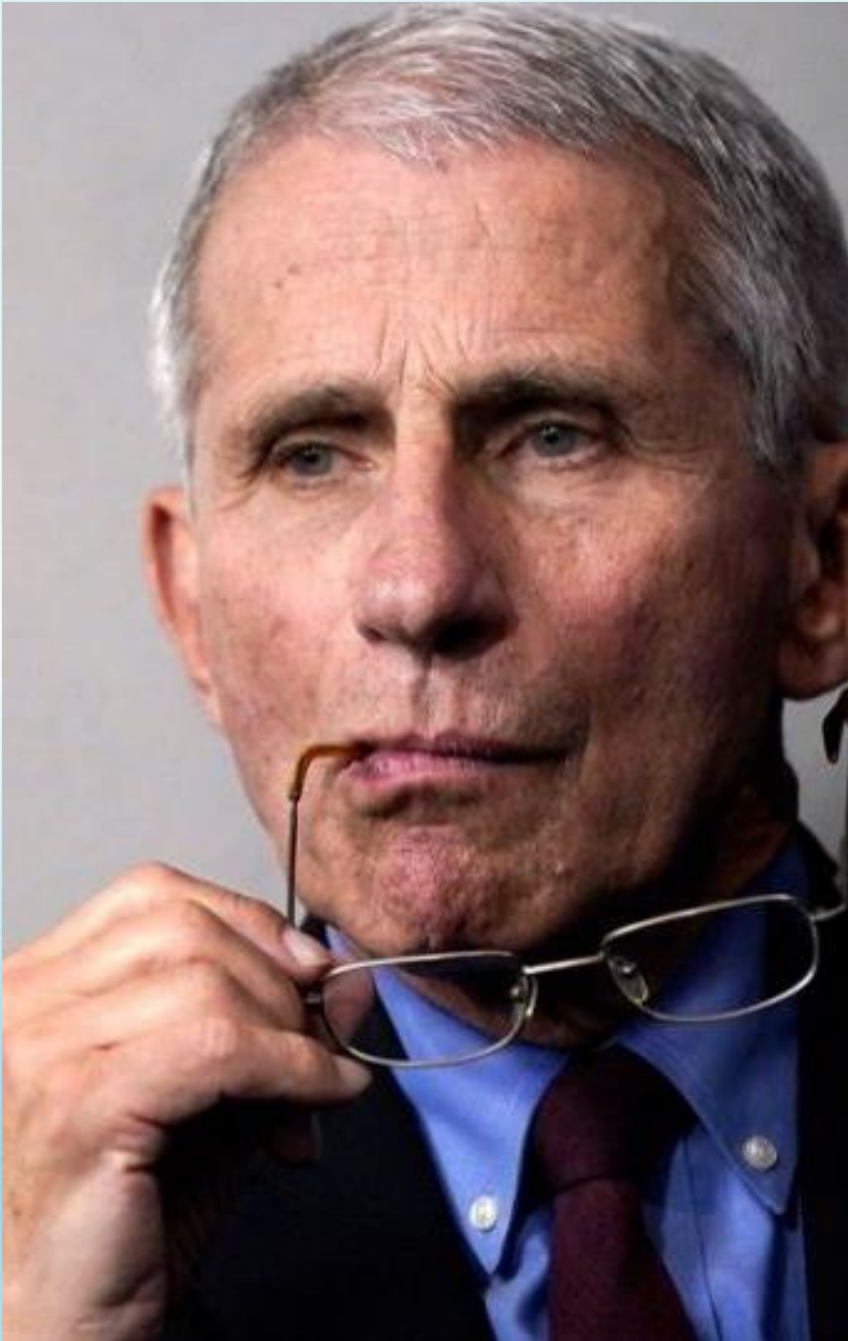


WHO - The World Health Organization on January 30, 2020 publicly declared

- The COVID-19 pandemic as a “global emergency” because of the rapidity at which it had spread worldwide.
- The virus has shaken worldwide economies leading to a stock market crash in many countries.
- Since, the first bunch of cases identified in Wuhan City, China, in December 2019
- The coronavirus pandemic has rapidly spread across China as well as over the borders, causing multiple incidents in nearly all countries of the world **except Antarctica**

THE IMPLICATION OF CORVID19 PANDEMIC ON THE HEALTHCARE SYSTEM





Anthony Fauci – US Dr. since 1984 handling the infectious diseases

Dr. Fauci Warns You're at "High Risk" of COVID

- It is the worst outbreak of a respiratory borne illness in 102 years.
- It's a brand-new infection that has thrust itself on society. It ends there and threatens everyone on the planet
- When you have a virus that is highly transmissible – that makes enough people sick that you almost overrun the system - then I knew we were in far hard time

Overall Statistic On Corvid 19 Pandemic

	Cases	Recovered	Death
	93M	51.3M	2.17 M
United States	23.2M +230K	-	386K +3,922
India	10.5M	10.1M	152K
Brazil	8.26M +60,899	7.35M +62,135	206K +1,274
Russia	3.43M	2.82M	62,463
United Kingdom	3.21M	-	84,767

Total death figures are likely to be higher than confirmed deaths

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus.

Simple Statistic of Corvid-19 Virus

	Outbreak	Year	Confirmed cases	Death	Daily Cases
1.	The First Outbreak In Wuhan China	27 th Dec 2019	96,800	4,792	
2	Malaysia 1 ST Case detected	25 th January 2020 3 Chinese Nationality Travelled from Singapore	16.1.2021 172,549 Cases	First death 4th Feb 2020 Till Yesterday 642 Death	Yesterday 3,170 cases

Simple statistic : Corvid 19

	What is already known
1.	In China over 3,300 confirmed cases of infected healthcare workers in early March 2020
2.	No study performed the global examination of Corvid 19 infection and death in the Health Care Workers (HCW)
3.	General Practitioners were the highest risk specialty for death among doctors
4.	While the highest risk nursing specialty was mental health
5.	The major issues facing nurses in this situation are the critical: shortage of nurses, beds, and medical supplies, including personal protective equipment and, as reviews indicate, psychological changes and fears of infection among nursing staff.

INTERNATIONAL COUNCIL OF NURSES, (ICN, 28 October 2020)



- ICN confirms 1,500 nurses have died from COVID-19 in 44 countries and estimates that healthcare worker COVID-19 fatalities worldwide could be more than 20,000.



**BURDEN OF PANDEMIC
IN
NURSING PRACTICE**

The Role of Nurses in the Era of the Global COVID-19 Pandemic

Nurses roles in managing the covid patients	
1	Managing the routine of clinical practice
2	Symptoms management
3	Infection management
4	Ensuring quality of care
5	Psychological supports

24hours x intensively
everyday for over one year
in a contagious situation
all over the world

death over facetime if not careful

Frontline Nursing Care: Work Round the Clock -During the COVID-19 Pandemic -

- All nurses have a pivotal role in the COVID-19 prevention and response, not only by providing direct patient assistance.
- In a community, nurses have an educational role in instructing patients, families, and society about the current outbreak,
- And driving communities to follow the recommendations of public health authorities, and promoting measures to prevent new infections.



Nurses Grievances as Frontline against the COVID-19 Pandemic:

Ref. No.	Authors, date	Place	Findings
7	Xie et al., 2020	China	<ul style="list-style-type: none"> - Lack of critical care resources - Challenge of early recognition - Crisis in management
12	Chen et al., 2020	China	<ul style="list-style-type: none"> - Nurses became nervous and anxious - Exposure to nosocomial infection
13	Legido-Quigley et al., 2020	Spain	<ul style="list-style-type: none"> - Staff shortages - Shortage of face masks - Inadequate intensive care capacity - Restrictions on movement of people
14	Li et al., 2020	China	<ul style="list-style-type: none"> - Vicarious traumatization - Psychological changes
15	Millar, 2020	Australia	<ul style="list-style-type: none"> - Feeling isolated - Vulnerable to becoming infected - Under marked psychological stress
16	Zeng and Zhen, 2020	China	<ul style="list-style-type: none"> - Severe shortage of personal protective equipment - Physical exhaustion - Feelings of fear
17	Newby et al., 2020	USA	<ul style="list-style-type: none"> - Shortage of personal protective equipment - Issues of staffing ratios - Relocating equipment between patients' rooms
18	Gharebaghi and Heidary, 2020	Iran	<ul style="list-style-type: none"> - Shortage of ICU beds - Death among nursing staff - Increase in the number of patients - Lack of masks

An
Integrative
Review

Preparedness of Nurses to Care Corvid 19 Patients

PREPAREDNESS TO CARE FOR CORVID 19 PATIENTS			WILLING TO CARE FOR CORVID 19 PATIENTS		
Preparedness	Somewhat prepared	Unsure	Probably Yes	Absolutely Yes	Unsure / not willing
8.6%	32%	45.25%	26.8 %	20.3%	53%

Nursing Management : 08 August 2020

<https://doi.org/10.1111/jonm.1312>

Pandemic-Era Burnout: Nurses in the Trenches say technology hurts and helps

In adequate staffing	Difficult to meet work and family demand	Wish for more support program and emotional needs & wellbeing	Suffered from compassion fatigue in dealing traumatic events
53%	35%	28%	25%

The COVID-19 pandemic has made the problem that much worse: **61% of nurses have emotional and physical fatigue**, according to a new survey of 226 nurses titled "Leading in Times of Crisis"



**IMPLICATION OF CORVID-19 ON
NURSING
AS A PROFESSION**



AFTER 150 YEARS NURSES ARE CALLED HEROES

"It will take 150 years for the world to see the kind of nursing I envision" Florence Nightingale



WHAT DID THE NURSES FEEL ABOUT BEING A HERO

***"It will take 150 years for the world to see the kind of nursing I
envision" Florence Nightingale***



Heroes, or just doing our job? The impact of COVID-19 on registered nurses

- They experienced difficulties navigating rapidly changing hospital policies (sometimes during a single shift)
- Discrepancies between governmental and hospital recommendations
- **DNR** orders that were either avoided or forced, and inadequate access to PPE



Heroes, or just doing our job? The impact of COVID-19 on registered nurses

- Nurses expressed concerns about **their own health and the health of family members.**
- They described difficulties balancing quality patient care with “cluster care,” which limited their time in patient rooms.
- The emotional toll of “death over Facetime” as one participant called it.
- Holding electronic tablets as dying patients said their goodbyes to family.



Heroes, or just doing our job? The impact of COVID-19 on registered nurses

- Many reported sleep issues, nightmares, fatigue, increased irritability, unhealthy eating habits and use of sleep aids.
- Many self-isolated from their families and missed out on the day-to-day moments and key developmental milestones of their children.
- One participant recounted
- *"I missed my kid's entire crawling stage."*



Heroes, or just doing our job? The impact of COVID-19 on registered nurses

- Many nurses spoke of inequity and moral injury.
- They expressed frustration about doctors and men with facial hair receiving better PPE.
- Being reassigned to multiple units and doing non-nursing tasks like cleaning COVID-19 positive rooms.
- Nurses felt better prepared to be reassigned if they volunteered, but not if it was forced (and some were).



Heroes, or just doing our job? The impact of COVID-19 on registered nurses

- Some nurses were encouraged to purchase their own PPE to use at work, for example, face shields from Amazon or even dollar store raincoats.
- Almost everyone we interviewed expressed concern about second and third waves and whether the hospitals would be prepared.



Heroes ... but stigmatized

- *Oh, nurses are heroes.*
- *Doctors are heroes.*
- *'They're doing so much for us.'*
- *You're out in scrubs and they're like, 'They're contaminated,*
- *Get them away, they're infectious.'"*



However, there are nurses, reluctant to be called heroes

- Jillian Primiano is an E.R. nurse at Wyckoff Heights Medical Center in Brooklyn.
- She's participated in recent protests against **unsafe conditions for health care and other essential workers.**



IS IT WORTH AFTER ALL WHAT THEY ARE DOING ??

"I don't need a compliment; I need safe staffing."

By [Hanna Wallis](#) April 28, 2020

Nurses are Risking their lives

- Nurses are angry about the lack of preparedness, but they are also angry about the lack of support that they have received.
- "We need to move on from the *warm words into real action*, because none of us are going to cope and our economies won't recover.. if we don't keep our healthcare workers and nurses working and able to look after all of us."
 - [Hanna Wallis](#) April 28, 2020



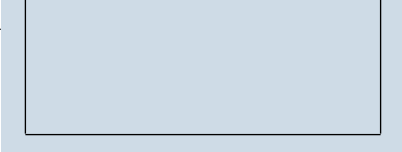
THE RISE OF THE ROBOT NURSE

Those are reasons why Robot is very relevant to assist the nurses



**THE PANDEMIC
HAS BEEN GOOD FOR ONE KIND OF
WORKERSROBOTS**

"Easier said than done "



**“TOMMY”
THE ROBOT NURSE
HELPS KEEP ITALY DOCTORS SAFE
FROM CORONAVIRUS**

A lesson from a country which was badly affected by death of so many of their HCW

Tommy - Robot to Rescue helps keep Italy doctors and nurses safe from contracting new coronavirus

More than 4,000 Italian health workers have contracted the virus treating victims in Italy and 66 doctors have died.

The death toll in Italy, the world's hardest hit country, topped 13,000 more than a third of all global fatalities.



TOMMY —

- Tommy and his fellow robot nurses - they are not subject to exhaustion. A quick charge of batteries and they are back at work in the ward
- He doesn't wear a mask but he is helping to save lives from coronavirus just the same.
- The robots also help the hospital limit the number of protective masks and gowns staff have to use.
- Most importantly, Tommy limit the number of direct contact doctors and nurses have with patients, thus reducing the risk of infection



Makcik Kiah19 (MCK19)

“Makcik Kiah 19” (MCK19) adalah Robot Penghantaran Pertama Buatan Malaysia untuk hospital bagi membantu petugas barisan hadapan penjagaan kesihatan dalam memberikan khidmat kepada pesakit Covid-19.



**AFTER ALL THESE
WHAT THE FUTURE HOLDS
FOR THE NURSING PROFESSION**

Will Nurses Ever be Replaced by Robots ??

IF THE RISE OF ROBOT NURSE IS INEVITABLE



- Where does that leave real nurses?
- And to what extent will AI nurses or other technologies render human contact?
- At what the future of the nursing profession holds as increasing automation and robotic tech begins to be the norm.

Lets Face the Facts No 1

People are still concerned that **human connection remains an integral** part of 21st century healthcare, and there's little point in arguing that nurses or other healthcare professionals can be replaced in this respect

Lets Face the Facts.....No 2

- Though we're nowhere near the point of doctors and nurses being replaced by robots, those machines are **only assisting in managing everyday tasks of** aging population.
- Lend a hand and allow human nurses to focus on the important work of caring for patients.
- Robots simply **don't have the empathy, creativity and adaptability** of our healthcare system's hard-working nurses.

Lets Face the Facts.....No 3

- Technology will continue to facilitate the nursing care.
- Humans will have biological microchip implants to monitor their health.
- Nurse robots are also likely to reduce human suffering by decreasing assistance waiting time.
- Interactive video communication will continue to be used to monitor basic health without the need of transportation.
- **However, technology will never replace nurses, although it can help them.**

Lets Face the Facts.....No 4

- Futurists have been fore sighting
- Most occupations will be **restructured in 2050's**, and that nursing will have more critical role within the healthcare system.
- Alongside the futuristic technologies, involving the future developments in the genetics, social media, nanotechnology, and emergence of robot-nurses. **It is called such global changes.**
- As a result, it is a necessity for the Nursing to foresee the **future of nurses from today**, and thereby to train the nurses of the future, **to think globally, and act regionally.**



**ARE WE
STILL REMAIN AS CARE
PROVIDERS
IN 2050 ???**

My dear young nurses.....

- We will still need brave and dedicated men and women out in the trenches of illness and disease, helping and caring those who cannot meet their own needs.
- After what I have seen about nurses and other health care providers with the crisis we are in;
- **I am very proud to be in the Nursing Profession!!**

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Design Thinking for Future Nursing Education

The World Health Organization (WHO), in its [State of the World's Nursing Report—2020](#), is calling for an urgent investment to accelerate nursing education.

WHO also advocates for strengthening leadership so nurses have an influential role in developing health policy and decision-making and can contribute to effective health and social care systems

Marion Leary, Daniel Pesut, Ryan J. Shaw, June 2020

Solving the real world problem in Real time Partnerships and innovation: The future of nursing education

Collaboration, Design Thinking, and Competencies are critical to prepare nurses to work at the top of their practice.





THANK YOU

From me Hamidah