



Introducing telemedicine to improve health care on board ships



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The situation

- ❑ **Stranded on board**
- ❑ **Potentially hundreds of miles away from the nearest aid point**
- ❑ **Rapid assistance in case of a medical emergency can be a matter of life and death**
- ❑ **In those tense moments, the line between a passing ailment and a potentially life-threatening affliction can easily be blurred**
- ❑ **Without expert advice, captains are often left with little choice but to divert the ship**





Who is responsible for seafarers' health?



- ❑ The seafarer;
- ❑ The company;
- ❑ The ship;
- ❑ The **Telemedical Assistance Services (TMAS)**
- ❑ The flag state



- ❑ We also have a lot of regulations to comply, there is IMHA, STCW, ILO/MLC.
- ❑ As MLC, it has a set of rules, **requiring ships to have shore like medical facilities**
- ❑ In terms of crew health, shipowners are obliged under MLC 2006, to ensure that they provide, **"access to prompt and adequate medical care whilst working on board"**
- ❑ Seafarers should also be provided, **'with medical care as comparable as possible to that which is generally available to workers ashore'**

But, what do seafarers want?

- ❑ They wonder if in this digital age, they have to flip through the ship master's medical aid book
- ❑ As for sailing masters, they think that they would take confident decisions if they had some kind of **medical diagnostic tool**
- ❑ Crew is also more comfortable knowing there is some kind of shore like facility and if they are not well they can always talk to their doctor or the company doctor face to face
- ❑ The captain feels far more confident if he had a **telemedic kit on board so he can take informed decisions** based on TMAS advisories, whether to divert the ship or to ask for a MEDEVAC.



Problems Faced



- ❑ In this age and technology ships should have evidence based hospital like diagnostics

But what are the problems that we face at sea?



- ❑ Longer voyages and short port stays
- ❑ Lost time due to speeding up, slowdown and extended anchorage due to illness are expensive
- ❑ Lack of telehealth facility



The history evidence



1950s

A CCTV link was created between Nebraska Psychiatric Institute and Norfolk State Hospital



1980s

Telemedicine was only associated with huge corporations like NASA



1980s & 1990s

Radiology used telehealth where images were sent and received online



2010

The Affordable Care Act paved the way for drastic improvements to telemedicine and telehealth services



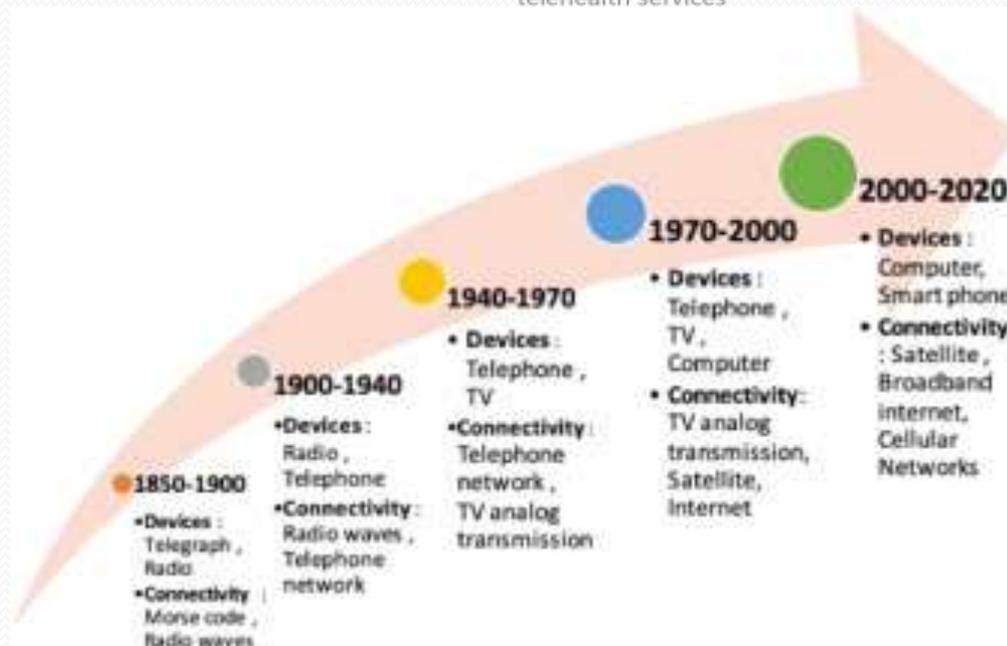
2018

NHS suggest digitally-enabled care will go mainstream across the NHS

If we have telephotography, why can't we have telemedicine, so that you could walk up to the radio machine, drop your dollar in the slot, take down the particular receiver required and apply it to that part of your anatomy where the pain is? (doctors, please snicker).

I would like to hear from others on these matters and to be corrected where it is necessary to do so.

Signed: Geo. W. Gale
Tribune, Dec. 29, 1927





The fact of the matter -Definition of Telemedicine-

- ❑ A term first coined in the 1970s, telemedicine literally means “healing at a distance”
- ❑ Telemedicine can be defined as “the use of telecommunications technology to provide medical information and services” (Perednia and Allen, 1995) or as “medicine practiced at a distance” (Wootton, 1996)
- ❑ In 1997, the WHO defined telemedicine as:
“The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities” (WHO, 1998)





TELEMEDICINE

The Panacea For Healthcare Services



What is Telemedicine?

Telemedicine is a concept of providing healthcare services using Information Technology & Telecommunication.

Use Cases Of Telemedicine



Primary care & Specialist referral services



Remote patient monitoring



Patient medical health information

Common Healthcare Challenges

& How Telemedicine Helps

Challenges

Poor access to healthcare

Increased pressure on healthcare system

Escalating healthcare costs

1.

2.

3.

Solutions

Increased access to healthcare

Reduces pressure on healthcare system by increasing the reach of doctors

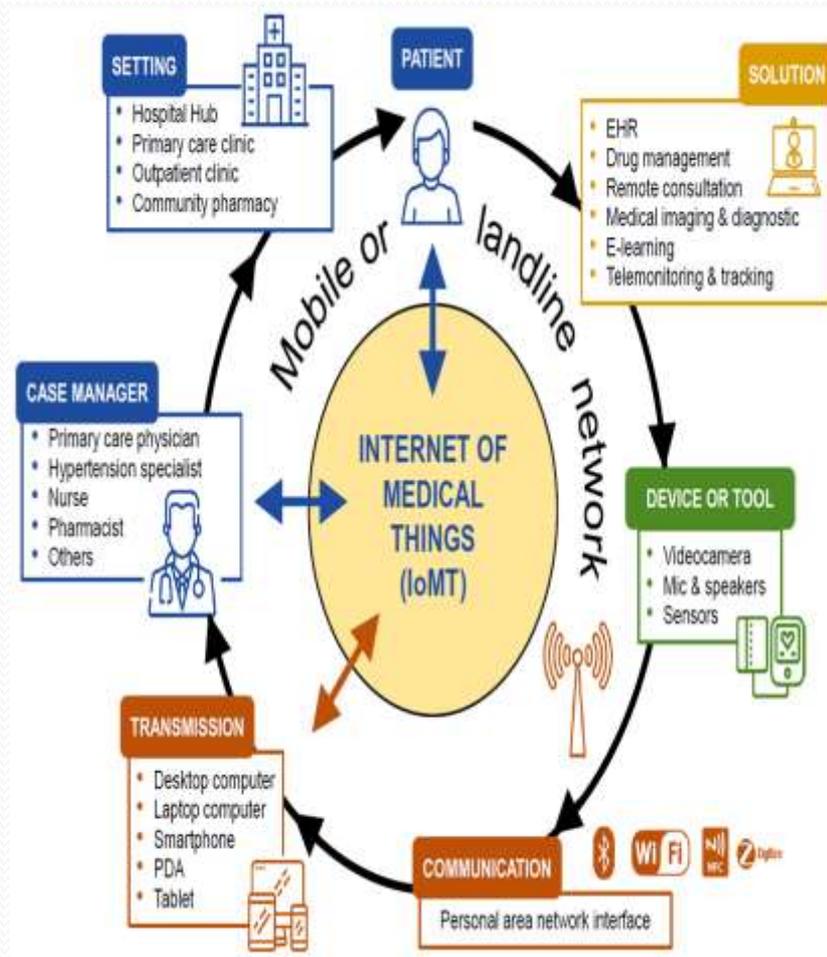
Telemedicine makes healthcare affordable



What is telemedicine and how does it work?



- ❑ Telemedicine is the remote diagnosis and treatment of patients by means of **telecommunications technology**
- ❑ On a vessel, this involves the use of **monitoring devices with wireless sensors**, such as a:
 - ❑ blood pressure monitor
 - ❑ pulse oximeter
 - ❑ IR forehead thermometer
 - ❑ ECG monitor
 - ❑ Glucometer
- ❑ The sensors are attached to a crew member to record their **vital signs**
- ❑ The vital signs data is transmitted via a **wireless connection to an onshore doctor**
- ❑ This data, combined with a high-definition, one-to-one video service between the doctor and the patient, enable the clinician to make an **accurate, informed diagnosis using real patient data, combined with the patient's medical history**





Legal basis of telemedecine



- ❑ Since January 2012, the ILO/MLC) has required all flag states to *"provide seafarers with medical care as nearly as possible equivalent to the care they would receive ashore,"*
- ❑ and to *"ensure [...] that medical advice by radio or satellite communication to ships at sea is available at any hour of the day or night"*
- ❑ As such, every ILO signatory nation is bound:
 - ❑ To have a prearranged system for wireless medical advice available to ships of all nationalities
 - ❑ Round the clock and free of charge, also known as Telemedical Assistance Services (TMAS)
- ❑ This network ensures communication through marine radio, email, telephone or fax, and in more recent times, via real-time video calls.





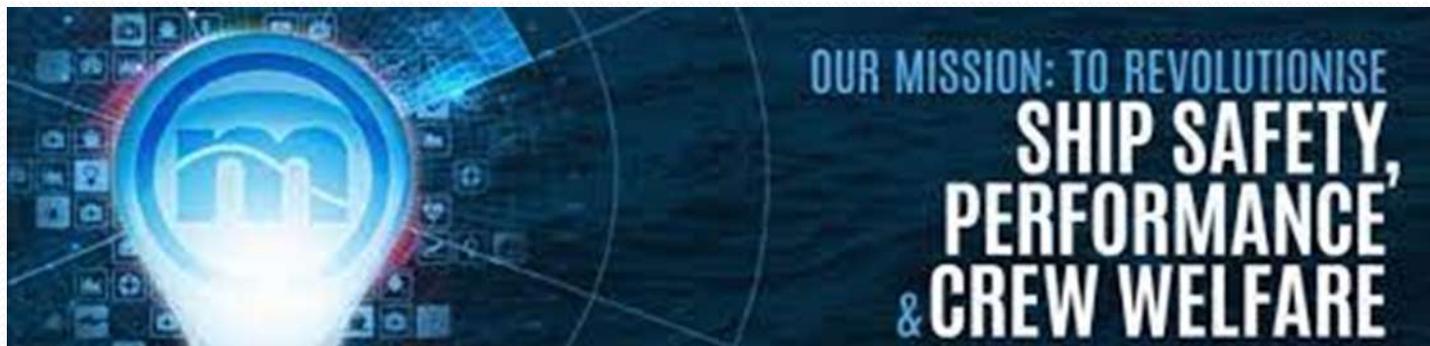
Facts



While at sea, we all know that accidents do happen, people do fall sick, you cannot stop that

But are you prepared?

- ❑ According to a study by **IMHA** a few years back, 1 in 5 ships diverted and it is estimated that the industry could save around \$168m if ships had some kind of **telemedicine** solution
- ❑ Results released in a recent seafarers' survey carried out by maritime professionals' trade union **Nautilus International** and global maritime technology innovator **Martek Marine**, indicated that **98%** of seafarers thought that a greater provision of **telemedicine** on vessels would not just improve crew welfare, but actually save lives at sea





How Telemedicine Can Keep Seafarers Healthy and Ports Open



- ❑ **Crew changes present are a big risk to the maritime industry**
- ❑ But a few smart strategies are being employed to mitigate those risks
- ❑ Instead of sending doctors onboard, they use encrypted video applications and tools that come with telemedicine kits to contact doctors who then complete full clinical evaluations in real-time
- ❑ Beyond temperature checks, doctors can remotely consult with crew members in real time as to who they have been exposed to recently, as well as how to travel safely to avoid getting exposed
- ❑ Being able to safely embark and disembark, and not be an "active spreader," will be crucial in keeping the maritime industry moving
- ❑ Another important tool is an ultrasound device that comes optional with telemedicine kits
- ❑ **Doctors in Spain and Africa** have used this tool successfully to triage COVID-19 patients
- ❑ **Using the video application**, a doctor can remotely access the device to guide the designated medical officer onboard to assess the condition of the patient's lungs

**TELEMEDICINE
BRINGS SEAFARERS
CLOSER TO HOME**
Telemedicine raises the
bar for maritime welfare





Concluding remarks

- ❑ Connectivity at sea has come a long way since the age of the Morse code.
- ❑ Today high speed internet on ships is a reality, very soon most ships will have office-like internet on board
- ❑ With digital ships & new technologies, disruptive innovations are just a matter of time
- ❑ Affordable digital telehealth solution is one such disruptive innovation which will greatly enhance crew wellness and will be demanded by the crew
- ❑ Telemedicine could provide the answer for all seafarers health and medical care preoccupations



Thank you for your attention



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