



Healthcare with Bose Professional

# Opportunity in healthcare : Telemedicine



DealStreetAsia

Singapore health tech startup Holmusk raises \$45m



DealStreetAsia

Australia's Heal Partners seeks up to \$500m for new fund



Health Care

Indonesia's Klinik Pintar aims to add 100 digital-driven clinics



Health Care

Indonesian teledoctor Halodoc eyes Thailand, Singapore foray

Asia

Indonesia turns to telemedicine for COVID-19 as hospitals struggle



Medical workers treat patients inside an emergency tent erected to accommodate a surge in COVID-19 cases, at Dr Sardjito Central Hospital in Yogyakarta, Indonesia, Jul 4, 2021. (Photo: AP/Kalandra)

The telemedicine market is anticipated to achieve a market of US\$36.126 billion in 2026 from US\$16.135 billion in 2019, growing at a CAGR of 12.20%.

Some of the factors driving growth in the market are increasing government expenditure in healthcare, favorable industry regulations, and the new trend of personal healthcare.

## Some factors that drive the market

- In January 2021, **telemedicine startup Hims & Hers** goes public in a US\$ 1.6 Billion SPAC deal. The company has performed about 3 million telemedicine consultations since it was founded in 2017. According to the company, **its revenue has increased 67% year-over-year, from US\$ 83 million in the year 2019 to an estimate of US\$ 138 million in the year 2020.**

- In March 2020, the Medical Council of India in partnership with NITI Aayog prepared guidelines for telemedicine in India. An increase in government support and investments will boost the demand for telemedicine services in the market

<https://www.researchandmarkets.com/reports/5317964/telemedicine-market-forecasts-from-2021-to-2026?srltid=AfmBOoqrUUZJdXkesgCoPybKrwPnvFueO-3C2rB3hjvO3bvX5E8J0zdc>

## The Facts



### **Telehealth Market Size 2021 | Is Projected to Reach USD 559.52 Billion by 2027 with a CAGR of 25.2%**

Top Players Covered in the Telehealth Market Research Report are American Well (Boston, U.S.), MDLIVE Inc. (Sunrise, U.S.), Teladoc Health Inc. (Purchase, U.S.), Doctor on Demand Inc. (San Francisco, U.S.), Dictum Health Inc. (Oakland, U.S.), Grand Rounds Inc. (San Francisco, U.S.), OpenTeleHealth (Balticagade, Denmark), and other key market players

May 18, 2021 07:47 ET | Source: [Fortune Business Insights](#)

<https://www.globenewswire.com/news-release/2021/05/18/2231503/0/en/Telehealth-Market-Size-2021-Is-Projected-to-Reach-USD-559-52-Billion-by-2027-with-a-CAGR-of-25-2.html>

## The opportunity

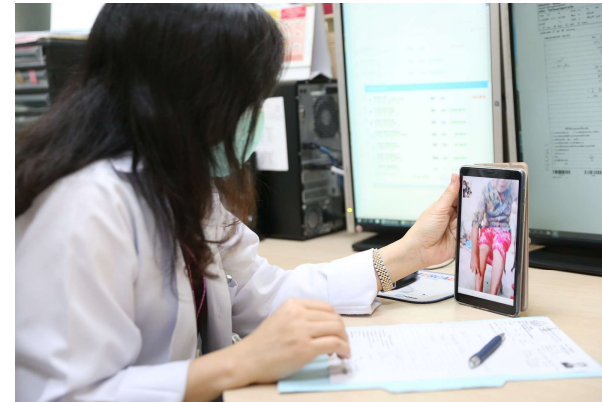
*“The adoption of telemedicine is expected to rise with advances in technology and the high penetration of smart gadgets across the US. The remote patient monitoring segment expects to reach over **USD 13 billion by 2026**. The remote patient monitoring market is growing at a healthy rate and is expected to grow significantly during the forecast period”*

### Prominent Vendors in US.

- AMD Global Telemedicine
- American Well
- BioTelemetry
- GlobalMedia Group
- InTouch Health
- Koninklijke Philips
- Medtronic
- Resideo Life Care Solutions
- Teladoc Health
- Vivify Health
- AirStrip Technologies
- A&D Company
- Abbott
- AgaMatrix
- AliveCor
- AT&T
- Medici
- MeMD
- MedXCom
- Mercy Virtual
- NextGen Healthcare
- Nines
- Omron Healthcare
- PlushCare
- 98point6
- SOC Telemed
- Spacelabs Healthcare
- THA Group
- TytoCare
- Vidyo
- Vsee
- virtuwell
- Vida Health
- ZIPNOSIS
- INOVA
- iHealth Labs
- Integrity Urgent Care
- iSelectMD
- MedArrive
- Masimo
- MDLIVE
- athenahealth
- BIOTRONIK
- Boston Scientific
- Biotricity
- CHI Health
- Doctor on Demand
- edgeMED Healthcare
- eVisit
- GE Healthcare
- Genome Medical
- Graham Healthcare Group
- Harris Computer
- HealthTap

## Opportunity in healthcare : Telemedicine in Thailand

Huawei in 2020



National Health Security Office's (NHSO) interest in new disruption, a hot topic being discussed among many businesses, had driven it to think more seriously as to what could be done more to the country's healthcare system in order to reap the benefits of the internet technology disruption.

**Dr Jadej Thammatacharee, Deputy Secretary-General of the NHSO.**

## **Different types of Tele Medicine**

- Telecare – AI driven using actual user diagnostic data to tabulate and area of sickness
- Tele-Education – Usually for hospitals to train hospital staff and specialist. Useful to engage overseas Medical trainers remotely. Save on transportation, logistics and time
- Tele-Monitoring – Use in hospital for nurses to monitor patients without being physically in the room, ward or bed. noncritical communication and not just 1 way viewing. Privacy a concern
- Tele-Surgery – Use in surgery room for non critical surgery. It is more for educating or for 2<sup>nd</sup> opinion. Require 4k cameras with zoom and can be control remotely.
- Tele-Consultation - Use in remote places or to allow convenience for low risk illness like mild fever, cough and headaches and possible flu and other related to be low risk.

## **Pain Points as of now**

- Lack of skilled healthcare professionals
- High cost of installation are some of the other reasons hindering growth in the market.
- Requires hardware that is usually is locked up and proprietary. Not able to be flexible.
- Lack of development and planning. Keeping using outdated hardware due to believe that Hospitals are temporary place.
- Current software meant for mobile devices, which is small and too dependent on 4g network or Wifi



## Typical Telehealth setup - Problem



- PTZ CAMERA – Bulky and prone to vibration
- Power – Camera needs separate power. Microphone need separate power, TV need separate power, Speaker need separate power
- Wiring – Microphone wiring, Camera wiring (HDMI) Speaker Wiring (using TV speaker not clear), PC need Lan(Wifi may drop off) and power

We need TV for display and sharing screen, so this cannot be avoid.

We need NUC PC to run the software and this cannot be avoid

We can only simplify the camera, mic and speaker. Look at the way it is setup. The mic on the floor!!



## Solution by Bose Professional.



### **VB1**

Bose Professional Videobar VB1 is an all-in-one USB conferencing device that brings premium audio and video...



### **VB-S**

Say goodbye to "good enough" tech, and say hello to an elegant, high-performance solution that sets you up for...



### **Software**

A comprehensive suite of enterprise-grade software unlocks the full potential of Bose Videobar devices,...

# Bose Professional for Tele Medicine

## Tele-Monitoring

## Tele-Surgery

## Tele-Consultation



VB1



VB-S



- 4k Camera with Digital PTZ & Zoom (For healthcare workers to see)
- Microphones build in with hardware AEC and beam forming (for healthcare workers to talk)
- Bose Pro signature clarity speakers( for clear communication with healthcare workers)
- Rest API included and open (for developers to created software for healthcare needs)

- High resolution display (Healthcare workers can see and differentiate )
- Slim display (for easy storage and mount)

- 3<sup>rd</sup> party software (for healthcare startup tech to create apps and software and also for processing)
- 3<sup>rd</sup> party software controller (to control VB1 and VB-S mic, camera, speaker, display)

## Bose Pro integration

We would need a 3<sup>rd</sup> party developer to create a simple app that can be manage by nurses and doctors.

## Benefit for of the solution

Easier integration on the mobile cart or to be installed in the room, wards or training room

Less hardware, easier for support

API integration means that the 3<sup>rd</sup> party developer or customer owns the software. When you own it, easier for improvement, diagnostic or data analyst.



Healthcare start up



VB1



VB-S



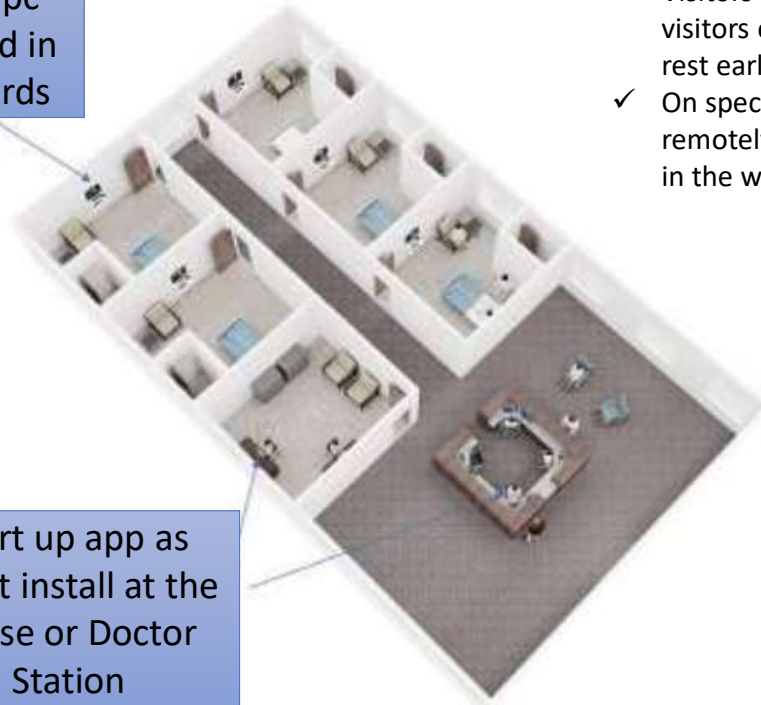
**Example solution - Nurse management control**

## Example solution - Nurse management control

Start up apps to be install in Nuc pc will be installed in the A class wards



Start up app as Client install at the Nurse or Doctor Station

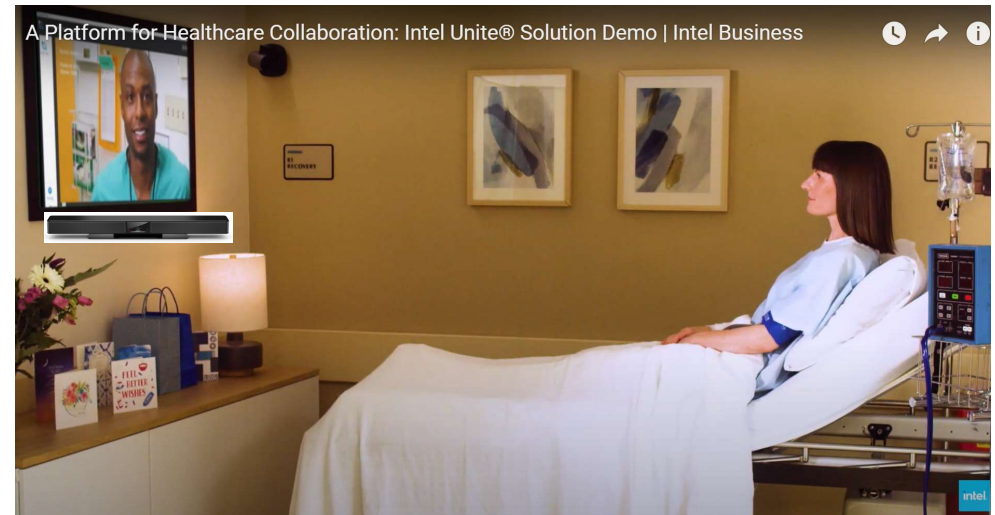
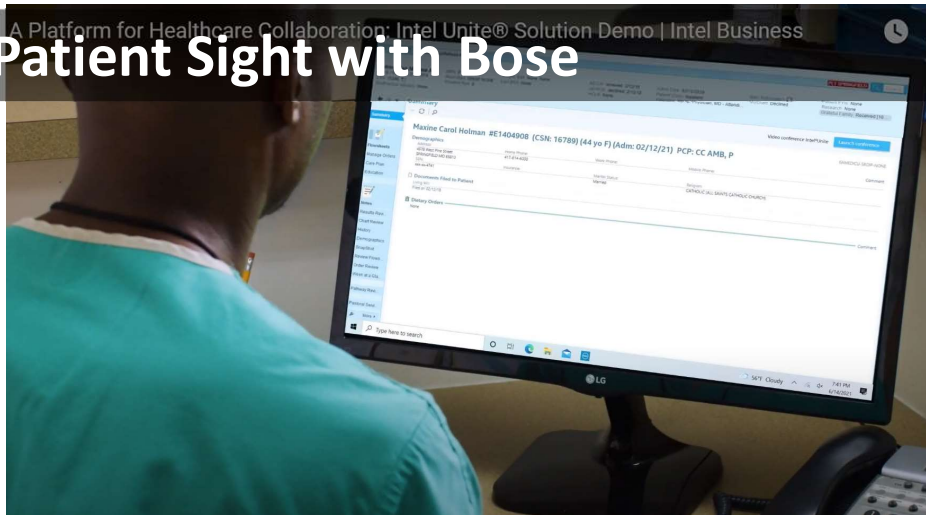


- ✓ Allowing Hospitals to manage covid -19 quarantine centers, minimized risked for doctors.
- ✓ Nurses will be more productive and quicker in their respond. Manpower management will be more efficient
- ✓ Visitors timing can be better manage as nurses can prompt extended time visitors of the due time to leave. This ripple effect will allow the patients to rest earlier and recover quicker
- ✓ On special request, overseas visitors can virtually visit their love ones remotely, especially on important moments whereby visitors are not allowed in the ward.



## A Platform for Healthcare Collaboration: Intel Unite® Solution Demo | Intel Business

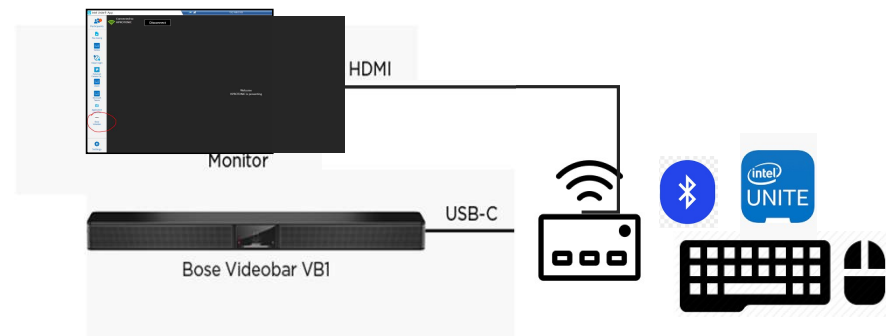
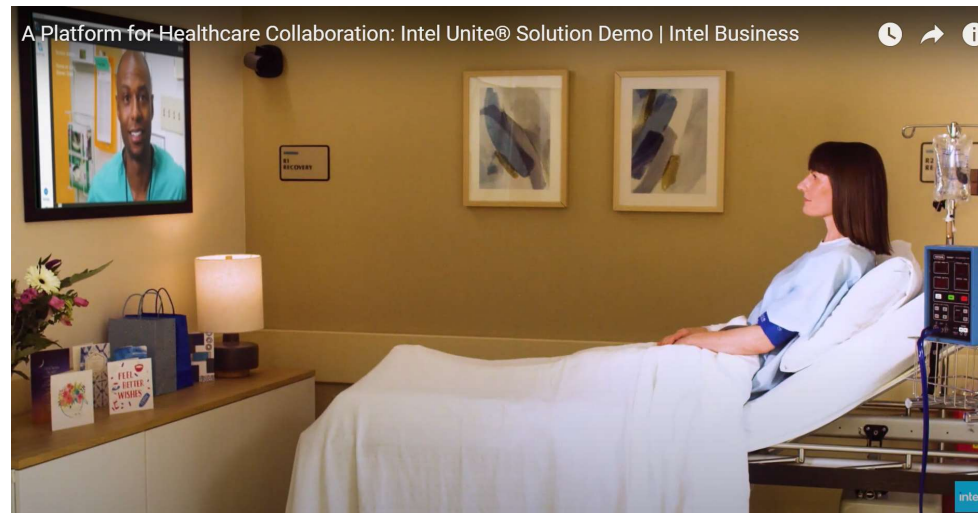
# Patient Sight with Bose



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Intel Unite Hub+ Bluetooth keyboard and Mouse

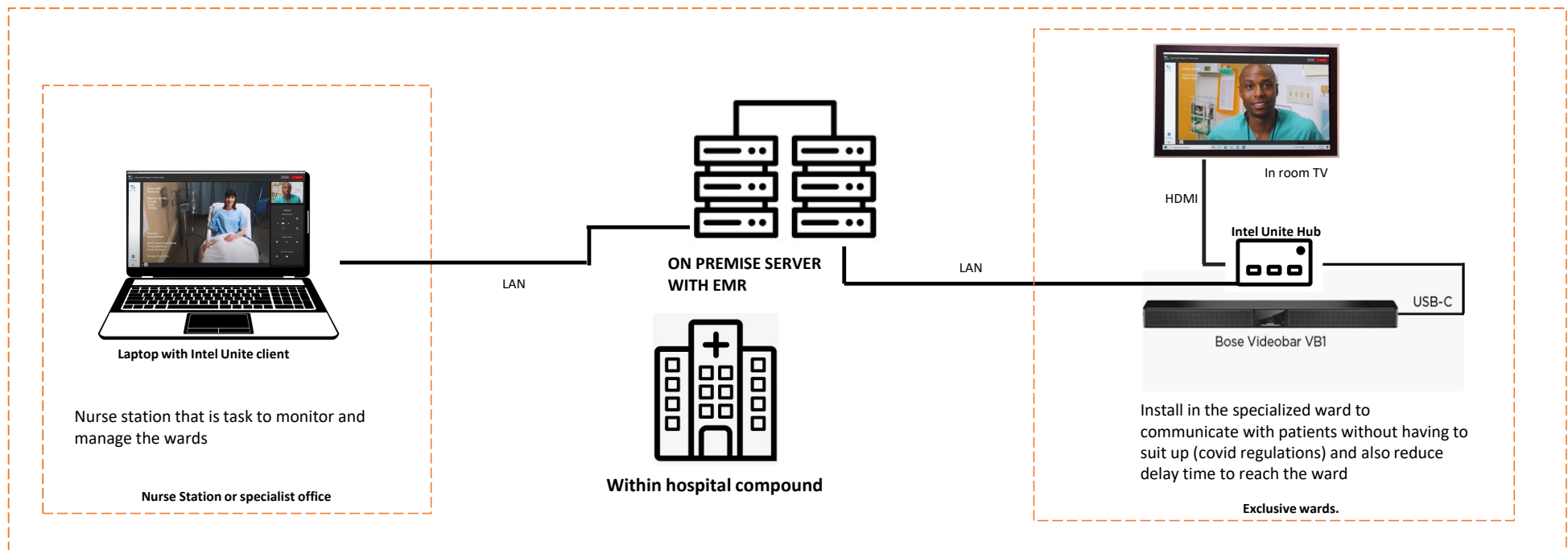
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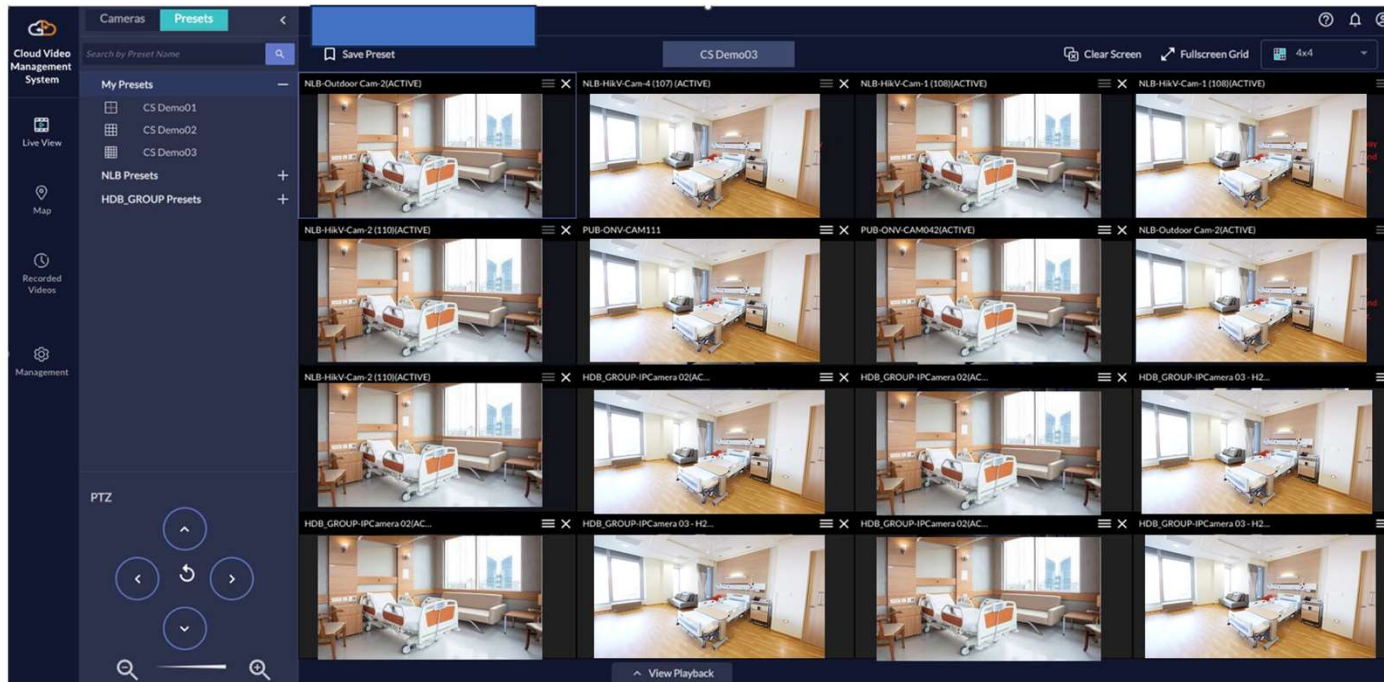


## THE CONCEPTS – (LOCAL)

3<sup>rd</sup> party developer+ Bose Pro Video bar



## How the UI works



The monitoring system monitors the rooms using the video bar.

When patient is wheeled in, The camera detect a patient, and to disable camera

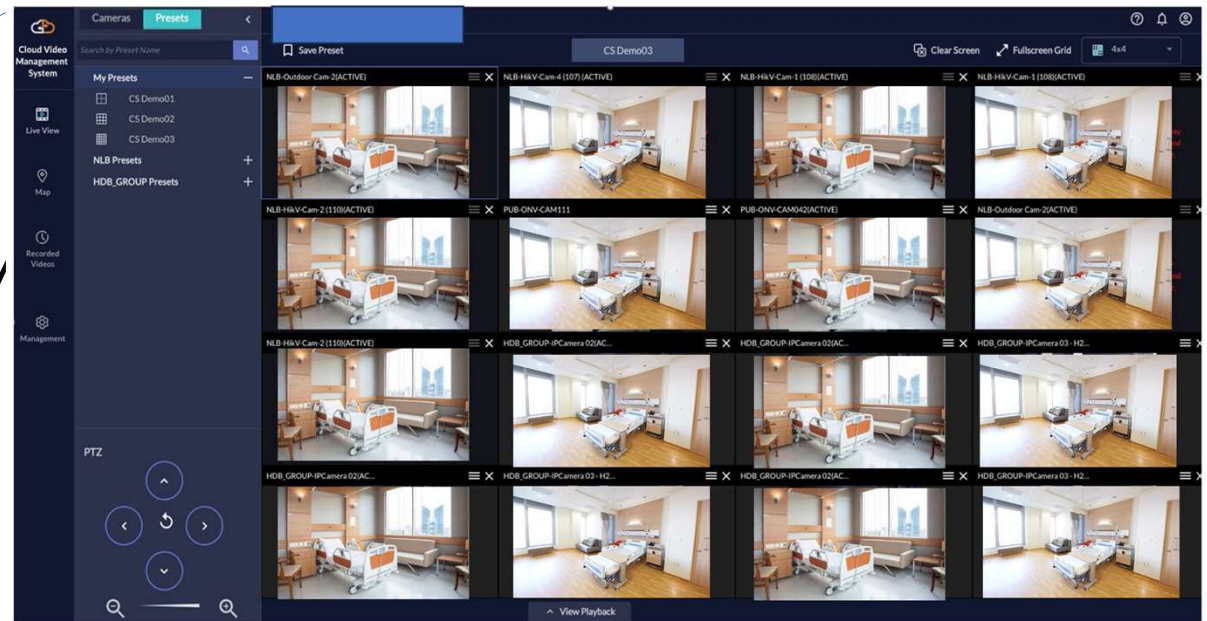
Nurse want to speak, click on the room itself.

## Nurse station

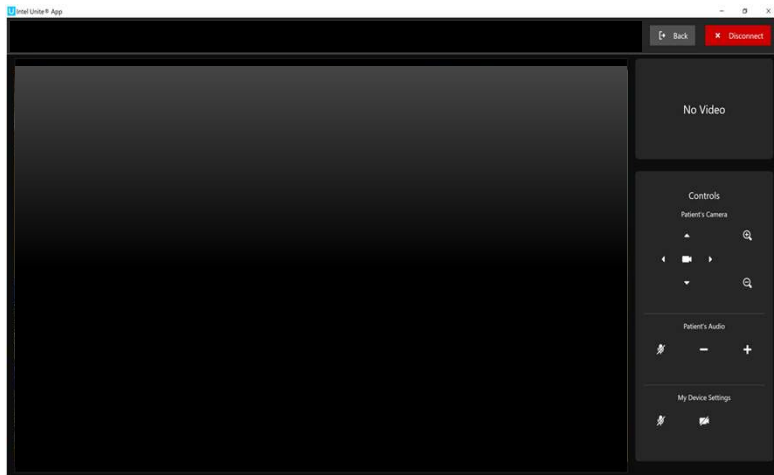


An app need to be develop for Windows OS. It has to have a user interface like above.

Then they click on room



## Nurse station

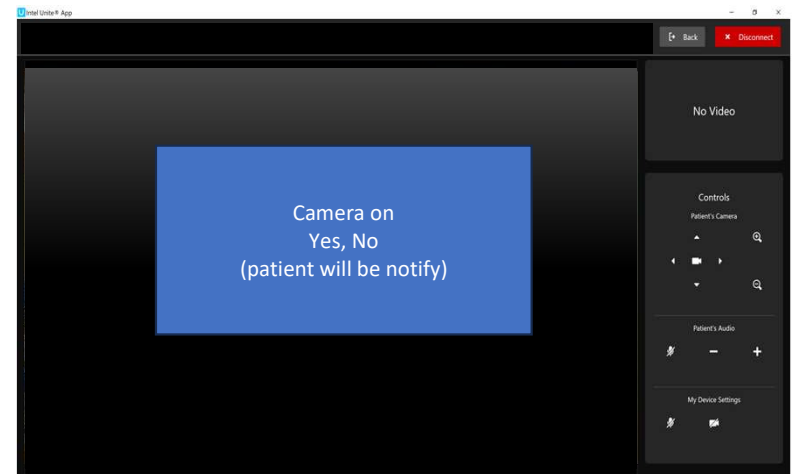


When click on the room with patient, video should be off and mic should be mute.

When nurse click on the video window, a pop up screen should appear

Once click yes, Camera on Led light will appear on the video bar.

An Led light on the TV mount in the room will light up to tell Camera is on. Led is control by 5v power and LED I red or green

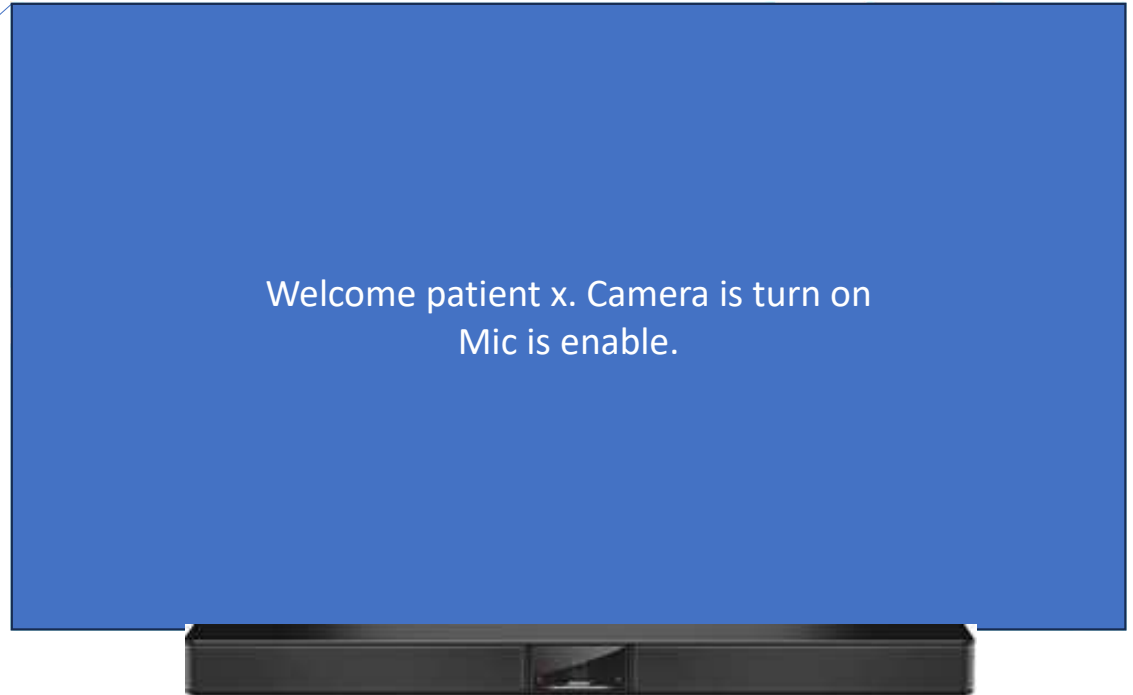


Patient in the ward/room



Once the nurse click, in the room will have this image appear.

Patient do not need to trigger anything



Patient in the ward/room



Once the doctor/nurse enable camera, the image will change to this

Patient do not need to fiddle with remote, adjust volume or even position the camera

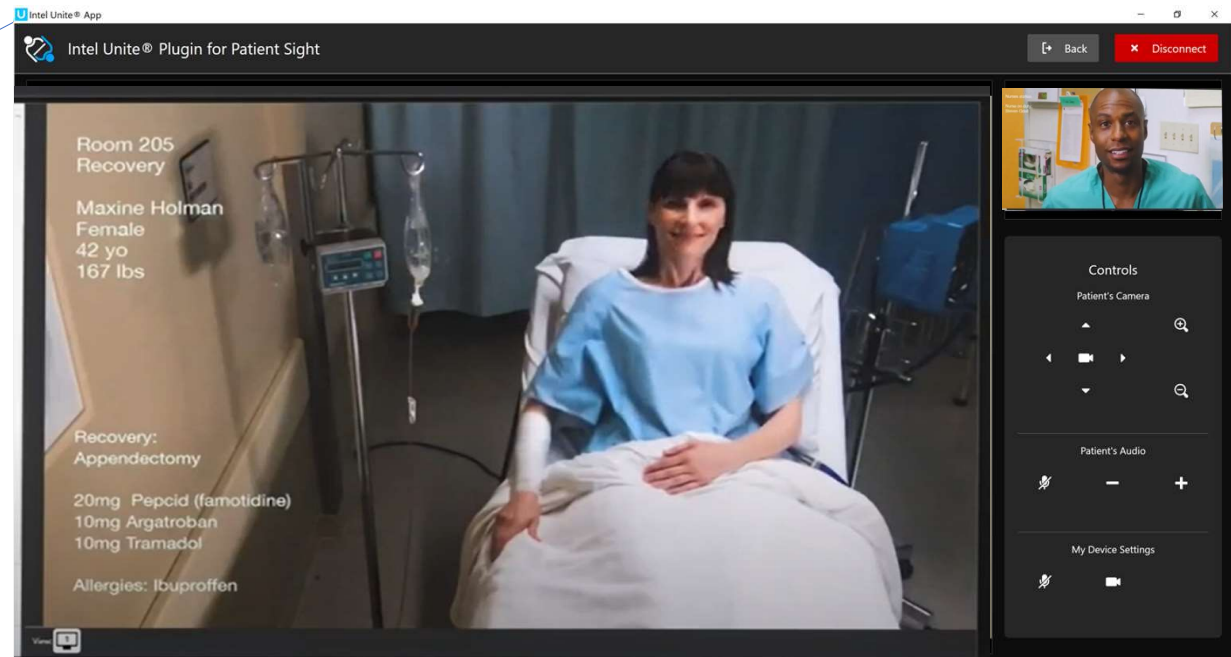


## Nurse station



Doctor/Nurse see patient as they turn on the patient camera. They can also turn on their laptop/desktop camera

They can now disable the room microphone to have a conversation with the patient





## Workflow

From here onwards Developer need to create the workflow for example. After camera turn on, Mic should be turn on for both

Nurse use VBS on mobile tripod and put on the table at the nurse station desk.

Patient data can be added at the side of the window so that the patient can see the information

More discussion needs to follow on what to add on for the hospital



Other opportunities in healthcare.

## Examples

🕒 3 min read ↩️ 5 Shares 💬 No comments ❤️

Silvia Santos | Jan 16, 2019



Would you trust a virtual doctor? Would you go to a doctor's office without seeing your regular doctor's face? Looks like the Chinese do. The leading online healthcare platform, Ping An Good Doctor (we know that is poor grammar!), has signed service contracts to bring nearly 1,000 units of its famous "one-minute clinics" to eight provinces. Soon, these little consultation booths without a human doctor will be everywhere.



The Las Vegas Convention Center will be the first convention center in the U.S. to offer customers onsite automated healthcare with the arrival of a groundbreaking hi-tech virtual health care station (*top picture above*) by the Florida-based OnMed®.

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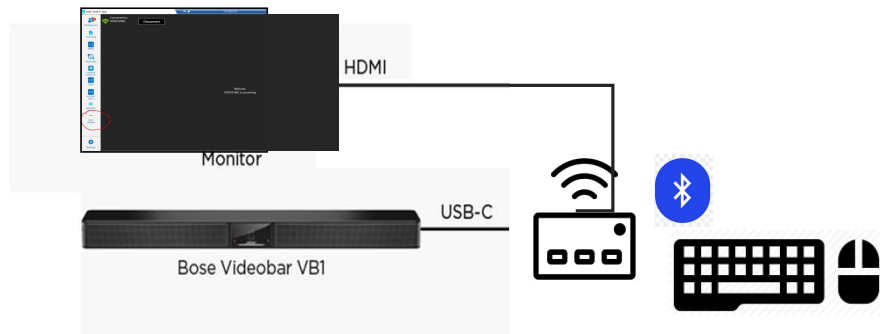




## Connectivity



3<sup>rd</sup> party App on Laptop



3<sup>rd</sup> party Hub+ Bluetooth keyboard and Mouse

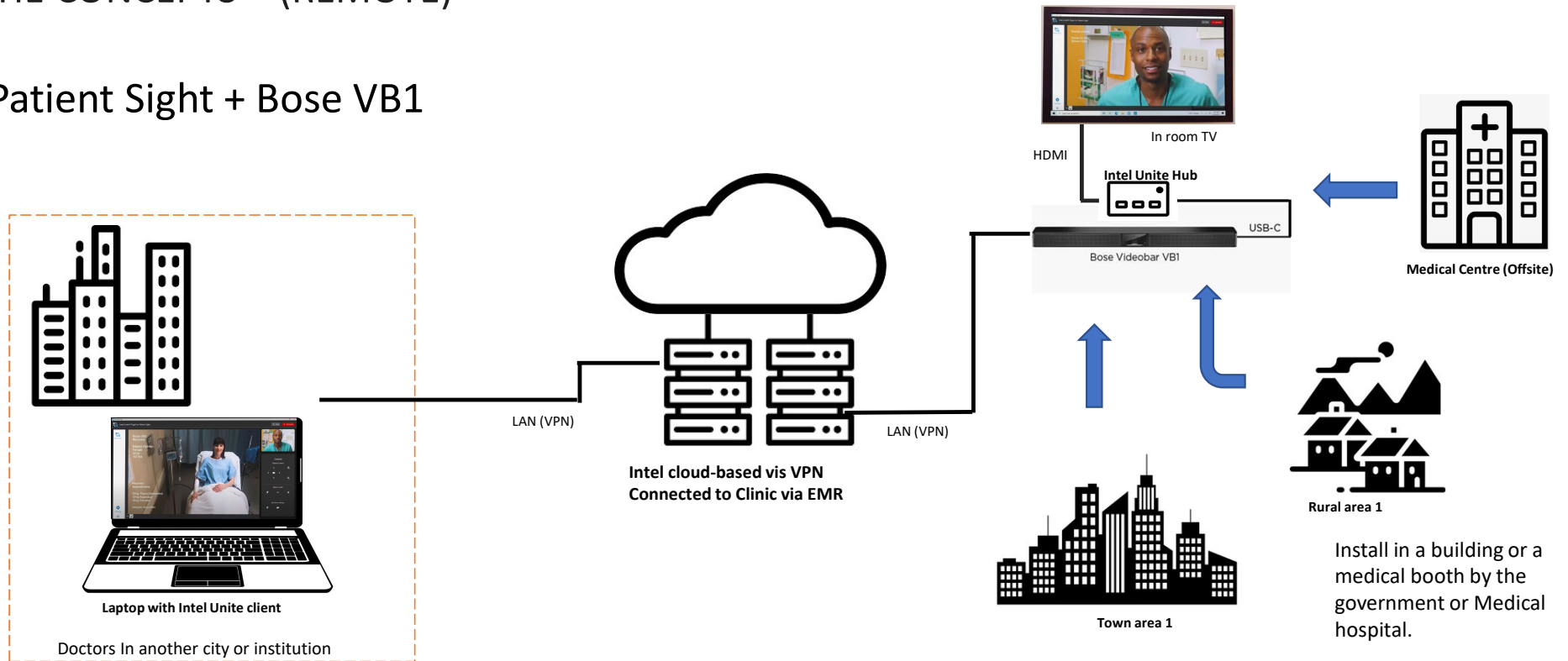
Telebooth

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## THE CONCEPTS – (REMOTE)

### Patient Sight + Bose VB1



## New televisiting facility caters to inmates' families



Senior Parliamentary Secretary for Home Affairs Amin Amin, flanked by Commissioner of Prisons Desmond Choo (left) and Industrial and Services Co-operative Society board chairman Daniel Tan, speaking to Singapore Prison Service Chief Faisal Mustafa (on screen) at Koy Hub's televisiting room. PHOTO: MOUSTHA, A SERVICES CO-OPERATIVE SOCIETY

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Announcement, visit / Inmates both in-person and virtual visits available now

Inmates both in-person and virtual visits available now



Due to better COVID-19 situations in Thailand, inmates visits are allowed both face to face and virtually. As of November 2021, suspension of visits is eased to promote inmates' wellbeing and relieve family's worries. While virtual visits are available in most prisons, in-person visits are allowed for inmates being detained in prisons not

- Other possibilities are available but it will be from the AI platform whoever it may be.
- Bose Pro will be willing to partner up with special pricing for project such as these.
- Bose Pro will be willing to loan demo sets to provide proof of concept.

End

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PROFESSIONAL