

# Rosary College of Commerce & Arts

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*Department of Computer Applications*

## BITS N BYTES

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### **Principal's message**

Digital Media has revolutionised the mode of communication and made difficult things easier and affordable. For instance Telemedicine and robotic surgeries are gaining popularity for being able to save lives in critical care emergency situations and difficult surgeries.

I am very happy that our students of BCA are bringing up this new issue of Bits N Bytes focused on Telemedicine. Through this electronic platform our students of Computer Applications can express their views and ideas in this emerging field that could benefit society at large.

I congratulate Asst. Prof Mildred Lemos, our student Vailankan Pereira and all who have contributed to Bits N Bytes.

I hope and wish Bits N Bytes will inspire and ignite many minds.

**Rev. Dr. Simão R. Diniz**

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## What is Telemedicine ?

- Asst. Prof. Mildred Lemos

*"Telemedicine is the ability to provide interactive healthcare utilizing modern technology and telecommunications."*

Telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status. Telemedicine includes a growing variety of applications and services using two-way video, email, smart phones, wireless tools and other forms of telecommunications technology.

Here's an example of how Telemedicine works everyday. Say you have a horrible sore throat and visit your healthcare provider who does an examination and is concerned with what he sees. Your provider recommends a referral to an ENT specialist for a follow up diagnosis and treatment plan. Well, instead of traveling to the nearest specialist, which depending where you live could be anywhere from a 45-minute drive to an 18-hour drive, your provider connects you directly to the ENT specialist via Telemedicine.

- The specialist actually hears your medical history and current condition directly from you and your provider instead of the specialist receiving a dictated note in the mail.
  - With the use of ENT medical peripherals such as a nasopharyngoscope, your provider can pass this medical peripheral into your nasal passage which will allow your provider and the ENT specialist simultaneous crystal clear video of your throat and vocal cords. The specialist may ask you to cough, pronounce letters, etc. in order to get the best outcome for the diagnosis.
  - The specialist can diagnose and recommend treatment immediately.
  - Your provider has the opportunity throughout the examination to ask questions and learn from each and every consultation. The continual education of your provider via medical consultations is an immeasurable benefit to all his patients.
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# Advantages and Disadvantages of Telemedicine

- Vailankan Pereira (SYBCA B)

## Advantages

- It saves lives in the emergency situations, while there is no time to take the patient at a hospital.
- *Telemedicine* can be applied in remote places or post-disaster situations to provide emergency healthcare. This system is useful for the patients residing in inaccessible areas or isolated regions.
- *Telemedicine* has facilitated patient monitoring through a computer or tablet or phone technology that has reduced outpatient visits. Now doctors can verify prescription or supervise drug oversight. This system also facilitates health education, as the primary level healthcare professionals can observe the working procedure of healthcare-experts in their respective fields and the experts can supervise the works of the novice.
- *Telemedicine* eliminates the possibility of transmitting infectious diseases between patients and healthcare professionals.

## Disadvantages

- The overall cost of telecommunication system, especially data management apparatus and practical training of medical professionals is very high.
  - Virtual clinical treatment decreases human interaction among the healthcare professionals and patients that increases the risk of error in clinical services, if the service is delivered by inexperienced professional. Moreover, confidential medical information can be leaked through faulty electronic system.
  - *Telemedicine* might take longer time for the difficulties in connecting virtual communication due to low internet speed or server problem.
  - Low quality of health informatics records, like, X-ray or other images, clinical progress reports, etc. run the risk of faulty clinical treatment.
  - *Telemedicine* system requires tough legal regulation to prevent unauthorized and illegal service providers in this sector.
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# **New Trends in Telehealth Technology**

-Asst. Prof. Ramakrishna Reddy

Healthcare trade shows and conferences showcase the latest developments in telehealth technology products and services. Telehealth and telemedicine are increasingly becoming a larger part of these trade shows and seminars, large and small. The following are a few of the most prominent emerging telehealth and telemedicine trends.

## **Patient-Centered Tools**

More and more vendors are focusing on home-based healthcare solutions that give patients more control over their own care. These tools and products can reduce costs and provide physicians with patient information more quickly and efficiently.

## **Health and Wellness**

Health and wellness programs, including diet and exercise routines and consultations with life and wellness coaches, are being implemented to improve post-discharge care. Keeping patients healthy after receiving procedures helps reduce complications and avoid costly readmissions.

## **Privacy and Security**

As more systems for sending and storing patient information are developed, the risk of losing that information or having it stolen rises. With such important data at stake, it is essential for medical networks to employ proper privacy and security measures for telehealth technology.

## **Mobile**

Smartphones, laptops, and tablets are being used in hospitals to allow doctors to sync to the facility's network and outside hospitals to enable patients to monitor vital signs and transmit this information to their physicians.

## **Cloud Technology**

With massive amounts of data needing to be stored, many facilities are looking to cloud storage solutions to store information without incurring excessive hardware costs.

## **Social Networking**

Facebook and other social networks are being recognized for their potential in helping people maintain healthier lifestyles. Keeping people accountable to family and friends can be much more effective than mandates from physicians. In the fast-growing telehealth and telemedicine

fields, new and valuable trends and telehealth technology solutions will continue to emerge and be adopted. Making use, or at least being aware of these trends will keep providers and practitioners competitive as the market advances.

