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Diploma in Pharmacy 2nd Year

Hospital & Clinical Pharmacy

Experiment

To study the uses of hospital pharmacy software and digital health tools

Aim:

To study the uses of hospital pharmacy software and digital health tools.

Reference :

‘ Dr. Gupta G.D. , Dr. Sharma Shailesh, Dr. Sharma Anshu, “Practical Manual of Hospital & Clinical Pharmacy” Published by Nirali Prakashan, Page no 61 – 64

Theory :

Healthcare Software

Healthcare software has become an integral part of pharmacy practice now due to the increased informational needs of the pharmacist, huge paper work required in the practice, need for efficiency, and availability of computer technology and large databases which provide the required support

In market, various software and technologies are present that can be used for supporting pharmaceutical care. These software and technology has been developed by combined efforts of professional pharmacy organisations, pharmacy leaders, software developers, and computer vendors.

Examples of Softwares

1. **Guardian Plus:** This software is a Windows-based system and marketed by Care Point. It supports the pharmacist in the

documentation and disease management initiatives. It is now combined with the dispensing software to provide more extensive patient care by using a single set of patient data

2. Electronic Health Record Software (EHR Software): This software is a computer programme that aids healthcare providers in managing patient medical records and computerise clinical procedures EHR systems permit providers to:

- i) Produce editable note-taking records to be used during patient interactions.
 - ii) Produce reports on the effectiveness of practices and their adherence to government regulations.
 - iii) Interact with staff and patients.
 - iv) Use telemedicine sessions to consult with patients far away and to electronically provide prescriptions for drugs
 - v) Synchronise data with invoicing and practice management systems
- Bayer's DCA 2000:** This software is used to check HgA, (haemoglobin Ac).

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4. Roche's CoaguCheck: This software is used to monitor prothrombin time INR (ie., blood clotting time).

5. CardioPharm: This is public interactive health promotion software. developed for customers visiting community pharmacies. It gives advice on the management of risks of cardiovascular disease, once the required details of the patients and their lifestyle is entered by the user.

6. Medical Billing Software: This software is used by the physician and medical offices to computerise the healthcare billing process, eg, extGen Healthcare

HER, Karco, Therapy Notes, WebPT, Amazon Comprehend Medical, TriZetto Facets, Practice Fusion, Care Voyant, ChiroTouch, athenaCollector.

Top 10 Medical Billing Softwares

- i) NextGen Healthcare HER
- ii) Kareo
- iii) Therapy Notes
- iv) WebPT
- v) Amazon Comprehend Medical
- vi) TriZetto Facets
- vii) Practice Fusion
- viii) CareVoyant
- ix) ChiroTouch
- x) athenaCollector

- 7. Hospital Management Software:** This software enables quick and accurate information collection. By providing the information by email and SMS, aids in the issuance of patient invoices, maintains stock levels, and minimises the use of paper, e.g., include Insta, Attune, MocDoc Hospital Management Software, etc
- 8. Electronic Prescribing (e-Prescribing):** This is the process of electronically creating and delivering a prescription order, allowing physicians and other healthcare providers to send an electronic prescription from healthcare setting to a pharmacy. Electronic prescription software is designed to be user-friendly, with features like prescribing several drugs in a single order and two-click prescription refills.
- 9. Medical Equipment Management Software:** This software is designed to alleviate hospitals from manual inventory control and equipment maintenance. It assists hospitals' efficient operation with

features including automatic inventory alert maintenance and scheduling of medical equipment, e.g., Sortly.

10. **Medical Research Software:** This software is employed for teaching medical professionals, assist in diagnosis patients having new clinical condition, and disseminating research among the healthcare community, e.g., PubMed.gov.
11. **Telemedicine Software:** This software enables medical professionals to schedule patient appointments online using a web browser or a mobile application.
12. **Therapeutic Drug Monitoring (TDM):** These programmes are used to calculate drug dosage to fit individual patients' needs, e.g., WinNONLIN and USC Pack.

Digital Health Tools

A wide, interdisciplinary idea, called digital health or digital healthcare. comprises insights from the point where technology and healthcare intersect. Software, technology, and services are all part of digital health, which integrates digitisation to the healthcare industry.

Digital health encompasses:

1. **mobile Health (mHealth):** mHealth is defined as medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices by the WHO and the Global Observatory for eHealth.
2. **Electronic Health Records (EHR):** It is an automated form of a patient's medical history that is maintained over time by healthcare provider. It includes the necessary administrative and clinical patient care data (demographics, progress notes, issues, medications, vital signs, past medical history, immunisations, laboratory information, and radiology reports).

3. **Telehealth:** In 2021, online video consultations with doctors are most popular. Using simply a computer and an internet connection, small medical teams or hospital caregiving teams can communicate with patients over a long distance.
4. **Telemedicine:** "Tele" is a Greek word meaning "distance "and "mederi" is a Latin word meaning "to heal". Telemedicine is the delivery and support of healthcare services over very long distances using electronic information and communication technology
5. **Clinical Apps:** Mobile applications are being used by more people than ever to seek healthcare, Consequently, doctors who use these platforms will gain from the expansion of their reach and visibility,
6. **Digital Health Tools:** Personal applications and other digital health tools enable patients to:
 - i) Store personal health information relevant to the consultation
 - ii) Use IoT devices and remote patient monitoring solutions to record vital signs.
 - iii) Determine caloric intake requirement.
 - iv) Set up appointments and medication reminders.
 - v) Record physical activity, including daily step count and calories burnt in the process.
7. **Personal Health Records (PHR):** Patients can access a PHR app at any time using any internet-connected device, including a phone or laptop. They can continue to have exclusive control over their most recent medical records. When it comes to online consultations, regular records help doctors make a more accurate assessment of the problem. E-prescriptions can also be prescribed using PHR based on the patient's circumstances
8. **Electronic Medical Records (EMRS):** Paper charts are being replaced by digital versions in hospitals, clinics, and doctor's offices. They are primarily utilised by providers for diagnosis and treatment

and contain notes and information that has been collected by and for the physicians in that office, clinic, or hospital.

9. **Remote Monitoring:** Remote monitoring represents the peak of healthcare communication tools. When it comes to online monitoring, tools for doctors that measure and communicate data like blood pressure, blood glucose, sleep tracking, posture, and heart rate are important. These digital health solutions make life even simpler for older people because entire process is automatic.
10. **Patient Portal:** Sending medical documents to a clinic or a doctor via email is not a very secure method of communication and due to this a patient portal is among the best tools for controlling healthcare risk. It helps the patient securely store sensitive medical data and enables them to interact with doctor or nurse as needed. If the patient requests a second opinion and gets permission, another physician of the same system may examine their records. The ability to see test results and recall earlier visits is another benefit of patient portals for consumers. And finally, individuals can ask for prescription refills as and when they are required to have quick access to the medications they require.
11. **Wearable Technology:** Wearable technology is electronic device that is designed to be worn on the user's body. These devices can be in many different forms, such as jewellery, accessories, medical gear, clothing, or clothing-related things.

Function and Goals of Digital Health

The goals of digital health goods and services are:

- 1) To increase the quality of treatment and service results
- 2) To enhance public health
- 3) To enhance patient comfort.

- 4) To enhance the experience of medical professionals and other non-medical providers
- 5) To reduce health inequalities

Benefits of Digital Health

- 1) Digital health offers the potential to improve patient monitoring and management of chronic illnesses while preventing disease and reducing healthcare expenses. Additionally, it can modify medications for certain individuals
- 2) Development of digital health can also help healthcare practitioners. Digital tools provide individuals more control over their health and greatly increased access to health data, giving healthcare practitioners a comprehensive perspective of patient health. As a consequence, productivity is raised and patient outcomes are enhanced.
- 3) According to the FDA website, from mobile medical apps and software that support the clinical decisions doctors make every day to Artificial Intelligence (AI) and machine learning, digital technology has been driving a revolution in health care. Digital health tools have the vast potential to improve our ability to accurately diagnose and treat disease and to enhance the delivery of health care for the individual.
- 4) Patients may now monitor their health in new ways and have easier access to information due to technology, like cell phones, social networks, and internet applications.

Result :

Use of hospital pharmacy software and digital health tools was studied.