



Shaukat Khanum Memorial Cancer Hospital & Research Centre

# Pharmacy Newsletter

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*Issued By:*

Drug Information Centre, SKMT

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## P&TC Updates:

Pharmacy & Therapeutics Committee (P&TC) has approved the following drugs during 2022 at SKMCH&RC:

1. **Apixaban Tablet** – as regular formulary item.
2. **Alectinib Capsules** – as regular formulary item (restricted by cost).
3. **Pegylated Filgrastim 6 mg Injection** – as a regular formulary item.
4. **Thiotepa Inj** - as a regular formulary item (2 patients per year)

### Drugs deleted from Formulary

1. **Ranitidine** (All dosage forms).

### Drugs Recalled

1. **Syp. Famotidine** (Specific brands) – Only applicable to the Lahore site as other sites did not procure recalled brands.



## World Patient Safety Day and Pharmacist

### Why Medicine safety?

Medication is prescribed to prevent or treat an illness. Yet, any person, who takes a medicine, at some point in their life, for former or latter, is at risk of serious harm if the medicine is incorrectly stored, prescribed, dispensed, administered, or monitored insufficiently.



17<sup>th</sup> of September is World Patient Safety

Day and is one of the World Health Organization (WHO)'s global public health days. This year, WHO is celebrating this day and has selected 'Medication Safety' as the theme, with the slogan 'Medication Without Harm'.

WHO calls for global solidarity and concerted action by all countries and international partners to improve patient safety. The aim is to bring together patients, families, caregivers, communities, health workers, healthcare leaders, and policy-makers to show their commitment to patient safety and medication safety.

### A need of the hour – The Pharmacist

In recent years Pakistan's health sector has witnessed multiple sentinel events jeopardizing patient safety. In 2012, the Punjab Institute of Cardiology in Lahore witnessed the deaths of 200 patients. WHO report blamed the Isotab tablet, saying that a 25kg drum of pyrimethamine had been mixed 'accidentally' into a batch of cardiac medicine during the manufacturing process.

The pharmacist is considered the custodian of medicines. Therefore, pharmacist can play an integral role in ensuring and improving patient safety through medication safety. A pharmacist can lead in health systems including hospital pharmacies and community pharmacies. Special emphasis should be focused on those medicines which bear a heightened risk of significant patient harm when used in error, which are also known as High-Alert Drugs. With respect to this, the Drug Regulatory Authority of Pakistan (DRAP) has approved guidelines on high alert medication management. If implemented nationwide, then medication errors and patient harm, from such medicines will be reduced.

### Pharmacist and Patient safety – The dependency we need

Within the health system, pharmacists can raise awareness of the high burden of medication-related harm due to medication errors and unsafe practices, and advocate urgent action to improve medication safety. Furthermore, pharmacists should engage healthcare professionals and patients, in the efforts to prevent medication errors and reduce medication-related harm.

Unfortunately, at this moment, there is a lack of awareness about medication safety and its significance. There is a strong need for establishing systems for reporting medication errors or risk assessment of potential medication errors, in existing health systems. Empowerment of the public in ensuring medication safety is also the key. The public should be educated by pharmacists about the safe use of medicine and improve medication literacy. Likewise, patients should be encouraged to use DRAP mobile phone app Med Safety, which allows the patient to focus on key points in the medication process to mitigate risk and report any adverse drug reactions.

Last but not the least, designating a national coordinator to spearhead the WHO Global Safety Challenge (Medication without harm), whereas, on the level of each individual health-system organization, a pharmacy officer should be assigned to raise awareness about medication risks and implement medication safety plan practices in every clinical service within the organization.

## Enterprise wide Accreditation – Another Feather in SKMT’s Cap

Joint Commission International (JCI) Enterprise survey was comprehensively conducted by international surveyors, at the Shaukat Khanum Memorial Cancer Hospitals and Research Centres. Our organization is the first in Pakistan and the only second in the world, to have attained such accreditation under “Enterprise Edition” of the JCI. This survey evaluated SKMCH&RC healthcare system functions with the ability to deliver consistent and coordinated high quality care across its different facilities in Lahore, Peshawar, and Karachi. The survey was also conducted regarding the high-alert medication and functions of pharmacy department. The surveyors were positive and appreciative of the safe medication practice services provided by the department of pharmacy in line with the guidelines of Institute for Safe Medication Practices (ISMP), in particular, specific interventions for ensuring safety of high-alert medication such as color coding of medication bins and separate-stacking plan, and implementation and deliverance of consistent and coordinated safe medication practices across our facilities in Lahore, Peshawar, and Karachi. As Pharmacists at SKMT, we aim to keep up the high levels of excellence in patient care, safety, and beyond that we have established in our work each and every day.

Previously, SKMCH&RC, Lahore, first achieved JCI accreditation in 2018 and re-accreditation in 2021, whereas, SKMCH&RC, Peshawar, was accredited in 2019. As a part of Enterprise addition, Shaukat Khanum’s ‘Karachi Diagnostic Centre and Clinic’ has now achieved its initial accreditation in September 2022. JCI Enterprise Accreditation confirms that all activities, from medication safety adhere to the same high standards and strict protocols across our organization. As a result of this accreditation, patients, irrespective of their financial status, can rest assured that they will receive the best care possible in accordance with international standards.



## World Patient Safety Day – Our take on it

The pharmacy department at SKMCH&RC celebrated world patient safety day with enthusiasm. The pharmacy staff was briefed regarding the objectives of the patient safety day. Everyone was reminded of the aspect that even as health care providers, we ourselves are prone to be at the receiving end of medication errors or risks associated with poor medical care.

The pharmacists along with the sincere efforts of volunteers prepared colorful props and interactive activities with patients and other healthcare professionals to help propagate the importance of this day.





## Upcoming Events

### SKCS 2022 – Oncology Pharmacy Virtual Session

The pharmacy department is actively participating in the 21st annual Shaukat Khanum Cancer Symposium, to be held from 4th - 6th November 2022. Presented here, is the scientific program for this year's oncology pharmacy session. Renowned international speakers will talk about new trends in clinical pharmacy practice for oncology care. Advanced pharmacy practices will be highlighted and significance of medication safety and leadership approach for maintaining its international standards in oncology pharmacy practice, will be discussed.

11:20 – 13:20 Oncology Pharmacy		Date : 06-10-2022
<i>Chair:</i>	<i>Dr. Muhammad Tahir Aziz</i>	<i>Chief Operating Officer SKMCH, Lahore</i>
<i>Co-Chair:</i>	<i>Omar Akhlaq Bhutta</i>	<i>Associate Director Pharmacy SKMCH</i>
<b>Enhancing Medication Safety in Oncology Pharmacy; International Standards Insights</b>		
11:20	Overview of Oncological Pharmacy	
	<i>Omar Akhlaq Bhutta – Associate Director Pharmacy – SKMCH &amp; RC, Lahore, Pakistan</i>	
11:25	Role of Clinical Pharmacists In Oncology Clinics	
	<i>Ghulam Mustafa- Pharmacist Hematology/Oncology – Sheikh Shakhbout Medical City– Abu Dhabi - UAE</i>	
11:50	Strengthening Medication Safety Standards with ASHP Residency Training in Khyber Pakhtunkhwa, Pakistan	
	<i>Sajjad Ullah – Senior Clinical Pharmacist – SKMCH &amp; RC, Peshawar, Pakistan</i>	
12:15	Pharmacist Roles & Current Practices in Oncology Pharmacy Services in Pakistan	
	<i>Ehsan Elahi – Assistant Manager Pharmacy, Preceptor Adult Oncology – SKMCH &amp; RC, Lahore, Pakistan</i>	
12:40	Contemporary Role of Pharmacist in Developing State-Of-the-Art Clean Room in Oncology Care Settings	
	<i>Shoab Shammis – Assistant Manager Pharmacy, Preceptor Aseptic Services – SKMCH &amp; RC, Lahore, Pakistan</i>	
13:05	<i>Question Answer and Closing Session</i>	

### Pink October – Time for Breast Cancer Awareness

Breast cancer is the most common cancer in women around the world and it is still a leading cause of cancer-related deaths in women worldwide. It is also the most common cancer seen at Shaukat Khanum Memorial Trust in Pakistan.

The causes of breast cancer are not known with certainty and research into this continues. Early detection of breast

cancer is the best protection for now and you can play your part in spreading this life-saving message.



## ICU Clinical Pharmacist improves medication safety at the transition of care

Medication safety in the transition of care of patients is the key priority area in the third WHO global patient safety challenge – ‘medication without harm’. Bourne *et al*, have published a systematic review and meta-analysis was aiming at examining the impact of medication-related interventions on medication and patient outcomes in transition from the adult ICU setting.



It was also focused on identifying the barriers and facilitators during the intervention implementation. The initial extracted literature included 3153 references and after the screening, 17 studies were found eligible for final assessment. 5 of the studies showed that pharmacist-led medication review assisted in de-prescribing of stress ulcer prophylaxis (SUP) or use of antipsychotics or bronchodilators. The facilitators identified in the studies include ICU clinical pharmacist availability among health care professionals. In terms of tasks, it included pharmacist participation in the ICU multidisciplinary ward round, education of health care staff with a focus on care transition, and a structured approach to medicines reconciliation. Other strategies include handover and communication within the electronic information or on manual charts.

Medication review by the ICU clinical pharmacist at the transition of care at transfer was very effective in reducing clinically significant drug-related problems and medication reconciliation at the transition of care reduced medication errors and adverse drug effects. 2 studies focused on the cost avoidance of reducing inappropriate continuation of SUP. A study by Bosma *et al*, calculated the cost-benefit of the pharmacist-led medicines reconciliation programme. They reported a positive cost-benefit ratio of 2.48, indicating a potential net cost–benefit of 2018 €103 per patient based on intervention costs and ADEs prevented.

The limitation of the study involved a wider de-prescribing assessment of opioid analgesia. This systematic review and meta-analysis newly identified that interventions targeting to decrease inappropriate medication continuation on patient ICU discharge improved de-prescribing effectiveness, though, such edge did not portray benefits in patient outcomes, yet, medication optimization improved patient mortality at 90 days. Bourne *et al*, have highlighted the need to improve the quality and design of future prospective randomized interventions in medication safety and patient outcomes at the transition of care.

*Ref: Bourne RS, Jennings JK, Panagioti M, Hodkinson A, Sutton A, Ashcroft DM. Medication-related interventions to improve medication safety and patient outcomes on transition from adult intensive care settings: a systematic review and meta-analysis. BMJ Qual Saf. 2022 Aug;31(8):609-622. doi: 10.1136/bmjqs-2021-013760*

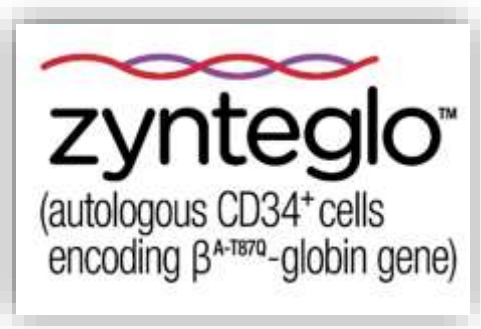
## New Gene Therapy Approvals: Price for a life

A crucial milestone was set in the field of gene therapy and rare genetic diseases when the U.S. Food and Drug Administration (FDA), on Aug 17 2022 approved the gene therapy named ZYNTGLO for patients with beta-thalassemia and shortly after, SKYSONA for early active cerebral adrenoleukodystrophy (CALD), on Sept 16 2022, manufactured by Bluebird bio and priced at a record \$2.8



million and \$3 million, respectively, making them the most expensive drugs on the market. Prior to bluebird's approvals, there were only two FDA-approved gene therapies for inherited conditions on the market namely Spark Therapeutics' Luxturna, indicated for inherited retinal disease (IRD), with a price tag of \$850,000 for each eye. The second gene therapy was Novartis' Zolgensma was approved for spinal muscular atrophy (SMA) at a hefty price of \$2.1m.

Zynteglo (betibeglogene autotemcel) is a one-time bespoke treatment for  $\beta$ -Thalassaemia which is a severe congenital haemoglobinopathy and its therapeutic effect is expected to be life-long.



$\beta$ -Thalassaemia is caused by mutations in the HBB gene that encodes  $\beta$ -globin, resulting in reduced or absent production of functional adult hemoglobin (HbA). It forces the patients to undergo lifelong red blood cell transfusions costing them around an average \$6.4 million

over a lifespan. Zynteglo dose contains  $5 \times 10^6$  CD34+ cells/kg (Locatelli 2022) enriched erythropoietic stem cells (HSCs), transduced with a lentiviral vector is created by genetically modifying a patient's own bone marrow stem cells. Across two clinical studies looking at adults and kids with transfusion-dependent beta-thalassemia, 89% of the 41 patients on Zynteglo achieved transfusion independence, the FDA said. Most commonly reported adverse effects were system organ class (SOC) infections and infestations (n=17), followed by blood and lymphatic system disorders (n=9) and hepatobiliary disorders.

Skysona (elivaldogene autotemcel), is indicated to slow the progression of neurologic dysfunction in boys 4-17 years of age with early, active cerebral adrenoleukodystrophy (CALD).



CALD is a rare, progressive, neurodegenerative disease that primarily affects young boys and causes irreversible, devastating neurologic decline, including major functional disabilities. Nearly half of patients who do not receive treatment die within five years of symptom onset. The disorder

is caused by mutations in the *ABCD1* gene that affect the production of adrenoleukodystrophy protein (ALDP) and subsequently leads to the accumulation of very long-chain fatty acids (VLCFAs). This accumulation leads to the breakdown of myelin, the protective sheath that nerve cells need to



function effectively. Elivaldogene autotemcel dose is  $5 \times 10^6$  CD34+ cells/kg, administered as a one-time gene therapy designed to add functional copies of the ABCD1 gene into a patient's own hematopoietic stem cells, resulting in the production of ALDP. The approval of SKYSONA is based on data from bluebird bio's Phase 2/3 study ALD-102 (Starbeam) (N=32) and Phase 3 ALD-104 (N=35) study with 67 patients enrolled. Skysona treated patients had an estimated 72 per cent likelihood of Major Functional Disabilities (MFDs) -free survival at 24 months. The most common non-laboratory adverse reactions (incidence  $\geq 20\%$ ) are mucositis, nausea, vomiting, febrile neutropenia, alopecia, decreased appetite, abdominal pain, constipation, pyrexia, diarrhoea, headache, rash and a Boxed Warning for Hematologic Malignancy including myelodysplastic syndrome.

Bluebird now holds the hefty task of owning the two most expensive drugs in the world and faces an even greater challenge of selling them. After all, can you put a price tag on life and if so how much will one be willing to pay?

Ref: Ema. (n.d.). Medicines. European Medicines Agency. Retrieved October 5, 2022, from <https://www.ema.europa.eu/en/medicines>, ZYNTEGLO® (betibeglogeneautotemcel) | Now FDA Approved. (n.d.). [www.zynteglo.com](https://www.zynteglo.com). Retrieved October 5, 2022, from <https://www.zynteglo.com/>, Bluebird bio Receives FDA Accelerated Approval for SKYSONA® Gene Therapy for Early, Active Cerebral Adrenoleukodystrophy (CALD). (2022, September 17). [www.businesswire.com](https://www.businesswire.com)

## IMSN Global Targeted Medication Safety Best Practices

**Purpose:** To establish effective medication risk-reduction strategies everywhere around the world.

**Goal:** To redesign the medication management process to avoid errors reaching to patients.

There are many specific medication safety issues that have a huge potential of causing fatal and harmful events. These deadly events have following characteristics:

- ✚ Potential of recurring among different patients.
- ✚ Having easy and clear identification, recognition and definition of causes.
- ✚ Avoidable by different means like organizational barriers.



The possibility of preventing the deadly events includes the adaptation of Risk Reduction Strategies which many facilities called as 'Never events' which is basically a clear call-to-action. So for this call-to-action, the International Medication Safety Network (IMSN) has identified three risk-reduction strategies, herein called the Global Targeted Medication Safety Best Practices. The first three IMSN Global Targeted Medication Safety Best Practices are:

**Best Practice 1:** Remove potassium concentrate injection from drug storage areas on all inpatient nursing units/wards.

**Best Practice 2:** Prepare and dispense vinca alkaloids in a minibag, never in a syringe.

**Best Practice 3:** Prevent inadvertent daily dosing of oral methotrexate for non-oncologic conditions.

These Global Targeted Medication Safety Best Practices have been reviewed and endorsed by experts from IMSN, an association of medication safety organizations, pharmacovigilance centers, regulatory agencies, and medication safety experts. They have already been successfully adopted by numerous organizations.

Ref: The Canadian Patient Safety Institute (CPSI). Never events for hospital care in Canada—safer care for patients. September 2015. [www.ismp.org/ext/219](http://www.ismp.org/ext/219), Cohen MR, Smetzer JL, Tuohy NR, Kilo CM. High-alert medications: safeguarding against errors. In: Cohen MR, ed. Medication Errors. 2nd ed. Washington, DC: American Pharmaceutical Association; 2007;317-411., ISMP. 2018-2019 Targeted Medication Safety Best Practices for Hospitals. [www.ismp.org/node/160](http://www.ismp.org/node/160)

## Monkey Pox: Platinum Trial of Tecovirimat

A platinum trial has been announced by the lead researchers of the covid-19 recovery trial. This trial involves an antiviral called Tecovirimat.

Tecovirimat inhibits the activity of the orthopoxvirus VP37 protein and blocks its interaction with cellular Rab9 GTPase and TIP47, preventing the



formation of egress-competent enveloped virions (necessary for the dissemination of virus) to aid monkeypox recovery. Its open labeled 2 arm parallel group individually randomized control trial in non-hospitalized monkeypox patients. This trial will recruit at least 500 participants from around the UK. The participants will receive either a 14-day course of 600 mg tecovirimat twice daily or a matched placebo treatment.

The Platinum trial is being led by Peter Horby, professor of emerging infections and global health at the University of Oxford, and Martin Landray, professor of medicine and epidemiology at Oxford Population Health. The major adverse drug reactions (ADRs) associated with Tecovirimat injection are pain at the injection site and headache with oral tablets as well, while less frequent ADRs are nausea, diarrhea, pruritus, back pain, arthritis, and myalgia.

This trial shall help in answering the question of the medication speeds up the healing of skin and mucosal lesions, shortens the time it takes for throat and lesion swabs to come back negative for the monkeypox virus, and decreases the number of patients who need to be admitted to the hospital.

Ref: *bmj.com News briefing—Monkeypox: what we know about the 2022 outbreak so far (BMJ 2022;378:o2058, doi:10.1136/bmj.o2058*

## Dying hopes regarding the success of Cefiderocol against Multidrug Resistant (MDR) gram-negative organisms in our population.

Cefiderocol is a promising novel siderophore cephalosporin for the treatment of multidrug-resistant Gram-negative bacilli and with stability against degradation by Metallo- $\beta$ -lactamases. The higher prevalence of resistance in Enterobacteriaceae, specifically of New-Delhi Metallo -Beta lactamases (NDM) has projected it as an ideal antibiotic to treat infections caused by MDR organisms. Being a cephalosporin it's more effective and safer than colistin and aminoglycosides for treating complicated infections in critically ill patients.

But unfortunately, some studies show the development of resistance in Enterobacter and Klebsiella species due to mutation in CirA1 to CirA198 which leads up to a 4-time increase in MICs for Cefiderocol. It was found that this phenomenon was higher in NDM-producing species. That's quite concerning, and we may find it less effective to treat MDR-related infections in our population.

Ref: Nurjadi, Dennis, et al. "New Delhi metallo-beta-lactamase facilitates the emergence of cefiderocol resistance in Enterobacter cloacae." *Antimicrobial agents and chemotherapy* 66.2 (2022): e02011-21. Lan, Peng, et al. "Catecholate siderophore receptor CirA impacts cefiderocol susceptibility in Klebsiella pneumoniae." *International Journal of Antimicrobial Agents* (2022): 106646.

## ISMP published three new guidelines this year

Institute for Safe Medication Practices has published 3 of the following guidelines in 2022-2023:

- Targeted Medication Safety Best Practices for Hospitals
- Guidelines for Sterile Compounding and the Safe Use of Sterile Compounding Technology
- Guidelines for Safe Medication Use in Perioperative and Procedural Settings



The Best Practices for Hospital guideline was revised this year, while, initially the first version was published in 2014 with a total of 6 Best Practices. This guideline is updated every 2 years and the currently published guideline (2022-2023) contains 19 Best Practices. Among them, 3 new Best practices have been introduced:

- Safeguard against errors with oxytocin use.
- Maximize the use of barcode verification prior to medication and vaccine administration by expanding use beyond inpatient care areas.
- Layer numerous strategies throughout the medication-use process to improve safety with high-alert medications.

The guideline for sterile compounding and the safe use of sterile compounding technology is a first! It was a result of a summit convened by ISMP, which resulted in the creation of new guidelines. The purpose of these guidelines mirrors the essentials for sterile preparation compounding, addressing the emergent complexity and availability of the use of technology. This is a result of concerns that remain unaddressed for years, related to safe compounding practices and the expansion of technology.

The ISMP Guidelines for Safe Medication Use in Perioperative and Procedural Settings have also been published for the first time. These guidelines address best practices associated with labelling and storage of medications across all phases of perioperative care. They also cover key elements including drug labelling/packaging, drug standardization, and medication delivery device acquisition, use, and monitoring. The purpose is to address the common practices that limit the protections offered by proven safety technologies, including smart infusion pumps. This guideline supports the use of barcode scanning for real-time drug identification and electronic record documentation throughout perioperative and procedural care.

The department of Pharmacy at the Shaukat Khanum Memorial Trust, frequently reviews ISMP guidelines, to update its existing processes, where applicable. Complete version of these guidelines can be reviewed on the ISMP website for free.

*Ref: Targeted Medication Safety Best Practices for Hospitals [Internet]. Institute For Safe Medication Practices. 2022 [cited 22 September 2022]. Available from: <https://www.ismp.org/guidelines/best-practices-hospitals>, Guidelines for Sterile Compounding and the Safe Use of Sterile Compounding Technology [Internet]. Institute For Safe Medication Practices. 2022 [cited 22 September 2022]. Available from: <https://www.ismp.org/resources/guidelines-sterile-compounding-and-safe-use-sterile-compounding-technology>, Guidelines for Safe Medication Use in Perioperative and Procedural Settings [Internet]. Institute For Safe Medication Practices. 2022 [cited 22 September 2022]. Available from: <https://www.ismp.org/resources/guidelines-safe-medication-use-perioperative-and-procedural-settings>*

## Updates – MMU (Procurement and Management of Medications)

As per hospital procedure on 'Procurement and Management of Medications', medication which is not registered/ not available, out of stock in the market/ newly approved medicines/ cannot be obtained through normal ordering channels, can be imported on patient need basis. An import request will be submitted by the prescribing authority to pharmacy and after a formal review, pharmacy forwards the request to material management department (MMD) to finalize the order. In case of import request for indigent patients a prior approval shall be required for non-formulary or restricted medicine, from the Medical Director (MD). The usual time for import of medicine is 6-8 weeks. Prescribers can liaison with the pharmacy for expediting import of medicine for their patients.



## Certificate of Achievement – Antibiotic Stewardship & Surgical Site Infections



Adeel Siddiqui  
Clinical Pharmacist



Continuing professional development is essential in this day and age. At Shaukat Khanum Memorial Trust, Pharmacists are encouraged to pursue credentials and certifications, which helps them improve skill set and contribute to on-going patient care. Mr. Adeel Siddiqui, Clinical Pharmacist & ASHP IPPR Preceptor for Surgical Services, at Shaukat Khanum Memorial Cancer Hospital & Research Centre, Lahore, has completed the online certification courses on Antibiotic Stewardship offered by Stanford Online on Coursera platform (<https://www.coursera.org/account/accomplishments/certificate/84A3ZWAT7BFV>) and Surgical Site Infections offered by World Health Organisation on OpenWHO platform (<https://openwho.org/verify/xufak-fucoz-zesoz-nobaf-ribap>).

Links to these courses are available online:

- Antibiotic Stewardship. Coursera. 2022. Available from: <https://www.coursera.org/learn/antibiotic-stewardship>
- Surgical site infections. OpenWHO. 2022. Available from: <https://openwho.org/courses/IPC-SSI-EN>

## Emergency Preparedness: Be Ready for Unanticipated Electronic Health Record (EHR) Downtime

Unplanned EHR downtime events can be caused by power failures, software failures, or wireless connectivity issues. Some events may involve extreme weather conditions and outdated building infrastructure. It could result in delayed patient care and heighten the risk of medication-related adverse events. A lack of downtime planning and training, resulting in delayed medication ordering, dispensing, and administration has been cited as contributing factors to these harmful medication errors.



For accredited hospitals, TJC standards outline a process for managing EHR downtime. Consider the following recommendations in regard to safe medication use:

- Assess the risk through FMEA
- Select a response team,
- Identify leaders,
- Establish a communication triage procedure,
- Develop an emergency readiness binder

The unanticipated EHR downtime policies and procedures (and emergency binder) should be reviewed at least annually and updated as needed based on changes in protocols, available literature, and feedback from staff during practice drills.

*Ref: The Joint Commission. Edition (web-based access to Comprehensive Accreditation Manuals). 2022, Sittig DF, Gonzalez D, Singh H. Contingency planning for electronic health record-based care continuity: a survey of recommended practices. Int J Med Inform. 2014;83(11):797-804.*

## Sharing is Caring- Presentations, Webinars, Conferences & Publications

The pharmacy department, as per tradition, has participated in various events and continued on this trajectory, in the 3<sup>rd</sup> quarter of 2022.

### 1. World Pharmacist Day – Celebrations at Indus Hospital, Lahore

The pharmacy department of Indus Hospital & Health Network, Lahore celebrated World Pharmacist Day by arranging public awareness activities and a Medication Management Seminar.

Dr. Ayaz Ali Khan, Former Chief Drug Controller of Punjab, Former President, Pakistan Pharmaceuticals Association, and Dean of School of Pharmacy, University of Management & Technology spoke at the seminar. Dr. Abdul Wahab, Deputy Manager, Pharmacy, Shaukat Khanum Memorial Hospital, Peshawar, and Mr. Omar Akhlaq Bhutta, Associate Director of Pharmacy, SKMT was invited as subject expert and panellist. Various topics related to the implementable roles of pharmacists were discussed.



