COVID-19 Pandemic Helped Develop Positive Impact of Pharmacists in a Tertiary Care Government Hospital in Pakistan

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Pharmacists have played an active role in the recent pandemic of coronavirus disease 2019 (COVID-19), especially in countries where pharmacy practice is well established. Lady Reading Hospital (LRH), a 1770-bed tertiary care government hospital, is one of the largest hospitals in the province of Khyber Pakhtunkhwa of Pakistan. The hospital has been responsible for treating moderate and severe COVID-19 cases and has dedicated a 250-bed COVID-19 unit and a 15-bed intensive care unit (ICU), respectively, to these efforts.

LRH’s Department of Pharmacy Services has been established for the past 2 decades but, before COVID-19, services offered were limited to the procurement and dispensing of medicines. The emergence of COVID-19 raised many supply chain concerns regarding medications such as unavailability and high cost. In addition, the pandemic led to the realization of the need for pharmacists in the clinical setting.

Two pharmacists became involved in direct patient care, one in the ICU and one in the COVID-19 unit, and all inpatient pharmacists were trained to review all medication orders. Pharmacists delivered pharmaceutical care services to patients with COVID-19, which included reviewing patient profiles with respect to drug dose and renal dose adjustment. The two pharmacists who delivered direct patient care services were involved in medical rounds in the ICU and COVID-19 unit. In addition, one of the pharmacists was involved in an online multidisciplinary medical team of specialists representing nephrology, internal medicine, and pulmonary services of national and international hospitals. Pharmacists made new COVID-19-related interventions. Table 1 provides a summary of pharmacist interventions between May and July 2020.

Table 1. Details of Pharmacists’ Interventions and Engagement with Physicians, May – July 2020

<table>
<thead>
<tr>
<th>Drug-Related Concerns</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duplication pattern</td>
<td>15</td>
</tr>
<tr>
<td>Drug-drug interaction</td>
<td>1</td>
</tr>
<tr>
<td>Dose adjustment</td>
<td>68</td>
</tr>
<tr>
<td>Drug therapy</td>
<td>44</td>
</tr>
<tr>
<td>Interval adjustment</td>
<td>81</td>
</tr>
<tr>
<td>Incomplete prescription</td>
<td>2</td>
</tr>
<tr>
<td>Grand Total</td>
<td>211</td>
</tr>
</tbody>
</table>

Multidisciplinary rounds at LRH's COVID-19 unit.
new activity helped ensure the rational use of antibiotic and anticoagulant therapies (Figure 1). Furthermore, a multidisciplinary committee was developed on the suggestion of pharmacy services that included members representing the ICU and the Internal Medicine, Pulmonology, and Quality Assurance departments to establish clinical guidelines. The committee issued three editions of treatment guidelines for COVID-19. Pharmacists have played a vital role in enforcing these guidelines and have discouraged any unnecessary medication use. Another major role of pharmacists has been ensuring rational use of COVID-19 medications that are limited in supply or associated with serious adverse effects (e.g., tocilizumab).

Because of the activities undertaken by pharmacists during the pandemic, there has been a sudden surge toward including them in clinical rounds. Indeed, the pharmacy department has received requests for pharmacists to be involved in medical rounds from the acute medical ward and all ICU units. Because of limited staff pharmacists, only two pharmacists are currently taking part in clinical rounds in the general ICU and acute medical units. However, further discussions are under way with the Pediatric Department for standardization of doses and clinical rounds.

Pharmacists’ involvement in clinical units and their acceptance by physicians has been difficult to achieve, especially in the oldest and largest tertiary care government hospital in Pakistan. Under normal circumstances, the same process would have taken years. But the COVID-19 pandemic has provided an opportunity for pharmacists to express their worth. LRH pharmacists have been alongside patients’ beds taking the same risk as other health professionals.

![Figure 1. Pharmacist interventions by drug class, May – July 2020.](image)

“Precision Health and Leadership in a Pandemic: A Perspective from Stanford Medicine” was the keynote presentation at the 2020 ACCP Annual Meeting, which was held virtually between October 19 and 30, 2020. The speaker, Lloyd B. Minor, M.D., Carl and Elizabeth Naumann Dean of the Stanford University School of Medicine, outlined the vision for precision health, which involves precise prediction, prevention, and cure of diseases. Minor explained that the vision draws upon the enablers of precision medicine but endeavors to make health care more proactive.

In Discovering Precision Health: Predict, Prevent, and Cure to Advance Health and Well-Being, Minor and Matthew Rees describe how precision health strives for a more holistic approach to health care. The authors define the key principles of precision health to include the following:

- Predictive and preventive
- Personalized and precise
- Patient-centered
- Participatory

![Figure 1. Pharmacist interventions by drug class, May – July 2020.](image)

![Figure 1. Pharmacist interventions by drug class, May – July 2020.](image)

- Preeminent
- High touch and high tech

In his keynote presentation, Minor recounted Stanford Medicine’s strategy to fight the ongoing coronavirus disease 2019 (COVID-19) pandemic. He underscored the importance of addressing social determinants of health in precision health, a need that has become particularly evident during the coronavirus pandemic. He indicated that precision health involves more than medical care. In fact, environmental and social factors are the strongest predictors of health outcomes, followed by behavioral factors, medical care, and then genetics.

In addition to his focus on precision health and its application to the response to the COVID-19 pandemic, Minor highlighted the following principles of leadership in times of crisis: frequent and clear communication, a culture of accountability, and diversity and inclusion.

Book Highlights

"Pediatric Pharmacotherapy"

Now in its second edition, Pediatric Pharmacotherapy is a must-have resource for all practitioners and trainees caring for pediatric patients. In addition to sections on general principles and medication safety, the book provides contemporary reviews of major disorders and specialty areas unique to pediatric patients from neonates to adolescents.

Edited and written by subject matter experts, the second edition features patient cases that highlight approaches to managing common and challenging patient care issues encountered in daily practice. The cases demonstrate how to apply the knowledge presented in the chapter text to real-world patient case scenarios.

The book offers 56 chapters grouped into 15 sections, as follows:
- General Principles (5 chapters)
- Medication Safety (2 chapters)
- Cardiovascular Disorders (3 chapters)
- Pulmonary Disorders (4 chapters)
- Gastrointestinal Disorders (4 chapters)
- Nutritional Disorders (3 chapters)
- Renal Disorders (2 chapters)
- Endocrinologic Disorders (3 chapters)
- Neurologic Disorders (4 chapters)
- Psychiatric Disorders (6 chapters)
- Infectious Diseases (10 chapters)
- Hematologic Disorders (4 chapters)
- Oncologic Disorders (3 chapters)
- Immunologic Disorders (2 chapters)
- Dermatologic Disorders (1 chapter)


In pursuit of its mission to improve human health by extending the frontiers of clinical pharmacy, the American College of Clinical Pharmacy (ACCP) is developing a certificate program for international pharmacists seeking to advance outcomes associated with clinical pharmacy practice.

“Medication Optimization Through the Provision of Comprehensive Medication Management” will be an 8-week virtual certificate program. Designed and delivered by subject matter experts, the program will provide evidence-based, implementation-focused programming.

Pharmacists providing direct patient care wishing to learn more about the certificate program are asked to answer a brief survey regarding their current practices and professional goals. The survey should require less than 15 minutes to complete.


Mark Your Calendar

Professional Placement First
December 4–5, 2020
Virtual

2021 ACCP Annual Meeting
October 16–19, 2021
Phoenix, Arizona
A Message from the Editor

Dear Colleagues:

The featured article in this issue of ACCP International Clinical Pharmacist, “COVID-19 Pandemic Helped Develop Positive Impact of Pharmacists in a Tertiary Care Government Hospital in Pakistan,” describes how one institution’s response to the coronavirus disease 2019 pandemic has resulted in the expansion of pharmacist services from primarily distributive functions to the provision of clinical services. Although the number of pharmacists on the institution’s multidisciplinary teams remains small, the inclusion of pharmacists in health care teams that provide direct patient care services to ensure rational medication use represents an important paradigm shift and may positively affect the future of the pharmacy profession, both regionally and nationally.

The article titled “Precision Health Was Focus of Keynote Presentation at 2020 ACCP Annual Meeting” describes a movement toward precision health and the importance of environmental and social factors in precisely predicting, preventing, and curing disease in a more holistic and proactive approach to health care. I urge clinical pharmacists to review the key principles for precision health outlined in this article; reflect on how these principles are applied in their own patient care practices, regardless of the setting; and explore how pharmacists can further advance precision health.

The title featured in the Book Highlights department of this issue is the second edition of Pediatric Pharmacotherapy. Edited and written by practicing clinicians and educators, this peer-reviewed text summarizes the scientific and clinical evidence for major disorders encountered in practice. This comprehensive resource will be useful to all practicing clinicians, residency trainees, and students providing care to the range of pediatric patients, from neonates to adolescents.

Finally, the article titled “Medication Optimization Through the Provision of Comprehensive Medication Management’ – A Certificate Program for International Pharmacists” describes a virtual certificate program designed for international pharmacists seeking to improve processes and outcomes associated with their patient care services. Pharmacists interested in learning about and taking part in this unique program are asked to complete a brief survey by December 15, 2020.

Sincerely,

Wafa Y. Dahdal, Pharm.D.

Enhancing the growth and evolution of clinical pharmacy worldwide