Economic Evaluations of Clinical Pharmacy Services

A recently published systematic review of studies evaluating the economic outcomes associated with clinical pharmacy services concludes that, although few full economic evaluations were conducted during 2011–2017, findings support the cost-effectiveness of clinical pharmacy services.1

A total of 115 studies conducted in the United States met the inclusion criteria. The types of services provided in the studies included:

- General pharmacotherapeutic management (e.g., medication therapy management, coordinated hospital and community pharmacist medication management);
- Disease state management (e.g., diabetes, cardiovascular diseases, infectious diseases);
- Targeted drug programs (e.g., antimicrobial stewardship programs, pharmacist-managed erythropoiesis-stimulating agent therapy);
- Patient and medical provider education; and
- Wellness programs and immunization.

The most common practice settings represented in the included studies were hospital (34%), ambulatory care (28%), and community pharmacy (17%).

Of the 115 studies, nine were full economic evaluations with a median Quality of Health Economic Studies (QHES) score of 74 (range 59–95) of 100 possible points; four studies reported that clinical pharmacy services were more effective than a comparator at a lower cost. No benefit-cost ratio could be calculated, given the data reported in the studies.

The American College of Clinical Pharmacy has conducted systematic reviews of economic evaluations of clinical pharmacy services for over 3 decades, since the publication of the ACCP position statement titled “Prospectus on the Economic Value of Clinical Pharmacy Services” in 1989.2 Compared with the most recent publication, the systematic review of studies published during 2006–2010 included 25 studies, of which 18 were full economic evaluations (mean QHES score ± SD, 60.4 ± 22.3). During this period (i.e., 2006–2010), the reported range for benefit-cost ratio was 1.05:1 to 25.95:1.3 The median benefit-cost ratio according to the studies published during 2001–2005 was 4.81:1.4

Although previous systematic reviews of the economic evaluations published by ACCP included international studies, the most recent review included only studies conducted in the United States, because of differing practices between the United States and internationally. Of note, the first such

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Economic Evaluations of Clinical Pharmacy Services (continued)

systematic review of the economic evaluation of clinical pharmacy services in China was also recently published. In this review, 40 studies (three full economic evaluations) were included. Types of services evaluated were antimicrobial management, chronic disease management, and multidimensional clinical pharmaceutical services. Hospitals were the predominant practice setting in which the included studies were conducted (95%). The other settings were clinics and community pharmacies. Clinical pharmacy services were reported to have positive economic benefits in 80% of the studies.

The types of studies included in both the 2011–2017 review of clinical pharmacy services in the United States and the review of clinical pharmacy services in China highlight the limited number of full economic studies being conducted. A full economic evaluation would include a comparator group and both a cost analysis (e.g., labor costs, capital costs, operating costs) and an outcome analysis (e.g., changes in health care use or costs, cost-effectiveness ratios, return on investment, cost-benefit ratios). Conclusions from both studies underscore the need for more full economic evaluations in order to strengthen the body of evidence on the impact and cost-effectiveness of clinical pharmacy services.


WHO Global Health Challenges Released

The World Health Organization (WHO) has published 13 urgent global health challenges for the next decade (Box 1). Release of these challenges emphasizes that additional resources should be invested in core health priorities and systems, including disease outbreaks, epidemics, discrepancies in the quality of health, access to medicines, vaccines, infectious diseases, antimicrobial resistance, new technologies, and the health care workforce. The last item, the health care workforce, calls out prolonged under-investment in the education and employment of health care workers, which, in conjunction with a failure to provide adequate pay, has led to health worker shortages internationally.

Box 1. WHO Health Challenges
- Elevating health in the climate debate
- Delivering health in conflict and crisis
- Making health care fairer
- Expanding access to medicines
- Stopping infectious diseases
- Preparing for epidemics
- Protecting people from dangerous products
- Investing in the people who defend our health
- Keeping adolescents safe
- Earning public trust
- Harnessing new technologies
- Protecting the medicines that protect us
- Keeping health care clean

*Published January 2020.

More information on each challenge and how the WHO is addressing it is available at www.who.int/news-room/photo-story/photo-story-detail/urgent-health-challenges-for-the-next-decade.


ACCP International Clinical Pharmacy Center Recognition

Designed to improve patient care by advancing clinical pharmacy throughout the world, the program vision is that:

- Clinical pharmacists throughout the world will achieve medication optimization by providing essential, direct patient care in team-based settings.
- Clinical pharmacy programs will advance clinical pharmacist practice, education, training, and research worldwide.

Learn more about ACCP International Clinical Pharmacy Center Recognition at www.accp.com/international/recognition.aspx.
Special Populations is the current title in the Cardiology Self-Assessment Program (CardSAP) professional development series. Written by experts in the field, the book is designed for advanced practitioners and board-certified cardiology pharmacists (BCCPs) providing care to patients with various cardiovascular diseases.

Released in November 2019, the book offers a total of 15.0 continuing pharmacy education (CPE) credit hours. Divided into four modules, the book’s chapters and electronic features provide the learner with high-level educational activities focused on the most recent evidence for managing cardiovascular diseases in special populations, including older adults, patients with mental illness, and women; unique challenges encountered in practice such as high-cost drugs, medication shortages and safety, and medication adherence; and precision medicine.

Educational modules, CPE hours, and topics covered in each module are as follows:

- **Special Populations I (4.0 CPE hours)**
  - Cardiovascular Disease in Older Adults

- **Special Populations II (3.5 CPE hours)**
  - Mental Illness and Cardiovascular Disease
  - High-Cost Drugs and Cardiovascular Disease
  - Cardiovascular Disease in Women

- **Special Populations III (3.5 CPE hours)**
  - Medication Adherence and Cardiovascular Disease
  - Drug Shortages and Medication Safety

- **Special Populations IV (4.0 CPE hours)**
  - Chemotherapy-Associated Cardiomyopathy (recorded webcast)
  - Precision Medicine in Cardiovascular Disease (recorded webcast)


Pharmacists interested in completing the educational modules toward CPE credit must successfully complete the associated online tests by November 14, 2022. Board Certified Cardiology Pharmacists (BCCPs) interested in completing the modules toward specialty recertification credit must successfully complete the associated online tests by May 15, 2020.

ACCP will take part in the exhibition to be held at the 25th Congress of the European Association of Hospital Pharmacists (EAHP) on March 25–27 in Gothenburg, Sweden. Visit stand 70 to learn about ACCP educational offerings and opportunities for international collaboration.

For more information, contact us at IntlClinPharmacist@accp.com.

**Visit ACCP in Gothenburg!**

ACCP will take part in the exhibition to be held at the 25th Congress of the European Association of Hospital Pharmacists (EAHP) on March 25–27 in Gothenburg, Sweden. Visit stand 70 to learn about ACCP educational offerings and opportunities for international collaboration.

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**Mark Your Calendar**

**2020 ACCP SPRING FORUM**

April 25-26, 2020
St. Louis College of Pharmacy
St. Louis, Missouri

**2020 ACCP Annual Meeting**
October 24-27, 2020 • Sheraton Dallas • Dallas, Texas
A Message from the Editor

Dear Colleagues:

The featured article in this issue of *ACCP International Clinical Pharmacist* highlights the value of clinical pharmacy services and the need for high-quality economic analyses of such services. Recently published systematic reviews of economic evaluations of clinical pharmacy services in the United States and China are presented in this article. Well-designed full economic studies that demonstrate pharmacists’ impact on improving outcomes and reducing the cost of care, a core component of the Quadruple Aim for health care, provide important evidence to support the expansion of clinical pharmacy services and should be of interest to practicing clinicians, health care administrators, payers, and health authorities.

The article titled “WHO Global Health Challenges Released” describes the challenges identified for the next decade. These include disease prevention and management, rational medication use, and workforce development. Readers are urged to consider these challenges and how they might affect their health care settings and societies. I also encourage all readers to focus on the workforce issues raised and how these relate to the pharmacist workforce.

The Book Highlights department of this issue focuses on *Special Populations*, the current title in the Cardiology Self-Assessment Program (CardSAP) professional development series. This release tackles topical issues such as managing cardiovascular diseases in certain patient populations, medication-related topics such as drug shortages and high-cost drugs, and precision medicine in cardiovascular disease. Advanced practitioners providing care to patients with cardiovascular diseases in acute and chronic care settings will find the information presented in this book of great use in daily practice.

Finally, ACCP will exhibit at this year’s Congress of the European Association of Hospital Pharmacists (EAHP), to be held next month in Gothenburg. Attendees are invited to stop by stand 70 to learn about ACCP offerings and opportunities for international collaboration.

Sincerely,

Wafa Y. Dahdal, Pharm.D.