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## Community pharmacy-based point-of-care testing: A case study of pharmacist-physician collaborative working relationships

Jennifer L. Bacci <sup>a,\*</sup>, Donald Klepser <sup>b</sup>, Heather Tilley <sup>a</sup>, Jaclyn K. Smith <sup>b</sup>,  
Michael E. Klepser <sup>c</sup>

<sup>a</sup> University of Washington, School of Pharmacy, 1959 NE Pacific Street, Box 357630, Seattle, WA 98195-7630, USA

<sup>b</sup> University of Nebraska Medical Center, College of Pharmacy, 986145 Nebraska Medical Center, Omaha, NE 68198-6145, USA

<sup>c</sup> Ferris State University, College of Pharmacy, 1000 Oakland Dr., Kalamazoo, MI 49008, USA

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### ABSTRACT

Building collaborative working relationships (CWRs) with physicians or other prescribers is an important step for community pharmacists in establishing a collaborative practice agreement (CPA). This case study describes the individual, context, and exchange factors that drive pharmacist-physician CWR development for community pharmacy-based point-of-care (POC) testing. Two physicians who had entered in a CPA with community pharmacists to provide POC testing were surveyed and interviewed. High scores on the pharmacist-physician collaborative index indicated a high level of collaboration between the physicians and the pharmacist who initiated the relationship. Trust was established through the physicians' personal relationships with the pharmacist or due to the community pharmacy organization's strong reputation. The physicians' individual perceptions of community pharmacy-based POC testing affected their CWRs and willingness to establish a CPA. These findings suggest that exchange characteristics remain significant factors in CWR development. Individual factors may also contribute to physicians' willingness to advance their CWR to include a CPA for POC testing.

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### 1. Introduction

Community pharmacies with a Certificate of Waiver under the U.S. Clinical Laboratory Improvement Amendments of 1988 (CLIA) are increasingly offering point-of-care (POC) testing.<sup>1–6</sup> CLIA-waived tests for infectious and chronic diseases can have patient and population-level benefits when used to screen for diseases of public health interest and aid in the timely identification of treatable diseases in individual patients. Community pharmacies are health care facilities well positioned to maximize these benefits of POC testing because of their geographic accessibility to the public and extended business hours. POC testing by community pharmacists can facilitate rapid disease identification and initiation of therapy, improve linkages to care, and, when used for infectious diseases, reduce the possibility of disease transmission and inappropriate microbial use.<sup>1,7</sup>

The value in conducting CLIA-waived testing in community

pharmacies is primarily derived from pharmacists being enabled to quickly act upon the test results.<sup>7</sup> For certain tests, acting upon the result may require initiating or modifying a prescription medication. In most instances, a collaborative practice agreement (CPA) is needed to enable appropriate pharmacist action on test results. A CPA is a formal agreement between a prescriber and a pharmacist wherein the prescriber delegates to the pharmacist the authority to perform specific patient care functions that would otherwise not be permitted by state law.<sup>8</sup> Building collaborative relationships with physicians and/or other prescribers is a critical step for community pharmacists in establishing a CPA.<sup>9</sup>

The Collaborative Working Relationship (CWR) model describes how individual, context, and exchange characteristics influence the development and movement of physician and pharmacist relationships along a collaboration continuum.<sup>10</sup> Individual characteristics are personal variables specific to each collaborating professional. Context characteristics are features associated with the collaborators' practice sites. Exchange factors encompass the nature of interactions that occur between physicians and pharmacists. The CWR model has been studied in the context of an individual pharmacist and an individual physician collaborating

\* Corresponding author.

E-mail address: [jbacci@uw.edu](mailto:jbacci@uw.edu) (J.L. Bacci).

through shared communication and joint decision making.<sup>11–15</sup> These studies established that exchange characteristics, specifically trustworthiness and role specification, are the most important drivers of CWR development.<sup>11,12</sup> The model has not been evaluated in the context of pharmacists and physicians collaborating to provide public health services and linkages to care to a broad population or where decision making and communication are delineated in a CPA.

Evaluating the CWR model in the context of community pharmacy-based POC testing with an established CPA could assist community pharmacists interested in developing or enhancing existing POC testing services in identifying a physician to approach about establishing a CPA. This case study describes the individual, context, and exchange factor that drive of pharmacist-physician collaborative working relationship development from the perspective of 2 physicians whom are collaborating with chain community pharmacists to provide POC testing beyond their mutual patients to the general public with a CPA delineating how the pharmacists should act upon the result of a POC test.

## 2. Methods

Physicians licensed in the United States (US) who had entered into a CPA with one or more community pharmacists to provide POC testing were eligible to participate. “Community pharmacy experts” across the US were contacted to identify physicians meeting the above criteria. Identified physicians were contacted via email or fax up to 3 times for recruitment. Six physicians collaborating with 7 community pharmacy organizations for POC testing were identified. One physician was excluded because a CPA had not yet been executed. Two physicians consented to participate (33% response rate).

Data were collected using a survey and semi structured interviews. The survey instrument and interview guide were adapted from previous research, and included the pharmacist-physician collaborative index (PPCI).<sup>11–15</sup> The PPCI is a validated 14-item, Likert-type scale tool that quantifies the extent of practitioner collaboration within the CWR exchange domains. The tool provides a score from 14 to 98. A higher score indicates a higher level of collaboration.

The survey was administered using the online Qualtrics survey software (Qualtrics LLC, Provo, UT). Interviews were conducted via telephone in April 2016 and lasted 15–20 min. Interview transcripts were thematically analyzed based on the CWR model using Atlas.ti (version 6.2; Atlas.ti, Berlin, Germany). This study was determined exempt from review by the University of Washington, University of Nebraska Medical Center, and Ferris State University Institutional Review Boards.

## 3. Results

### 3.1. Individual characteristics

Both physicians were male, had received a Doctor of Medicine (MD), and had no academic affiliation. One physician had also received a Doctor of Pharmacy (PharmD). Their specialties were emergency medicine and family medicine. Their mean age and length in practice were 60 and 32 years, respectively. Neither physician had previously entered into a CPA with a pharmacist prior to entering into the CPA for POC testing.

The interviews revealed the physicians' individual perceptions of community pharmacy-based POC testing and how those beliefs may have affected their CWR and willingness to enter into a CPA. One physician discussed his initial concern about medical liability. He ensured the pharmacists were providing a high quality of care

with supporting documentation before he was willing to advance their CWR with a CPA. The second physician described his unique perspective as both a pharmacist and physician. His willingness to enter into a CPA was a direct result of his strong belief that community pharmacy-based POC testing increases patient access. Supporting quotes are provided in [Table 1](#).

### 3.2. Context characteristics

The physicians practiced in a private practice and a health maintenance organization. Their weekly patient load (range, 80–400 patients), hours spent on patient care per week (range, 10–100), and total hours worked per week (range, 68–100) varied. Neither physician had a pharmacist integrated into their practice, nor did their practices serve as a training site for pharmacy students or residents. In the interviews, the physicians did not describe any context characteristics as either positively or negatively affecting CWR development.

### 3.3. Exchange characteristics

Both physicians had entered into CPAs for POC testing with chain community pharmacy organizations. The physicians were asked to respond to the 14-item PPCI with the pharmacist with whom they most frequently interacted to establish the CPA for POC testing as their frame of reference. This pharmacist was a management-level pharmacist for one physician and a ground-level pharmacist for the other physician. One physician had a previous personal relationship with the pharmacist while the other physician had previously collaborated professionally with the pharmacist. The mean PPCI total score was 91 (possible range, 14–98). The mean relationship initiation, trustworthiness, and role specification domain scores were 18 (possible range, 3–21), 42 (possible range, 6–42), and 31 (possible range, 27–35), respectively.

The PPCI scores indicated a high level of collaboration that was also reflected during the interviews. Both physicians revealed that pharmacists were the primary initiators of the relationships and CPAs. Trust was established either through their own relationships with the pharmacists or due to the strong reputation of the community pharmacy organization by which the pharmacists were employed. Both physicians stated they were asked provide input on the POC testing protocol and pharmacist training to ensure they were comfortable and confident with the pharmacists' role. Supporting quotes are provided in [Table 1](#).

## 4. Discussion

The goal of this case study was to identify the individual, context, and exchange factors that physicians perceive as important to their development of CWRs with community pharmacists for POC testing. Developing CWRs in community practice is critical to providing collaborative, accessible patient care services, such as community pharmacy-based POC testing. CWRs can also lead to the development of CPAs that enable pharmacists to act upon the results of POC tests and increase the efficiency of patient care.<sup>7</sup>

Similar to previous work, the findings of this case study suggest that exchange characteristics are the primary drivers of community pharmacist-physician CWR development as well as physicians' willingness to enter into a CPA.<sup>11,12,17</sup> The quantitative measures of CWR exchange characteristics revealed physician PPCI scores similar to scores in an investigation by Snyder and colleagues of the professional exchanges that occur in successful community pharmacist-physician CWRs, but higher than scores previously reported in a large cross-sectional sample of primary care

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