

## Diabetes Educators Can Improve Patient Acceptance and Adherence in Diabetes

Written by Nicola Parry

Robert Powell, MS, University of Pittsburgh Diabetes Institute, Pittsburgh, Pennsylvania, USA, presented results from a study involving patient-centered focus groups demonstrating that the phenomenon of patient psychological insulin resistance (PIR) persists in patients with type 2 diabetes mellitus (T2DM). He also discussed how patients' acceptance of therapies was affected by education about insulin and devices and the cost of the therapy.

According to Powell, although insulin therapy is an important treatment option in patients with T2DM, they often view it in negative terms. This negative perception affects the acceptance of insulin therapy, contributes to PIR, and results in low adherence rates. This can further result in clinical inertia, since providers are reluctant to prescribe insulin for patients who will not use it.

Numerous educational resources are available to guide educators as they instruct patients, yet patients are still often unaware of the available educational resources on insulin therapy and how improving their knowledge can improve their health. With this in mind, Powell conducted focus groups to explore perceptions and reactions to insulin therapy delivery modes among insulin-naïve and insulin-experienced patients with T2DM.

Powell recruited adults with T2DM ( $\geq 18$  years;  $n=96$ ; insulin-naïve patients,  $n=49$ ). Twelve focus groups were stratified by insulin status (insulin-naïve groups,  $n=6$ ), limiting in each group to 10 participants. Focus groups led by certified diabetes educators centered on topics including insulin therapies, acceptance and willingness to take insulin, and barriers to initiation and adherence of insulin therapy. Formal qualitative data analysis confirmed that PIR continues to exist in both insulin-naïve and insulin-experienced patients with T2DM. PIR and educational needs were similar in both insulin groups and across races and ethnicities.

Resistance to taking insulin was frequently related to specific health concerns. Most participants viewed insulin therapy in negative terms and considered the need to use it as a personal failure. Many patients also expressed concerns about side effects and questioned the need for its long-term use. Patients favored shorter needles and preferred pens versus vials and syringes. However, regardless of the tool, cost was the main barrier for device selection and for acceptance of insulin therapy.

Another theme associated with PIR was related to educational resources. Many participants reported having received no demonstration on how, where, and when to inject their insulin. They expressed the importance of learning injection logistics to overcome injection-associated concerns and improve adherence, and those who had received education on injection techniques expressed satisfaction with their health care team.

Powell conducted an additional focus group with health care providers to examine their barriers. Approximately half of the primary care physicians had questions about how to use and store insulin pens, and many were unaware of needle options. Many reported having insufficient time to provide patients with proper diabetes education.

Powell concluded that this study highlights an opportunity for diabetes educators to empower patients to take insulin effectively. Diabetes educators in particular can reduce patients' apprehension toward insulin therapy through demonstrations of the options for insulin administration and through discussions of the potential risks and benefits.

## Collaboration Between Pharmacists and Physicians Can Improve Patient Care

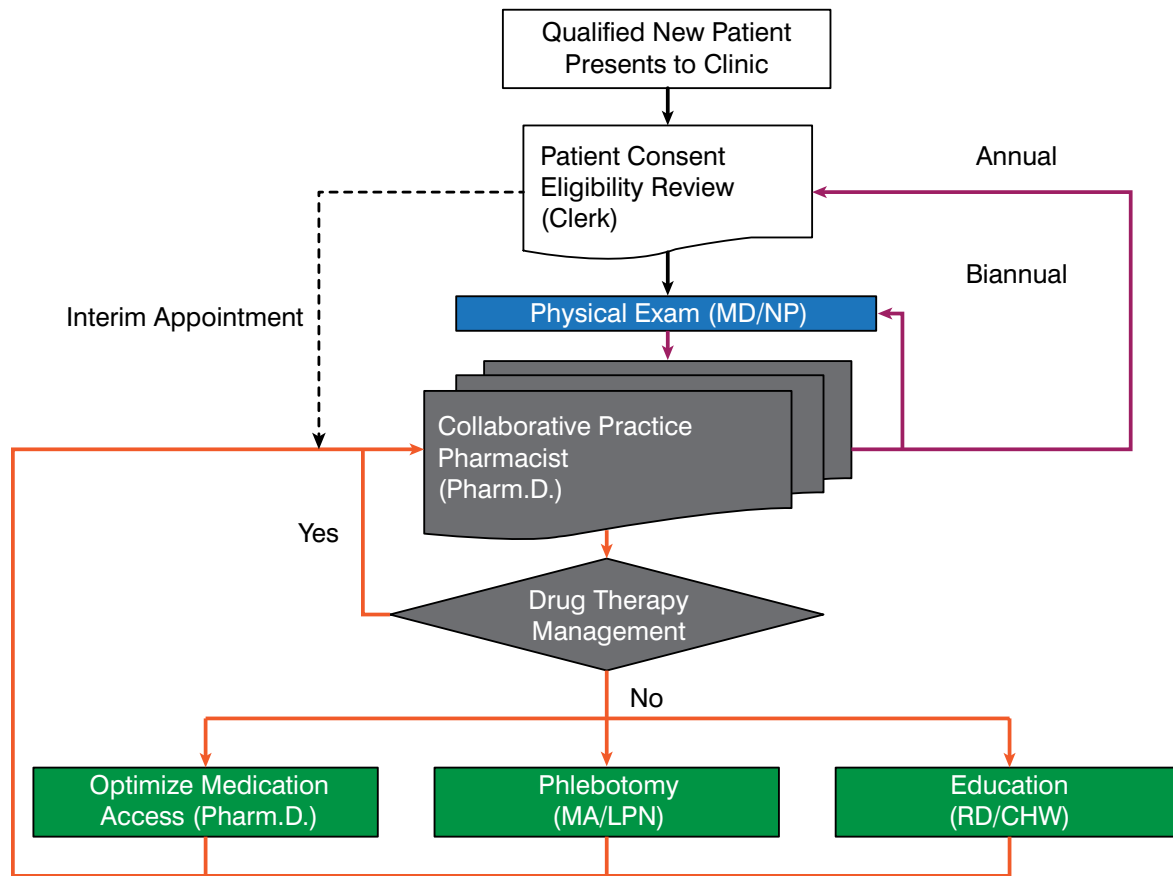
Written by Lynne Lederman

There are currently an estimated 56 million patients in the United States who do not have adequate access to primary health care. As the number of patients with diabetes increases, this number is expected to increase. Team-based care has proven valuable for patients with diabetes and can extend health care to more people through non-physician providers. Pharmacists play an essential role in team-based patient care because of patients' reliance on medications to reduce disease-related complications. It is possible that expanding the role of pharmacists in patient care could improve patient outcomes. In Virginia, pharmacist-physician collaborations were expanded in 2013 to include initiation, modification, continuation, and discontinuation of drug therapy.

Evan M. Sisson, PharmD, MHA, Virginia Commonwealth University, Richmond, Virginia, USA, presented data from an ongoing evaluation of a collaborative practice model among physicians and pharmacists that provides care for patients with chronic disease in an urban safety net clinic. The population in this clinic faces significant barriers to care. Pharmacists provide 20 hours per week of comprehensive management of medications, which is about 70% of the overall care at this clinic. The care model is illustrated in Figure 1.



Figure 1. Collaborative Care Model



CHW=community health worker; LPN=licensed practical nurse; MA=medical assistant; MD=medical doctor; NP=nurse practitioner; RD=registered dietitian.  
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This analysis included 178 patients with  $\geq 2$  pharmacist visits during 2009, who were followed from 2010 to 2012. The mean age was 51.5 years (range, 18 to 65); 63% were women, 75% were black, and 19% were white. All patients had a medical history of hypertension (HTN); 33.7% had a history of hyperlipidemia; and 18.5% had diabetes.

Mean blood pressure (BP) was reduced from 156/97 mm Hg at the initial visit to 131/83 mm Hg at the end of follow-up. Mean non-HDL cholesterol was reduced from 154 mg/dL to 129 mg/dL.

Patients with stage 2 hypertension ( $n=84$ ) and all other patients ( $n=94$ ) had a similar mean number of visits to the pharmacist (7.5 vs 7.0) and to physicians (1.2 vs 1.1) between 2010 and 2012. However, during this period, patients with diabetes had more visits to the pharmacist compared with all other patients (12.4 vs 6.1). Among patients with diabetes, the number of visits to physicians was slightly fewer than those to pharmacists (1.0 vs 1.2).

During follow-up, the proportion of patients with diabetes with levels of  $HbA_{1c} < 7\%$  increased from 33% to 70% ( $p < .05$ ).  $HbA_{1c}$  decreased from a mean of 8.4% to 6.4% in 2012 ( $p = .0008$ ). The improvement in  $HbA_{1c}$  levels  $< 7\%$  and the reduction in mean  $HbA_{1c}$  levels occurred by 2010 and were maintained throughout the observation period. Initially, only 9% of patients with diabetes had BP levels  $< 130/80$  mm Hg, and this increased to 24% of patients by 2010 and was maintained at 2012 ( $p = .18$ ).

The collaborative practice model between pharmacists and primary care practitioners was able to achieve and maintain positive health outcomes. BP decreased among patients with HTN. Among patients with diabetes, there was a significant reduction in  $HbA_{1c}$  levels and a nonsignificant reduction in BP. This model warrants further study in other settings but may offer one way in which to increase access to high-quality health care.