

Federally Qualified Health Center Patients and Generic Drug Discount Programs

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Abstract: This study evaluates the factors associated with utilization of generic drug discount program (GDDP) among federally qualified health center (FQHC) patients in Houston, Texas. A survey to determine awareness and use of GDDP was administered to 304 patients at three FQHCs in Houston, Texas. Patients at FQHCs treated with courtesy by pharmacy staff (OR: 14.1, 95% CI: 7.9–25.2), patients with a perception of positive impact of GDDP on their health (OR: 7.6, 95% CI: 4.5–12.7), those who found GDDP easy to use (OR: 6.6, 95% CI: 3.8–11.6), were more likely to utilize GDDP. Approximately 56% of the participants had utilized the GDDP at least once in the past 12 months. Approximately 85% of participants indicated that they would use GDDP if recommended by a physician. It is possible for FQHCs to be good venues for increasing awareness and utilization of GDDP.

Key words: Generic prescription drugs, community health center, low income.

The high costs of prescription drugs significantly burden many low-income (earning less than \$30,000/year) individuals. High out-of-pocket prescription medication costs can affect medication adherence because some patients ultimately do not take the medication as prescribed or do not fill the prescription.¹ Patients frequently forgo essential prescription medication because they lack the financial resources to purchase medications. Results from a study by the Center for Studying Health System Change (HSC) showed that those with low incomes, chronic conditions, and inadequate or no insurance face the greatest unmet needs for prescription drugs.² In the same study, 35% of uninsured individuals, or a total of nearly 12.5 million working-age Americans, reported unmet prescription drug needs in 2007. Underuse of prescription medica-

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tion because of its high cost has been associated with negative health consequences, increased emergency room visits, and unnecessary hospitalizations.^{1,3-10}

Because of increased medication costs, many low-income, chronically ill patients are not filling their prescription medication and are at increased risk for higher rates of morbidity and mortality.^{11,12} Overall medication non-adherence for various reasons has been linked to over 100,000 deaths, and an estimated direct and indirect cost in excess of \$100 billion annually, when lost productivity was factored in.¹³

There is a need for managing chronic illness efficiently with prescription medication; this need may be partially fulfilled by the use of a generic prescription drug discount program (GDDP). For the purpose of our study, GDDP is defined as a discounted program offered by retail pharmacy stores in which certain generic prescription medications used to treat chronic illnesses are typically offered for \$4 for a 30-day supply or \$10 for a 90-day supply and other similar price ranges. We have included categories of drugs and a few examples. Antiviral treatments (acyclovir); arthritis or pain (allopurinol, indomethacin, ibuprofen, naproxen); asthma (albuterol); blood pressure and heart health (lisinopril, atenolol, hydralazine, captopril, enalapril, fosinopril, clonidine, diltiazem, furosemide, propranolol); cholesterol (lovastatin, provastatin, simvastatin); diabetes (metformin, glimepiride, glyburide, glipizide); gastrointestinal health (cimetidine, dicyclomine, ranitidine, famotidine); mental health (fluoxetine, sertraline, amitriptyline, buspirone, citalopram, fluphenazine, haloperidol, paroxetine, thioridazine, thiothixene).

In conducting the study the following simple definition was provided: discount generic prescription refers to the \$4 for a 30-day supply or \$10 for a 90-day supply of generic prescriptions offered by pharmacies at these chain stores: Walmart, Kroger, Target, Randalls, H-E-B, CVS, and Walgreens.

The H-E-B chain charges a one-time \$5 enrollment fee. The CVS chain charges a \$10 annual enrollment fee and Walgreens charges a \$20 annual individual enrollment fee or \$35 for family enrollment. Additionally, people enrolled in a publicly funded health care program such as Medicare, Medicaid, and TRICARE are prohibited from participating in the Walgreens prescription savings club. Walgreens charges \$12 for a 90-day supply of over 400 generic medications. Consumers need not join a GDDP if they go to Walmart, Kroger, Target, or Randalls to get the discounted prices. (Note: this study does not endorse any GDDP.)

Federally qualified health centers (FQHCs), also known as community health centers play a vital role in providing access to care to vulnerable populations. Due to the mission of community health centers in serving low-income and vulnerable populations, it can serve as a good medium for increasing awareness of GDDPs. As cost of prescription drugs rise, access to drugs for low-income population decreases, hence evaluating utilization of generic prescription drug discount programs (GDDP) among patients that use community health centers is important. There is a lack of information regarding utilization of GDDP among community health center patients. The purpose of this paper is to examine the utilization of GDDP among patients at FQHCs in Houston, Texas. To the best of our knowledge, this is the first study to examine utilization of GDDP among FQHC patients.

Methods

A survey was developed specifically for this study to determine awareness and use of GDDP. The survey was pilot tested and administered to low-income participants in three FQHC locations in Houston, Texas. A systematic sampling method with a random start was used.¹⁴ The first participant at each location was selected by using a random number table.¹⁵ Every fifth person thereafter was selected to participate in the survey if they met the eligibility criteria. We approached potential participants at the FQHC locations and provided a brief summary of the study purpose. If subjects agreed to participate they were provided the survey. We used the intercept survey method, in which the questionnaires were handed to participants, and the participants completed the questionnaires and handed them back to the investigator. The investigator stored the surveys in a brown manila envelope for security. The survey took approximately 20–30 minutes for participants to complete. Participants were compensated with a \$10 gift certificate upon survey completion.

Inclusion criteria to participate in the survey included the following: 1) low income (less than \$30,000/year), 2) age 18 years and older, 3) the ability to speak English, 4) the ability to read and write in English, 5) having a chronic health condition requiring prescription medication or a family member with chronic condition requiring prescription medication. There were no exclusion criteria if participants met the inclusion criteria. The University of Texas MD Anderson Cancer Center's institutional review board approved the study protocol. Informed consent was obtained from each participant prior to administering the survey.

We performed a subgroup analysis using three FQHC locations, designated FQHC1, FQHC2, and FQHC3 for anonymity. Descriptive statistics were used to summarize the distribution of patient socio-demographic characteristics and questionnaire responses. Logistic regression analysis was used to quantify the strength of association between GDDP utilization and relevant survey items. The outcome variable for the logistic regression analysis was a dichotomous variable indicating whether a GDDP had been utilized at least once in the past 12 months. Odds ratio (OR) estimates and 95% confidence intervals (CI) were reported. A *priori* level of p-value less than .05 was used to indicate statistical significance. The OR estimates were used to perform a relative ranking of the survey items based on their strength of association with GDDP utilization. Statistical analyses were performed using Stata (StataCorp. 2009. Stata Statistical Software: Release 11. College Station, TX: StataCorp LP.)

Construct validity. The individual subscales for our questionnaire was examined by exploratory factor analysis (EFA) using maximum likelihood estimation with an orthogonal rotations in SPSS for Windows (release 17.0, SPSS Inc., Chicago, Illinois).¹⁶ The specifications used in the analysis assumed normality and correlations among factors. Exploratory factor analyses were conducted in an iterative fashion, whereby items were removed one by one until a reasonable factor solution was created. Criteria used for identifying the final solution was based on eigenvalue greater than one, at least three items per factor, simple structure (items loading high on one factor and low on other), and all factor items sharing a similar conceptual meaning.¹⁷ The Chronbach's alpha for the subscales ranged from 0.61 to 0.87.

Results

A total of 304 surveys were collected with a response rate of 73% from the three FQHC locations. Approximately 112 subjects or 27% of subjects approached rejected to be surveyed. Respondents' socio-demographic characteristics by location are described in Table 1. Overall, 75% of participants were females, and 62% of the participants were African American. Approximately 56% of the participants had utilized the GDDP at least once in the past 12 months. There were differences in racial and ethnic composition of the three participating groups based on the community in which the FQHC was located. Predominantly, participants from FQHC1 were African American (87%); participants from FQHC2 were a multiethnic group of African American (32%), Hispanic (31%) and Asian subjects (29%); and participants from FQHC3 were mostly African American (65%) and Hispanic (26%). Despite participant differences by racial or ethnic composition at the FQHC locations, the survey results were similar. Approximately 86% of participants in all three locations indicated that they would use GDDP if recommended by a pharmacist. Similarly, 85% of participants in all three locations indicated that they would use GDDP if recommended by a physician. At all three locations 79% of participants indicated that GDDP saves money, while approximately 83% of participants indicated that they would use GDDP to fill their prescription when available. A lower percentage indicated that their doctor talked to them about GDDP (45%). Twenty-four percent of participants agreed with the statement, "I am not able to obtain the prescription that my physician ordered through the discount generic prescription program." When asked "What is the most important barrier to utilization of the discount generic prescription program?" The respondent answers were lack of awareness (46%), lack of recommendation by physician (16%), my generic medication is not on the list (13%), lack of access to physician (9%), and lack of nearby pharmacy (6%).

Several perceived factors with a strong association with GDDP utilization were identified. The relative ranking of the perceived factors were compiled based on OR estimates (Table 2). Overall, the top three factors were "treated with courtesy by pharmacy staff" (OR: 14.1, 95% CI: 7.9–25.2), "GDDP had positive impact on health" (OR: 7.6, 95% CI: 4.5–12.7), and it was "easy to use GDDP" service (OR: 6.6, 95% CI: 3.8–11.6).

Discussion

To our knowledge, ours is the first to examine GDDP awareness and use among FQHC patients. The findings of the study suggest that patients that receive health care services at the surveyed FQHCs had limited awareness of GDDPs and many had not used a GDDP in the last 12 months. Although the sociodemographic characteristics of study participants in the different study locations were heterogeneous, there were similarities in their survey item response patterns. Since FQHCs serve a predominantly low-income population, the patient population characteristics may be similar despite differences in the ethnic composition of the three FQHC locations surveyed. Most FQHC patients could benefit from affordable and effective prescription medications.

Lack of awareness and lack of recommendation by a physician were stated as barriers to GDDP utilization. Only approximately 45% of participants indicated that their

Table 1.**DEMOGRAPHIC CHARACTERISTIC AND DIFFERENCES OF SURVEY PARTICIPANTS BY LOCATION**

Characteristics	FQHC1	FQHC2	FQHC3	p-value
	n (%) ^a	n (%) ^a	n (%) ^a	
Total No. of Participants	100	100	104	
Gender				
Female	84 (84)	68 (69)	76 (74)	.038
Male	16 (16)	31 (31)	27 (26)	
Age				
18–30	44 (44)	34 (34)	49 (47)	.107
31–40	17 (17)	33 (33)	28 (27)	
41–50	20 (20)	19 (19)	17 (16)	
51–64	14 (14)	13 (13)	8 (8)	
≥65	5 (5)	1 (1)	2 (2)	
Race/Ethnicity				
White (non-Hispanic)	1 (1)	8 (8)	7 (7)	<.001
African American	87 (87)	32 (32)	68 (65)	
Hispanic (White)	12 (12)	31 (31)	27 (26)	
Asian/Other	0 (0)	29 (29)	2 (2)	
Marital status				
Single	74 (75)	50 (52)	72 (73)	<.001
Married	24 (25)	47 (48)	26 (27)	
Household Income				
<\$10,000	52 (55)	34 (35)	48 (48)	.004
\$10,001–\$20,000	12 (13)	28 (28)	29 (29)	
\$20,001–\$30,000	30 (32)	36 (37)	22 (22)	
Education				
Less than high school	9 (9)	14 (14)	22 (21)	.055
High school	41 (41)	29 (29)	28 (27)	
Some college or beyond	50 (50)	57 (57)	54 (52)	
Employment				
Full-time/part-time	47 (47)	72 (72)	55 (53)	.001
Retired/student/unemployed	53 (53)	27 (27)	49 (47)	
Insurance				
Medicare/Medicaid/ private insurance	66 (66)	40 (40)	38 (37)	<.001
Cash/gold card/free care	34 (34)	60 (60)	65 (63)	

^aPercentages (%) are based on number of responses.
FQHC = Federally Qualified Health Center

Table 2.
FACTORS THAT INFLUENCE GDDP USE
AMONG FQHC PATIENTS

Factors	OR ^a	95% CI	P value
Treated with courtesy by GDDP staff	14.1	(7.9, 25.2)	<.001
GDDP made positive impact on participant health	7.6	(4.5, 12.7)	<.001
Easy to use the GDDP service	6.6	(3.8, 11.6)	<.001
GDDP is a good value	6.4	(3.3, 12.3)	<.001
Awareness of GDDP	5.9	(3.4, 10.2)	<.001
If pharmacist recommends generic drug participant would take it	5.7	(2.5, 12.9)	<.001
GDDP saves the participant money	5.5	(3.0, 10.3)	<.001
GDDP is helpful to participant	5.2	(3.0, 9.2)	<.001
GDDP formulary needs to be expanded	5.2	(2.8, 9.6)	<.001
Doctor talked about GDDP	5.1	(3.1, 8.5)	<.001
Able to obtain prescription through GDDP	4.7	(2.8, 7.8)	<.001
Easy access to pharmacy offering GDDP	3.9	(2.3, 6.4)	<.001
Pharmacist talked about GDDP	3.9	(2.4, 6.4)	<.001
Need more medications on GDDP list	3.9	(2.1, 7.0)	<.001
Acceptance of generic prescription drug has improved tremendously	3.5	(2.1, 5.9)	<.001
GDDP saves seniors money	3.3	(2.0, 5.4)	<.001
If doctor recommends generic drug participant would take it	3.1	(1.5, 6.3)	.002
GDDP keeps seniors healthy	2.9	(1.8, 4.7)	<.001
Comfortable asking doctor for a generic prescription drug	2.8	(1.5, 5.1)	.001

^aOdds ratio estimates represent the association between utilizing GDDP in the past 12 months and strongly or mildly agreeing with the survey item listed.
GDDP = Generic Drug Discount Program

provider talked to them about GDDP. This may be because the generic prescription drug discount programs are fairly new and are not marketed directly to physicians.¹⁸ Our results suggest that some patients are deciding on their own to use GDDP. To improve GDDP awareness and utilization among patients, providers should have brochures and GDDP medication list available in the exam room, and discuss GDDP with patients when it is appropriate for their condition.

Being treated with courtesy by the GDDP staff was ranked as a top priority associated with GDDP utilization. While good customer service is a good business practice, our results indicate that courtesy is highly valued by this population. The GDDP ease

of use increased the odds that participants would use a GDDP. That was expected as there are no paper work to fill out or insurance claims to file.

Approximately 56% of participants used GDDP at least once in last 12 months. We expected a higher utilization of GDDP by patients served by the FQHC locations given that FQHCs serve a high proportion of uninsured patients. FQHCs served nearly 19 million patients in 2009, and this capacity is expected to almost double in the next five years with the implementation of health care reform (the Patient Protection and Affordable Care Act of 2010).¹⁹ This study has important policy implications for reducing out-of-pocket prescription medication costs for patients served by FQHCs and to keep vulnerable populations healthy. There are few medications provided by GDDPs (300–500) such that patient options are often limited. Because of GDDPs coverage of a small amount of medications, the intention of the study was to get a global assessment of GDDPs rather than focusing on specific diseases where drug availability could have been a potential problem. Health policies that provide incentive for pharmaceutical companies to increase the amount of medication options available for diabetes, hypertension, cardiovascular disease, cholesterol and corticosteroids for asthma, to be added to the GDDP formulary will provide significant savings to the health care system in the form of reduced Emergency Room utilization and reduced preventable hospitalizations.

Other studies have looked at generic drug discount programs. Patel and colleagues looked at the impact of generic discount programs on managed care organizations and ensuring potential savings.²⁰ Another study looked at some “\$4 generic drugs” offered through large-chain pharmacies and the potential for impaired quality assurance due to lack of claims submission.²¹ Our study is different from both in that it focuses on FQHC patients’ awareness and utilization of the generic drug discount programs.

It should be noted that this was a cross-sectional study. The results should be interpreted in relation to the population surveyed. Survey participants were mostly minority women earning less than \$30,000/year. The information provided in the survey was self-reported and has the same limitations as all self-reported data. Twenty-four percent of participants agreed with the statement “I am not able to obtain the prescription that my physician ordered through the discount generic prescription program.” This is a limitation of the GDDP.

The survey was conducted only in English and therefore may have excluded some participants who could not read or write in English. Analysis of the subgroup was limited by small racial/ethnic composition in some of the FQHC locations. Further study is required with a more representative and randomly selected sample. We do not know the number of prescriptions a subject filled at a GDDP compared to total number of prescriptions written for a study subject. Further studies are required to assess total prescriptions written to the patient and total prescription filled through a GDDP.

Conclusion. Patients at FQHCs had limited awareness of GDDPs and used them less than optimally. Federally qualified health centers may serve as good venues for increasing awareness and utilization of generic prescription drug discount programs (GDDP) among low-income patients. Fewer than half the patients surveyed indicated that their medical provider talked to them about GDDP, so community health centers should make efforts to increase patient awareness of these programs. To improve GDDP awareness and utilization among patients, physicians (especially those that

practice in FQHCs) should recommend GDDP to their patients when appropriate, as the overwhelming majority of patients indicated that they would use GDDP if it was recommended by a physician.

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Notes

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