

Executive Summary

Prescriptions Plus, LLC. (“Consultants”) was asked to evaluate the potential for retail pharmacy services on The University of Tennessee Medical Center (UTMC) Campus. The objectives of the evaluation and assessment were to: 1) Determine potential prescription volumes, payer mix, and potential hours of service, 2) Identify facility requirements and location, 3) Model aggressive and conservative proformas around various pricing available to UTMC. An Executive Summary of Findings follows.

The consultants recommend to place the pharmacy on the ground floor of the Medical B Building (*Location Y – explained in page 8*) based upon the facts that of all three potential pharmacy locations, data show 1) the most frequent paths traveled (of those measured) by persons at UTMC are in closest proximity to *Location Y*, 2) the greatest number of people pass *Location Y*, and 3) the majority of “non Main Hospital” physicians are located in closest proximity to *Location Y* this patient population. The Consultants recommend that the pharmacy be opened Monday through Friday only from the hours of 8 am to 6 pm based upon data that show: 1) the majority of outpatient providers on campus are open between the hours of 8am and 5pm and 2) person movement on the UTMC Campus decreased by 50% between the peak hour of measurement (12 pm – 1pm) and the five o’clock hour.

Background

At the request of the University Health System, Inc.(UHS) Senior Vice President of Strategic Development and Director of Pharmacy, Prescriptions Plus, LLC. (“Consultants”) was asked to evaluate the potential for retail pharmacy services on The University of Tennessee Medical Center (UTMC) Campus. The objectives of the evaluation and assessment were to:

- Determine potential prescription volumes, payer mix, and potential hours of service
- Identify facility requirements and location
- Model aggressive and conservative proformas around various pricing available to UTMC

During an on-site interview, the Senior Vice President of Strategic Development conveyed that the primary audience for retail pharmacy services on the UTMC Campus should be employees. The UTMC patient population at-large was also considered in this analysis, with special consideration given to patients of the University of Tennessee Medical Center Cancer Institute and the University of Tennessee Medical Centers Center for Transplant Services. The Senior Vice President of Strategic Development also communicated an interest in including Disease Management Services within the scope of retail pharmacy services during the on-site interview.

Methodology

In addition to discussions with the Senior Vice President of Strategic Development and Director of Pharmacy, additional key stakeholders interviewed included the Vice President of Human Resources, the Director of Facilities Planning, the Associate Director of Pharmacy Services, and the Assistant Director of Pharmacy Services.

Inpatient and Outpatient volumes from the UTMC medical campus were provided by UTMC Decision Support. Data and information regarding UTMC and UTMC “leased” employees and family members were provided by the Vice President of Human Resources. Data and information regarding physicians at UTMC were provided by the Credentialing Coordinator of the University Physicians Association. Patient and employee movement patterns on the UTMC campus were provided by the Director of Pharmacy. Clinic hours of the various practices located within Medical Buildings A, B, C, D, and the Graduate School of Medicine Building were determined by phone calls made by the Consultants to the specific practices.

Analysis of the various data collected and the on-site evaluations provide a basis for the recommendations provided in this report.

Assessment

Prescription Volume

According to *Pharmacy Satisfaction Pulse*, overall convenience is of greatest importance to pharmacy patrons. According to the *Wilson Pharmacy Satisfaction Survey*, the three top priorities in terms of customer convenience needs are: 1) the ability to call ahead to have prescriptions ready, 2) hours of operation, and 3) accessibility/location of pharmacy. UTMC is in a unique position to meet these three core patient convenience wants for both patient and employee prescription opportunities on campus.

Capturing UTMC employee prescriptions has the potential to both increase pharmacy revenue and alleviate healthcare costs provided that the pharmacy is able to dispense prescriptions for lesser costs (labor costs, acquisition cost of drug, etc.) than competing pharmacies. In an effort to capture UTMC employee prescriptions, UTMC should consider a marketing campaign to employees that may include advertisements in newsletters, employee orientation, and other communication forms used on Campus. Marketing items used by employees such as lanyards and pens can help to promote pharmacy recognition. Services such as prescription co-payment discounts can be used to incentivize employee use of the pharmacy. Prior to offering any employee prescription co-payment discounts consultation with the UTMC Legal Department should take place.

Specialty medications are often referred to as drugs that require “high touch” services in the forms of distribution, administration, or patient management. During discussions with the Vice President of Human Resources it was communicated that the UTMC Employee Benefit allows prescription dispensing of specialty medications at the retail pharmacy level but includes employee co-payment costs that are higher than those by using the preferred mail order pharmacy service. By matching mail order pharmacy co-payment costs on specialty medications, UTMC may have an opportunity to capture specialty medication dispensing for employees at their retail pharmacy.

During discussions with the Vice President of Human Resources, it was communicated that no data were available for employees who are “UT Leased”. It was communicated that the number of employees who are designated UT Leased at UTMC is roughly 25% of all employees on campus. Assuming that UT Leased employees receive prescriptions at the same rate as non-UT Leased employees it can be assumed that an additional 11,600 employee prescriptions are available for capture on campus. The composition of the UT Leased Prescription Program (mail order, pharmacy carve-outs, etc.) is unknown by the Consultants.

Based upon information provided by UTMC Decision Support, it is estimated that 345,756 prescriptions are written on the UTMC campus annually. This data may not be entirely accurate due to the fact that UTMC Decision Support believed that not all University Physicians Associates patient visits were included in the data provided. If the assumption is made that two refills per prescription are possible, then the total possible prescriptions that could be filled is approximately 1 million prescriptions per year.

PATIENT TYPE	TOTAL PATIENTS per Year	PRESCRIPTIONS PER PATIENT ¹	ESTIMATED PRESCRIPTIONS WRITTEN
Inpatient			
Overall ²	21,148	1.92	40,604
Oncology	328	1.92	630
Transplant	<u>40</u>	<u>10.00</u>	<u>400</u>
Subtotal	21,516		41,634
Outpatient			
Overall ²	150,544	1.92	289,044
Oncology	5,353	1.92	10,278
Transplant	<u>480</u>	<u>10.00</u>	<u>4,800</u>
Subtotal	156,377		304,122
TOTAL	177,893		345,756

¹ Number of prescriptions per patient taken from 2009 NACDS Industry Profile

² Overall excludes oncology and transplant

The 2010-2011 National Association of Chain Drug Stores Industry Profile reported that the average price per prescription in the State of Tennessee is \$74.08. However, medications used to treat specific disease states have an average price per prescription that can greatly exceed this figure. For example, the NACDS reported that the average price for a Medical Oncology prescription was \$253.77. Because UTMC is an academic medical center that serves patients with complex disease states (such as cancer, and those requiring solid organ transplants), UTMC is well positioned to capture a disproportionate share of prescriptions that are higher in revenue than the state average for price per prescription.

Opportunities exist for the providers of the UTMC campus to transmit (electronically, via facsimile, via phone) prescriptions to the new retail pharmacy prior to discharge (from both inpatient and outpatient units) allowing the patient to pick-up their prescription(s) from the pharmacy prior to leaving the campus. In addition to the prescriber asking the patient if they would like to pick-up their prescription from the pharmacy prior to leaving the campus, additional items for consideration to capture prescription volume include offering parking validation or providing items free of charge that are intended to increase medication compliance (pill boxes, pill cutters, etc.). Prior to offering any items intended to increase medication compliance free of charge, consultation with the UTMC Legal Department should take place. For customers presenting prescription refills

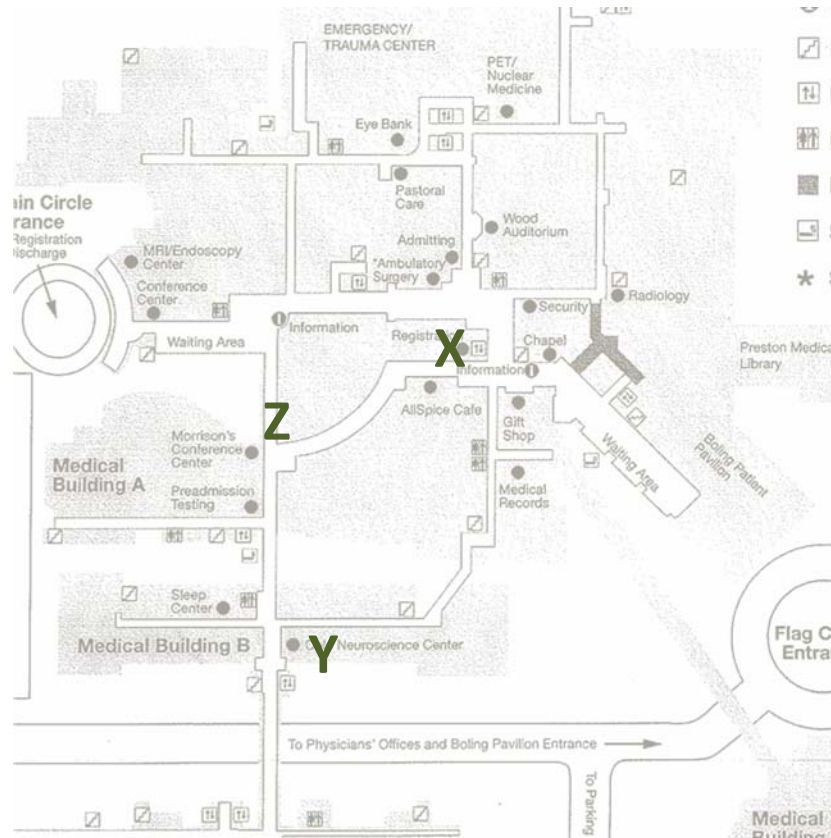
to the pharmacy, offering a 24 hour Interactive Voice Response (IVR) System or online website for pharmacy refills allows the customer to submit their prescription request in advance, minimizing their wait-time at the pharmacy. For patients being discharged from inpatient units, prescription delivery to bedside offers a strategy to an increased number of prescriptions written at discharge.

According to *Pharmacy Satisfaction Pulse*, the customer regards acceptance of their prescription insurance card as the most important item in regards to prescription pricing. Establishing third party payer contracts with the numerous third party payer plans that will be used by UTMC customers is vital to capturing prescription volume. The use of wholesaler “group contracting plans” in which small chain and independent pharmacies contract as a single entity with third party payers affords both increased organization, and, in some instances, improved reimbursed rates over that which would be garnered by contracting as an individual entity. Automated reconciliation of the payments generated from third party payer prescription reimbursement should also be considered.

Through the use of Patient Assistance Programs (PAPs) and “retro-billing” (as appropriate) prescription claims for patients who retro-actively become eligible for State Medical Assistance Plans, opportunities exist to reduce the financial impact for organizations providing prescription services to the uninsured. This does not appear to be a significant opportunity for savings at UTMC as it was communicated to the Consultants that take home prescriptions for the uninsured are provided mostly through the Chaplain Fund and are expected not to exceed \$2,000 in calendar year 2010.

Pharmacy Location and Hours of Service

During the on-site visit, the Senior Vice President of Strategic Development and Director of Pharmacy communicated that two potential areas exist for location of the retail pharmacy: 1) an existing Patient Registration Area (location X below) or an 2) an area on the ground floor of Medical B Building (location Y below). In follow-up discussions, the Director of Pharmacy communicated that a third potential area exists for the retail pharmacy in an area between Medical Building B and the Information Desk that is visible upon arrival from the Fountain Circle Entrance (location Z below).



In order to provide recommendations as to the pharmacy location and pharmacy hours of operation, the following tools were used: 1) an analysis of “movement” on the UTMC Campus, 2) an analysis of physicians by location on the UTMC Campus, and 3) an analysis of business hours of service for the various entities within the various UTMC Medical Buildings.

Movement Analysis

In order to compare the volume of “traffic” that passes between each of the proposed pharmacy locations, a movement analysis was completed for four major paths of travel.

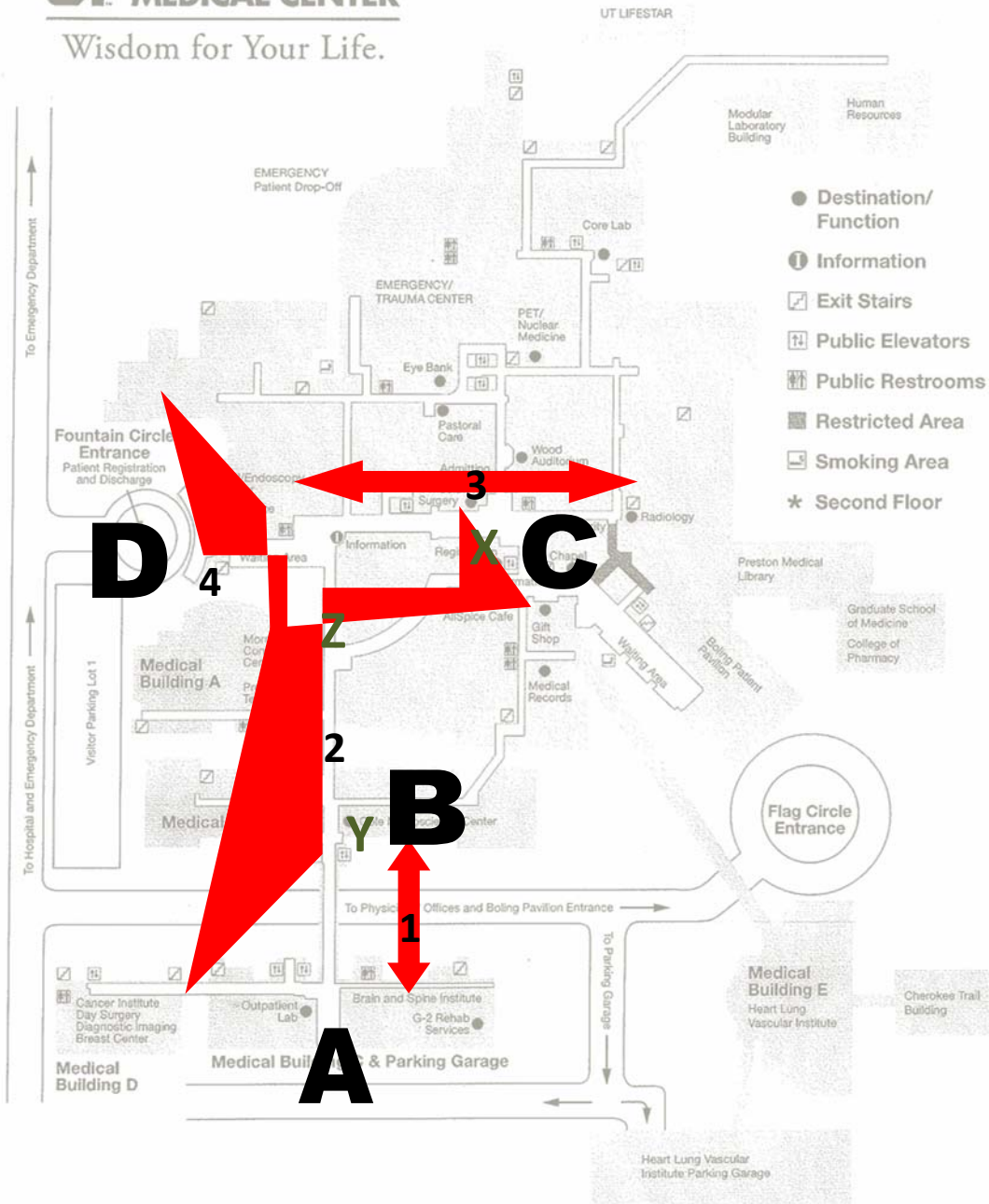
- *Path 1:* The number of people that travel from the parking garages located within Medical Building C and the Heart Lung Vascular Institute Parking Garage and go no farther than Medical Building B.

- *Path 2:* The number of people that travel from the parking garages located within Medical Building C and the Heart Lung Vascular Institute Parking Garage and go to the information desk / registration area adjacent to the Flag Circle Entrance.
- *Path 3:* The number of people that travel from the Flag Circle Entrance and go to the information desk / registration area adjacent to the Fountain Circle Entrance.
- *Path 4:* The number of people that travel from the Fountain Circle Entrance and go to Medical Building B.

Path 1 transects potential pharmacy location *Y*. Path 2 transects potential pharmacy locations *X*, *Y*, and *Z*. Path 3 transects potential pharmacy location *X*. Path 4 transects potential pharmacy locations *Y* and *Z*.



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Identification of Paths that Transect Potential Pharmacy Locations¹

Path ¹	Location X	Location Y	Location Z
1		X	
2	X	X	X
3	X		
4		X	X

¹ An "x" above denotes that the identified path crosses the potential pharmacy location.

A total of 3,407 data points were collected under the leadership of the Pharmacy Director. Patients were uniquely recorded in one of the four path groups during data collection. Data for each path was collected at a separate time. The results of the data collection study appear below.

Number of Unique Person Movements

Path ¹	8am - 9am	9am - 10am	12pm - 1pm	1pm - 2pm	4pm - 5pm	5pm - 6pm	6pm - 7pm
1	213	204	207	175	101	76	157
2	168	144	123	141	63	67	39
3	63	78	83	104	68	75	41
4	117	177	211	179	185	93	55

¹ The path is defined as the route of travel identified by number in the exhibit on the previous page.

Number of Unique Person Movements Measured on a Specific Path¹ (as a Percentage of all Unique Person Movements)

Path 1	33%
Path 2	22%
Path 3	15%
Path 4	30%

¹ The path is defined as the route of travel identified by number in the exhibit on the previous page.

Number of People Passing a Potential Pharmacy Location¹ (as a Percentage of all Unique Person Movements)

Location X	37%
Location Y	85%
Location Z	52%

¹ The potential pharmacy locations are defined in the exhibit on the previous page.

Number of Unique Person Movements Measured by Time of Day (as a Percentage of all Unique Person Movements)

8am - 9am	9am - 10am	12pm - 1pm	1pm - 2pm	4pm - 5pm	5pm - 6pm	6pm - 7pm
16%	18%	18%	18%	12%	9%	9%

Data show that the most frequent paths traveled are *Path 1* and *Path 4*. The potential pharmacy location passed most frequently in the study is *Location Y*. Peak times for person movement during data collection were between 9 am and 2 pm. The data collectors anticipated that almost 50% of person movements accounted for between 6pm and 7 pm were due to a shift change for Registered Nurses.

Physicians on Campus by Location

Based upon a list of physicians that detailed work addresses provided by the Credentialing Coordinator in the University Physicians Association, a physician count by location on the UTMC campus was completed. Physicians with an address that was not part of the UTMC Campus were excluded from the analysis. All physicians with the address of 1924 Alcoa Highway were included in the “Main Hospital” portion of the analysis except for 12 physicians who can be tied directly to the Graduate School of Medicine Building through separate data received from the Director of Pharmacy. All providers were included in this data regardless of specialty (anesthesiology, surgery, etc.). A summary of the results appears below.

Building	Number of Physicians	Number of Physicians (as a Percentage of all Physicians Counted)
“Main Hospital”	131	35%
Graduate School of Medicine	12	3%
Medical Building A	30	8%
Medical Building B	74	20%
Medical Building C	80	21%
Medical Building D	15	4%
<u>Medical Building E</u>	<u>35</u>	<u>9%</u>
TOTAL	377	100%

Data show that the smallest concentration of physicians is located in Graduate School of Medicine Building (3%), Medical Building D (4%), Medical Building A (8%), and Medical Building E (9%) and the largest concentration of physicians are located in the “Main Hospital” (35%), Medical Building C (21%), and Medical Building B (20%). The Consultants do recognize that addresses listed by the Credentialing Office may vary from the physicians actual location (and may not even denote a presence) on the UTMC Campus and that not all physicians listed by the Credentialing Office write an equal number of prescriptions.

Business Hours of Operation Analysis

Data regarding entities located within each of the Medical Buildings on the UTMC Campus were provided by the Director of Pharmacy. Sixty-three phone calls were made to entities located within Medical Buildings A, B, C, D, E, and the Graduate School of Medicine (GSM). The Consultants were able to reach 57 (90%) of the entities contacted. A summary of hours of operation findings follows.

Building	Sample Size Interviewed	Entities Opening Between 8 - 9 am and Closing Between 4 pm - 5 pm Per Building (as a Percentage of Entities Interviewed Per Building)	Number of Entities With Weekend Hours
A	6	100%	1
B	13	100%	0
C	13	92%	0
D	7	71%	0
E	6	83%	0
GSM	2	100%	0

Of all the entities reached, only one stated that they have weekend hours. Of all the entities reached, only four entities stated that they open earlier than 8 am (one at 6 am, two at 7 am, and 1 at 7:30 am). No entities reached stated that they close at a time later than 5 pm during the week.

The Consultants recommend to place the pharmacy at *Location Y* based upon the fact that of all three potential pharmacy locations, data show 1) the most frequent paths traveled (of those measured) by persons at UTMC are in closest proximity to *Location Y*, 2) the greatest number of people pass *Location Y*, and 3) the majority of “non Main Hospital” physicians are located in closest proximity to *Location Y*. It should also be noted that *Location Y* is the option closest to the University of Tennessee Medical Center Cancer Institute, over 1,000 patient parking spaces, and the future site of the Cancer Center Institute (currently Visitor Parking Lot 1).

It should be noted that *Location Y* is furthest from the Emergency Department, the Flag Circle Entrance (where all patients are discharged), and a 700 space parking area that is being planned adjacent to the Fountain Circle Entrance. It is recommended that signage be predominantly displayed throughout the UTMC Campus to capture these patient populations. Specific marketing (signage, etc.) within the Emergency Department and the offer of prescription delivery to bedside for patients being discharged from UTMC are tools that can be used to capture prescription volume from these patients populations.

The Consultants recommend that the pharmacy be opened Monday through Friday only from the hours of 8 am to 6 pm based upon data that show: 1) the majority of outpatient providers on campus are open between the hours of 8am and 5pm and 2) person movement on the UTMC Campus decreased by 50% between the peak hour of measurement (12 pm - 1pm) and the five o'clock hour. Providing an hour of service after the close of business for most outpatient physicians will allow patients with visits at the end of the day to have their prescriptions dispensed from the pharmacy.

Facility Requirements

Factors to consider when designing an outpatient retail pharmacy include: 1) providing a comfortable customer waiting environment, 2) determining whether “front-end” and over-the-counter (OTC) items will be made available in the outpatient pharmacy, 3) allowing ample workspace in the pharmacy for prescription production.

According to data provided by the National Association of Chain Drug Stores (NACDS) 56% of customers rated a comfortable pharmacy waiting area important or very important when selecting a pharmacy. This factor becomes even more vital for a Health System Pharmacy due to the fact that patients do not have other distracters available, unlike those available at a traditional retail pharmacy (food shopping/browsing, clothes shopping/browsing, etc.). Factors to consider when creating a comfortable waiting area include providing a seating area for waiting customers, providing customer “distracters” (television, radio, etc.), and health screening tools (drug information, blood pressure machine, etc.).

Providing over-the-counter (OTC) medications that compliment prescription dispensing can create a “one-stop-shop” for the customer. For employees, a more comprehensive line of front-end and OTC items that consist of items that may be needed during the work day (tissues, toothbrush, etc.) can create an added customer convenience. In both instances, providing non-prescription items can eliminate the need for the customer to travel to other settings that offer prescription services. When considering non-prescription items for product placement, durable medical equipment (DME) should also be considered for resell.

Ample space should be allotted for prescription production. Factors to consider when considering the prescription production workspace include: ample linear counter space for prescription production, ample storage space for medication inventory, a designated area to meet the take-home prescription compounding needs of UTMC patients, a patient consultation room, and a sufficient number of patient pick-up “queues”. When considering prescription compounding requirements, special attention should be paid to the types of compounds (eye preparations, dilutions of hazardous drugs) that will be ordered to ensure all regulations are met.

When considering the overall size of a pharmacy, the Consultants recommend that no less than 2,000 square feet be utilized if a pharmacy OTC area will not be designed and no less than 2,500 square feet be utilized in the event an OTC area is included in the pharmacy design. The Consultants are able to assist with pharmacy design if needed.

The 340B Program

The 340B Drug Pricing Program resulted from enactment of Public Law 102-585, the Veterans Health Care Act of 1992, which is codified as Section 340B of the Public Health Service Act. Section 340B limits the cost of covered outpatient drugs to certain federal grantees, federally-qualified health center look-alikes, children's hospitals, and qualified disproportionate share hospitals. Entities have reported savings anywhere between 15% and 30% below their usual and customary costs for drug purchases through the 340B Program.

While an entity is eligible to participate in the program by virtue of its status, it must notify the Office of Pharmacy Affairs (OPA) of its intention to participate by completing and submitting the appropriate registration form. Once the OPA receives this information, the entity will be eligible to receive pharmaceuticals at the 340B discounted price at the beginning of the next calendar quarter. The quarterly deadlines for data submission to OPA are December 1 for the quarter beginning January 1; March 1 for the quarter beginning April 1; June 1 for the quarter beginning July 1; and September 1 for the quarter beginning October 1. It is the entity's responsibility to tell its wholesaler or manufacturer that it is registered for 340B discount prices when it places an order.

The Office of Pharmacy Affairs has published guidelines on definition of a patient to provide guidance on which individuals are eligible to receive prescribed medications purchased at 340B pricing. These guidelines are outlined below.

The covered entity has established a relationship with the individual, such that the covered entity maintains the records of the individual's health care; and

The individual receives health care services from a health care professional who is either employed by the covered entity or provides health care under contractual or other arrangements (referral for consultation) such that responsibility for the care provider remains with the covered entity; and

The individual receives a health care service or range of services from the covered entity which is consistent with the service or range of services for which grant funding or Federally-qualified health center look-alike status has been provided to the entity. Disproportionate share hospitals are exempt from this requirement.

Upon interviews with the Senior Vice President of Strategic Development and Director of Pharmacy, it was learned that campus providers consist of two main groups, those employed by UPMC and members of the University Physicians Association (UPA). UPA is an independent physician association affiliated with UHS. It was communicated to the Consultants that UPA providers utilize independent, private, medical records rather than the medical record of the covered entity. The

Consultants recommend that the UTMC Legal Department is consulted regarding individual patient 340B eligibility.

In addition to the patient definition above, the legislation that created the 340B program required the Secretary of Health and Human Services to set up a mechanism to ensure that manufacturers did not pay a “duplicate discount” on a drug claim. A “duplicate discount” would occur if an up-front 340B discount and a back-end transaction Medicaid rebate were provided on the same drug. More specifically to the State of Tennessee, the Consultants believe that the Tennessee’s expanded Medicaid program (known as TennCare) may require the 340B medications to be billed at acquisition cost plus a dispensing fee. The Consultants recommend the UTMC Legal Department research this matter further prior engaging in a contract to dispense prescriptions for TennCare patients.

Once a hospital has received written confirmation from OPA that it has been accepted into the 340B Program, an appropriate official of the qualified disproportionate share hospital must certify that the hospital will not participate in Group Purchasing Organization (GPO) or other group purchasing arrangements for outpatient drugs while it is participating in the 340B Program.

In 1996 OPA published a Federal Register Notice that stated 340B covered entities were permitted to contract with a single outside pharmacy to provide pharmacy services. In April 2010, guidance was updated to allow 340B covered entities to contract with multiple pharmacies to provide pharmacy services. In a contract pharmacy model, the 340B covered entity purchases 340B drug for 340B eligible patients. For efficiencies, a “ship to, bill to” model can be used which will allow the drug to ship directly to the pharmacy (will the bill for the 340B drug is sent directly to the 340B covered entity). The contract pharmacy provides all pharmacy services (dispensing, record keeping, drug utilization, counseling, etc.) for 340B eligible patients including reports consistent with customary business practices (cash collections, etc.). Customarily, the contract pharmacy also provides dispensing services for patients that do not qualify for prescription dispensing through the 340B. As a result, the covered entity and contract pharmacy will develop a system to identify the 340B eligibility of a patient. As part of a contract pharmacy relationship, the 340B covered entity is fully responsible for ensuring that the covered entity is in compliance with all statutory requirements.

Disease Management

As defined in the article, *Disease Management: A proposal for a new definition*, disease management consists of a group of coherent interventions designed to prevent or manage one or more chronic conditions using a systematic, multidisciplinary approach and potentially employing multiple treatment modalities. The goal of disease management is to identify persons at risk for one or more chronic conditions, to promote self management by patients and to address the illnesses or conditions with maximum clinical outcome, effectiveness, and efficiency regardless of treatment setting(s) or typical reimbursement patterns. Historically, the profession worked with disease management solely in the health system, long term care and government facilities. Over the last 10 years, the community setting has seen the slow integration of disease management programs. Potential programs and services are outlined below as well as training requirements for each service.

PHARMACIST FUNCTION	STATUTE / CARE TYPE	TRAINING REQUIREMENT
Prospective Medication Review Product Counseling	Ominous Budget Reconciliation Act of 1990 (OBRA '90)	Graduation from an accredited School of Pharmacy and State Licensure with the Board of Pharmacy.
Medication Therapy Management Services (MTMS)	Medicare Modernization Act	All licensed pharmacists with continuing education and possible additional training (residency, etc.) and/or experience.
Disease Management or Population Health Improvement	Advanced level of care	Licensed pharmacists with disease certification and possible additional training (residency, etc.) and/or experience
Pharmacist Provider	Advanced Level of Care	Licensed pharmacists with Board Certification and additional training (residency, etc.) and/or extensive experience

When considering where to begin the provision of Disease Management Service, three core questions must be answered: 1) what is the composition of your patient population, 2) what measures best define your financial model (revenue generating / cost avoidance), and 3) what resources are available to effectively communicate to patients and other providers. Patients who benefit the greatest amount from enhanced pharmacy services most commonly have one or more of the following characteristics:

someone who utilizes 5 or more medications, someone who has been diagnosed with one or more chronic disease states, someone who receives care from multiple providers, someone who demonstrates non-adherence to medication regimens, and someone with limited health literacy or cultural deficiencies.