



ACTIVITY BASED COSTING STUDY

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February 1, 2007

Dear Stakeholder:

The report on a recently completed study on pharmacy costs in British Columbia is now available on the following websites:

[www.bcpharmacy.ca](http://www.bcpharmacy.ca); [www.cacds.com](http://www.cacds.com); [www.health.gov.bc.ca/pharme/publications.html](http://www.health.gov.bc.ca/pharme/publications.html)

The study was initiated in March 2006 by a partnership between the Ministry of Health's Pharmaceutical Services Division, British Columbia Pharmacy Association and Canadian Association of Chain Drug Stores.

The study surveyed a sample of pharmacies which included chain, independent and franchise pharmacies. Participation in the survey was voluntary. In all, 47 pharmacies were represented in the sample study and form the basis for the Activity Based Costing report.

The purpose of the study was to investigate and determine the costs to pharmacies for dispensing medications and providing pharmaceutical services to the residents of British Columbia. An important objective was to outline and develop cost estimates for dispensing services separate from the costs of delivering comprehensive pharmacy services.

The study was undertaken by AT Kearney Inc. during the summer of 2006. AT Kearney Inc. is an international management consulting company with offices located throughout the world.

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## Final Report: Study Findings and Analysis

January 2007

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# Executive Summary

# Executive Summary

- Retail pharmacy services include both the dispensing of drugs and provision of other professional pharmacy services.
  - The weighted average cost of the dispensing activity across all pharmacies in the Province is \$8.02 per prescription
  - The average cost of the dispensing activity varies widely across all study participants – from \$3.29 to \$15.16 for the sample of 47 pharmacies throughout British Columbia
  - The average cost spent by study participants providing Other Professional Pharmacy Services (OPPS) to patients outside prescription dispensing is on average \$3.43 per prescription. \$1.04 of that is for over the counter (OTC) consultation.
- Volume and labour costs were found to be the major drivers of variation in dispensing cost.
  - Volume allows for greater productivity and the ability to spread the non-labour costs. Costs per prescription were significantly higher (41 % to 50%) in pharmacies processing fewer than 25,000 prescriptions per year
  - Northern, and to a lesser extent, Interior Health Authority's costs are higher with differences in pharmacists' compensation being the major driver
- Administrative costs add an average of \$1.66 per prescription, including hiring and training of staff, answering telephone questions and general inquiries, report generation, breaks and other “down time”

# Introduction and Background

- The Activity Based Costing Study (the study) is a partnership between The British Columbia Ministry of Health, the British Columbia Pharmacy Association, and the Canadian Association of Chain Drug Stores. In addition, A.T. Kearney provided in-kind services for more than half of the project.
- The purpose of the study is to investigate and determine the costs to the pharmacy for dispensing medications and providing pharmaceutical services to the residents of British Columbia

# Activity based costing was the chosen methodology to understand the cost of providing pharmaceutical services in British Columbia

## Activity based costing benefits:

- Activity Based Costing (ABC) is a methodology that recognizes the causal link between resource consumption and product or service cost
- ABC examines those activities and associated costs needed to generate output instead of traditional accounting methodologies
- ABC provides insight as to how efficiently and effectively resources are consumed through various activities
- ABC is a commonly used approach to allocating cost information

# The program was designed collaboratively with the three main stakeholders

## Activity based costing Method:

- The Activity Based Costing (ABC) methodology assigns resource consumption to specific activities and sub-activities
- An Activity Dictionary was created at the beginning of the project to clarify meaning and boundaries
- To better understand dispensing, a second level of dispensing activities was defined for further resource allocation and for each of the Dispensing Activities an additional level of information was collected and analyzed to identify potential sources of variation influencing costs
- Four approaches were used to allocate resources<sup>1</sup> in this study; % of space used; % of time consumed; % of resource used; full allocation
- Data were gathered through two channels – pharmacy interviews and data templates completed by pharmacies
- We structured the sample to capture and understand key differences (rather than a totally random sample). across the five Health Authorities, segmenting by store type and volume
- The analysis was based upon hypotheses developed by the Study Working Group and Steering Committee
- Exclusions include prescriptions covered under other PharmaCare programs (i.e. methadone and complex compounding) and the additional time required to fill a compliance packaging

**Details of the methodology can be found in the Appendix to this report**

## Findings

- Total Costs
- Dispensing Costs
- Other Professional Pharmacy Services
  - Exclusions

# The average weighted cost to dispense a prescription is \$8.02 in British Columbia

Weighting adjusts for the differences in the sample design and overall population <sup>(2)</sup>

**Distribution in Sample Community Pharmacies**  
Annual Prescription Volume (in 000s)

Health Authority <sup>(1)</sup>	<25	25-45	45-75	75+	Total
Fraser	2%	3%	4%	4%	12%
Interior	6%	4%	11%	0%	21%
Northern	9%	4%	4%	2%	19%
Vancouver Island	2%	11%	9%	0%	22%
Vancouver Coastal	4%	4%	2%	15%	25%
<b>Total</b>	<b>23%</b>	<b>26%</b>	<b>30%</b>	<b>21%</b>	<b>100%</b>

**Distribution in BC Community Pharmacies**  
Annual Prescription Volume (in 000s)

Health Authority <sup>(1)</sup>	<25	25-45	45-75	75+	Total
Fraser	8%	8%	8%	5%	29%
Interior	6%	6%	4%	2%	18%
Northern	4%	2%	1%	1%	8%
Vancouver Island	6%	5%	5%	2%	18%
Vancouver Coastal	12%	5%	6%	4%	27%
<b>Total</b>	<b>36%</b>	<b>26%</b>	<b>24%</b>	<b>14%</b>	<b>100%</b>

**Average  
Dispensing Cost  
per Prescription**

**\$7.41**

**\$8.02**

Notes (1) Location or Health Authority is used as a proxy for pharmacists compensation which was identified as a major driver and varied across Health Authorities  
(2) Details of the sampling plan and weighting process are provided on page 85 of the Appendix

# The dispensing cost varies widely across the province and by the activity level (volume of prescriptions) of the pharmacy

ABC Study Dispensing Costs by volume (000s)

	<25	25-45	45-75	75+
Fraser	\$8.20	\$4.55	\$7.83	\$5.86
Interior	\$12.49	\$6.39	\$5.31	\$5.70 <sup>1</sup>
Northern	\$11.47	\$8.45	\$5.94	\$5.79
Vancouver Island	\$10.61	\$6.66	\$5.95	\$5.48 <sup>1</sup>
Vancouver Coastal	\$11.45	\$6.08	\$9.04	\$5.57

Distribution of Annual Prescriptions by volume(000s) in BC Community Pharmacies

	<25	25-45	45-75	75+
Fraser	8%	8%	8%	5%
Interior	6%	6%	4%	2%
Northern	4%	2%	1%	<1%
Vancouver Island	6%	5%	5%	2%
Vancouver Coastal	12%	5%	6%	3%

	<25	25-45	45-75	75+	Wt Avg
Fraser					\$6.64
Interior					\$7.60
Northern					\$9.70
Vancouver Island					\$7.04
Vancouver Coastal					\$9.14
Wt Avg	\$10.81	\$5.97	\$7.21	\$4.00	<b>\$8.02</b>

Population Weighted Average Dispensing Cost:  
**\$8.02**

Notes: (1) Estimated. No sample data available. Used average value for this column adjusted for variation across H.A.s and volume.

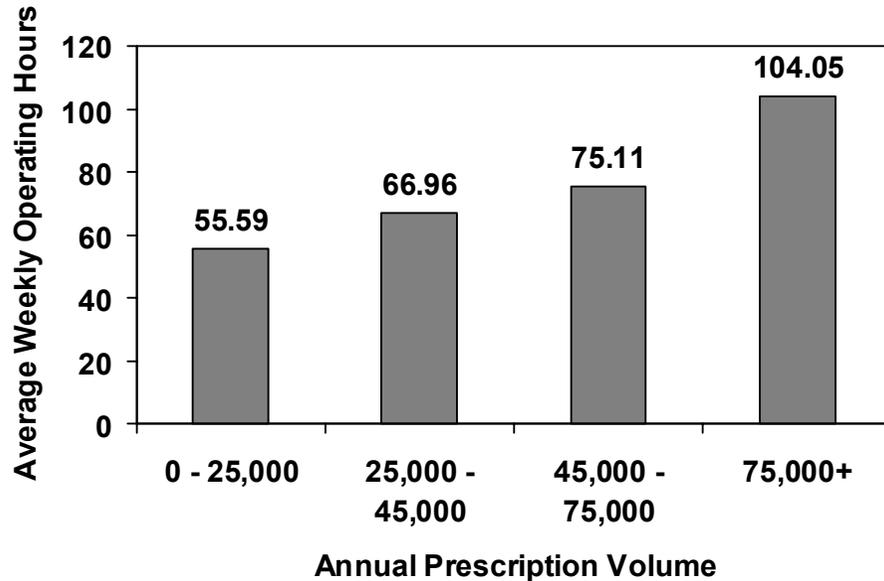
# While dispensing costs are driven by the number of prescriptions, Other Professional Pharmacy Services have no comparable measured output<sup>(1)</sup>

- For dispensing service costs, the driver is easily defined as the volume of prescriptions
- For other pharmacy services, the driver is more difficult. While the services are clearly demanded, definitely provide value in the medical system and are provided by the pharmacy staff,
  - The output is primarily verbal counsel and is not measured
  - The client or patient receiving services may not be a prescription customer
  - The services identified are mostly “ad hoc” services offered upon request
  - There is no clear compensation specifically provided



In order to discuss and compare, overall findings information will initially be presented based upon hours of operation, representing the time during which pharmacy services are available

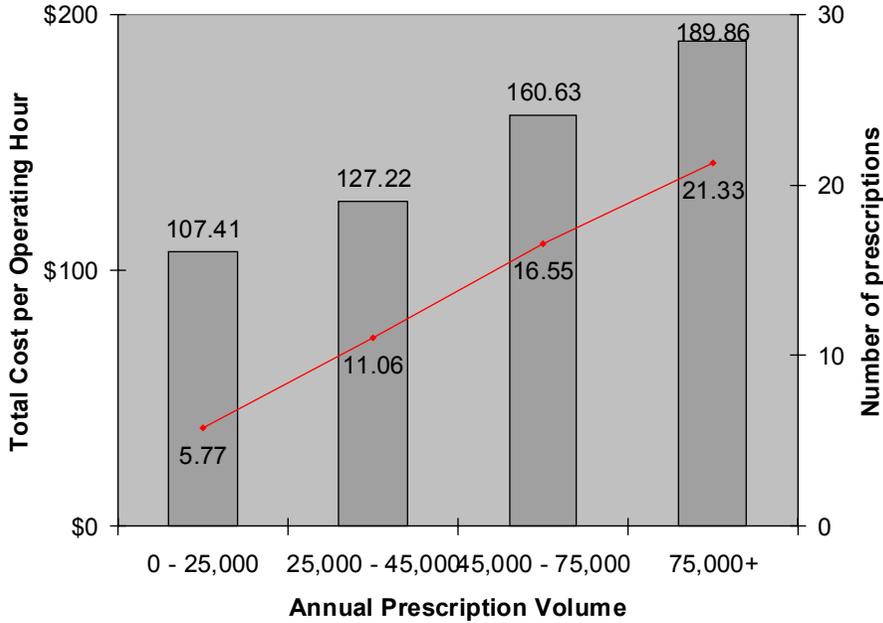
# Pharmacies in the ABC Study sample represent over 3,500 operating hours and over 10,000 pharmacy staff hours per week



- Hours of operation ranged from 40 hours per week to 168 hours per week
- The overall average was 74.62 hours per week
- Independently owned stores averaged 56.17 hours a week
- By Health Authority, Vancouver Coastal pharmacies averaged longer hours of operation and the Interior pharmacies fewer
  - Vancouver Coastal 96.38 average hrs
  - Fraser 76.67
  - Vancouver Island 70.80
  - Northern 66.78
  - Interior 58.15

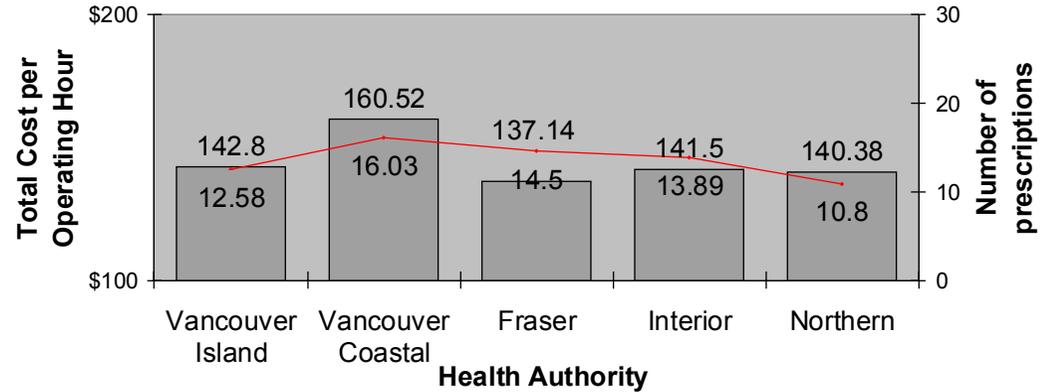
# Total costs per operating hour range from \$60.19 to \$304.18 for individual pharmacies, increasing as the volume of prescriptions increases

### Average Total Cost per Hour By Annual Prescription Volume



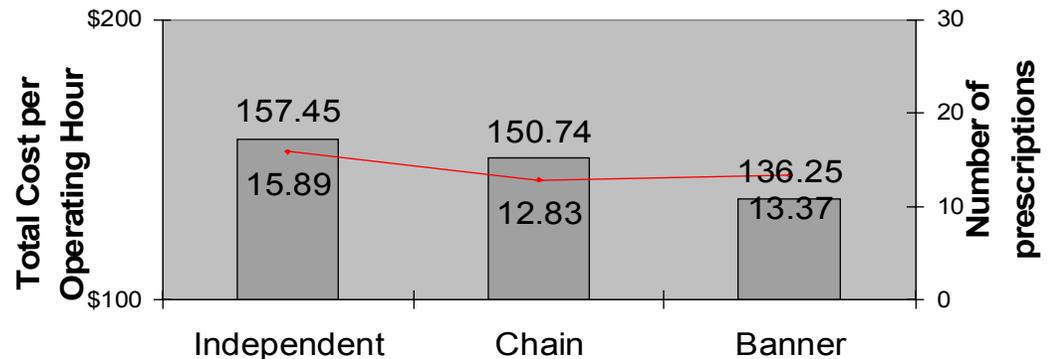
■ Avg. total costs per hour open    — Avg. prescription volume per hour

### Average Total Cost per Hour by Health Authority



■ Avg. total costs per hour open    — Avg. prescription volume per hour

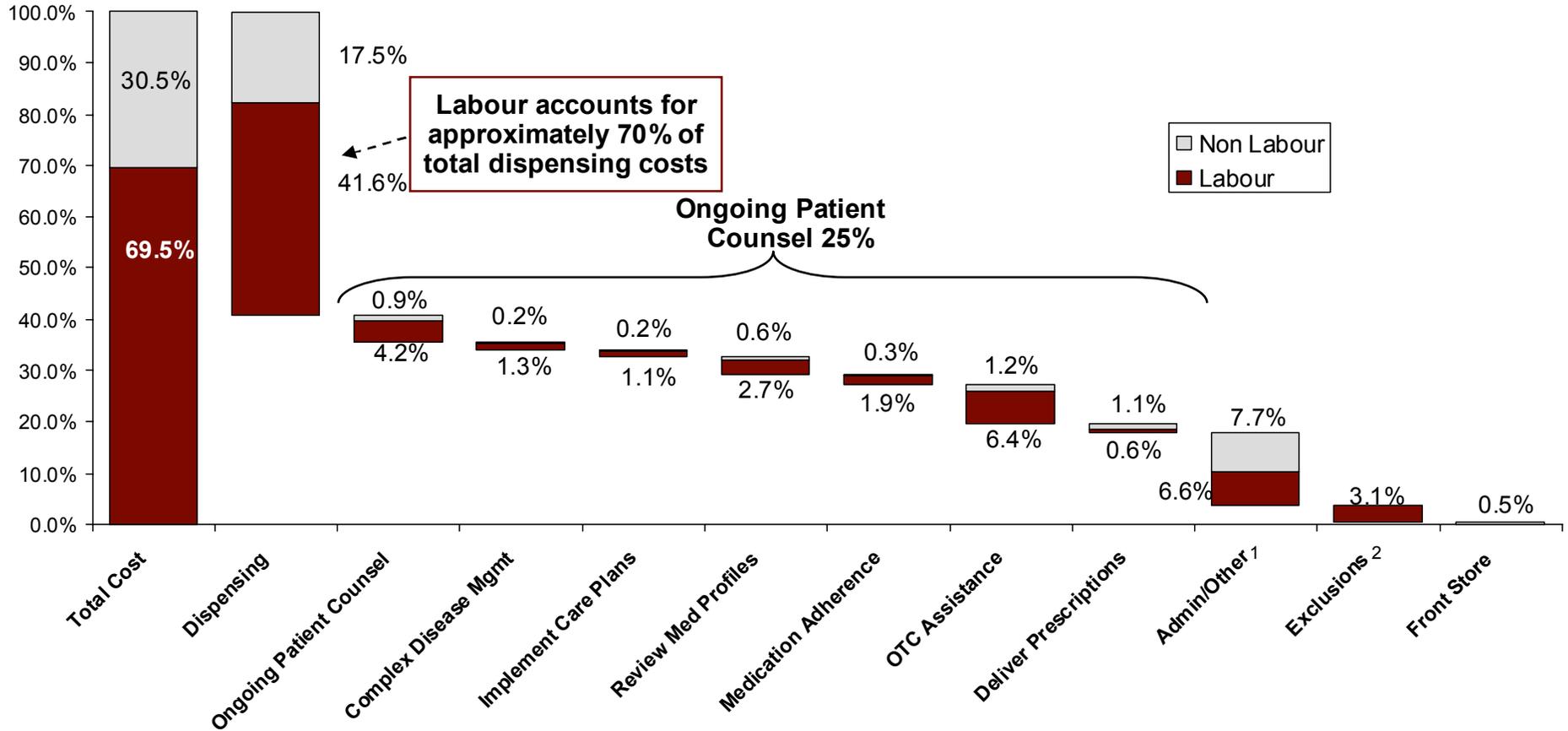
### Average Total Cost per Hour by Store Type



■ Avg. total costs per hour open    — Avg. prescription volume per hour

# Labour contributes a significant share of overall pharmacy costs

Weighted Average Cost Allocation across Participants

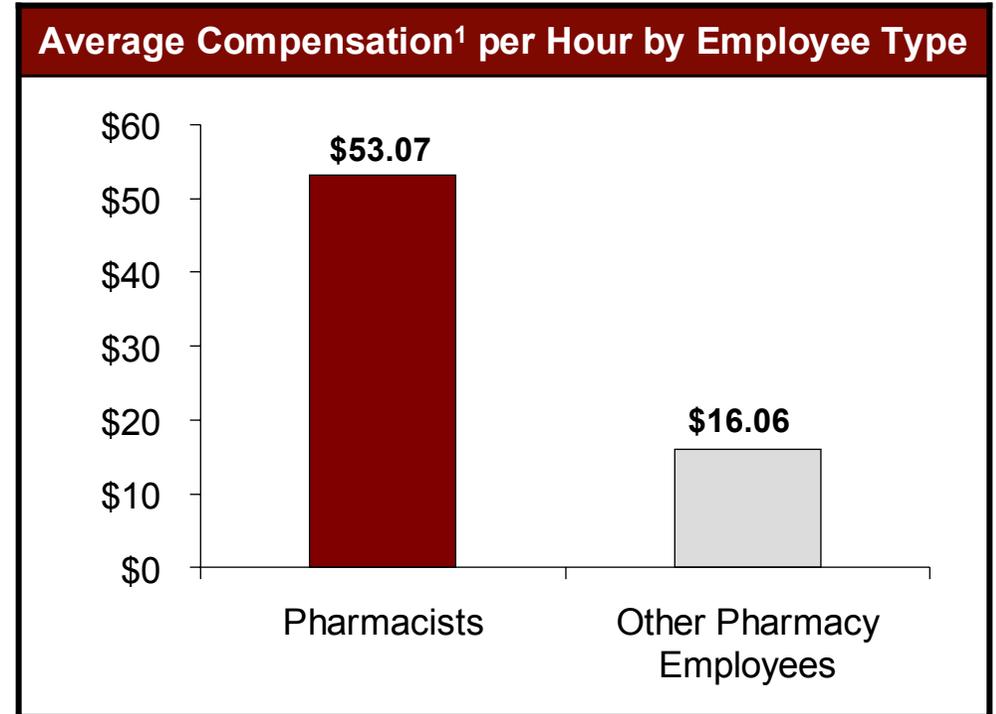
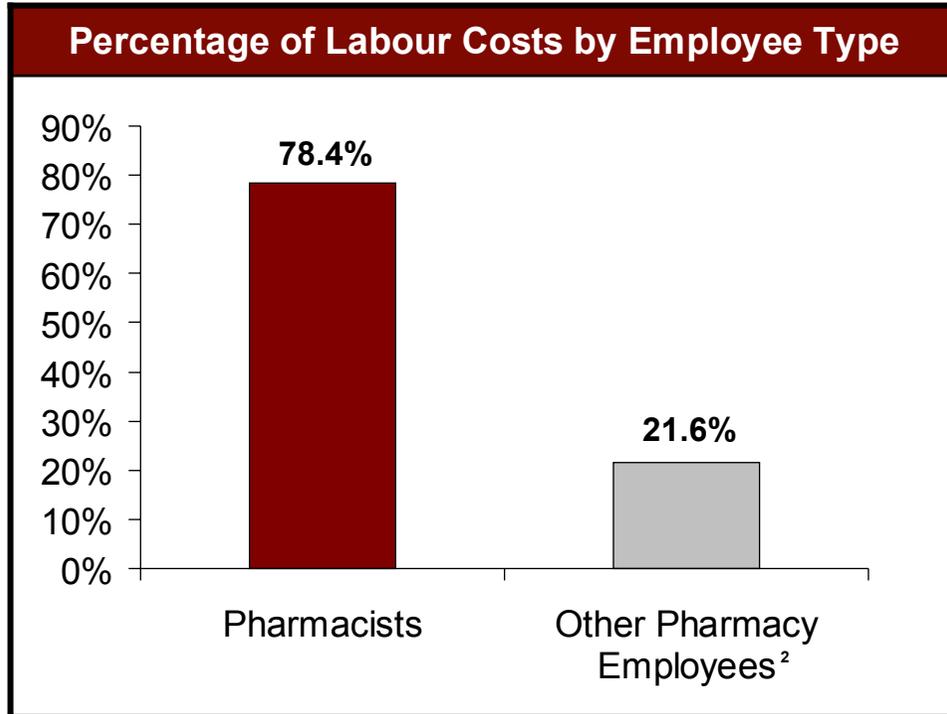


Notes: (1) Administrative/Other includes labour costs related to corporate requests, pharmacy staffing and employee issues, etc. Non-labour costs are various resources allocated to administrative functions

(2) Exclusions includes costs for methadone, complex compounding and special service fees. See appendix for details

Source: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

# Pharmacists accounted for an average of almost 80% of labour costs in the sample population



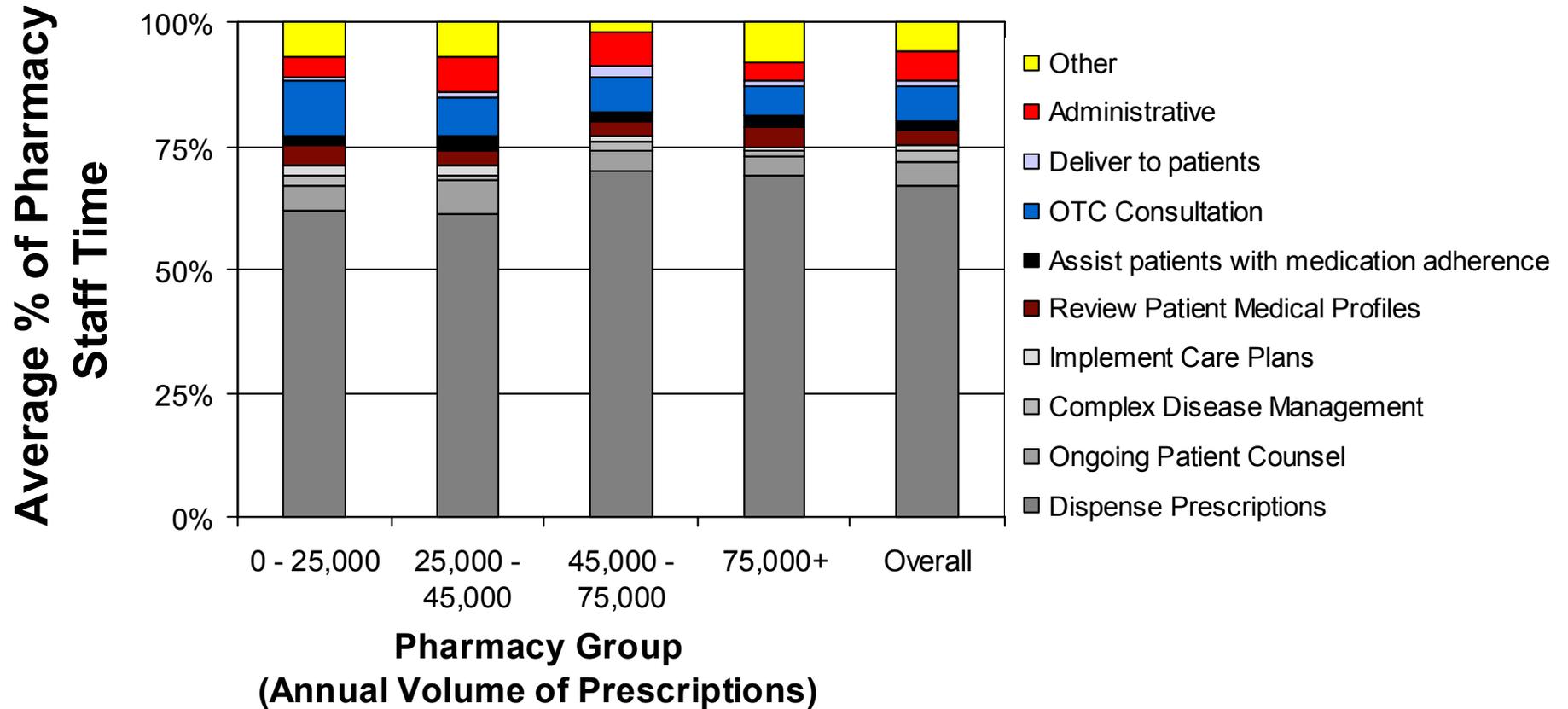
Notes: (1) Compensation includes wages, bonuses, taxes, benefits, overtime and any other compensation expenses

(2) Other pharmacy employees includes pharmacy technicians and clerks

Source: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

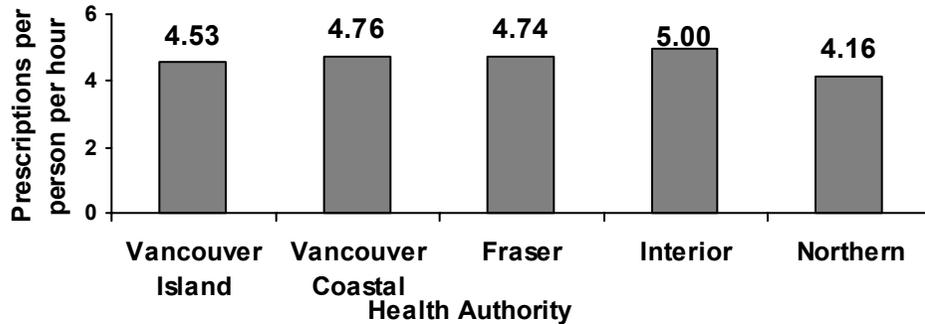
# Pharmacy staff hours are dominated by the dispensing of prescriptions but include other activities and services

**Smaller Volume Pharmacies Provide Slightly More Non-dispensing Services on Average**

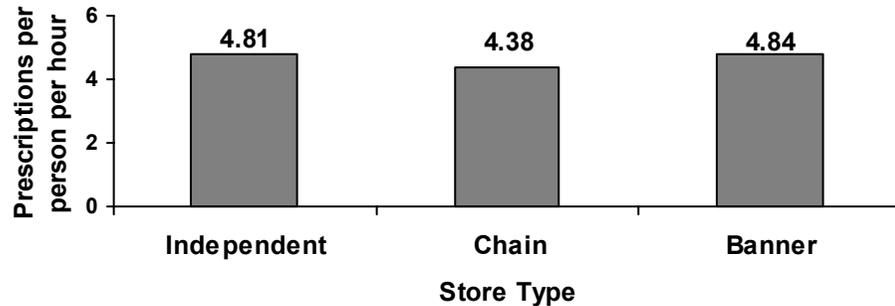


# There are clear economies of scale in the number of prescriptions per staff hour, but influence of geography or format is not significant

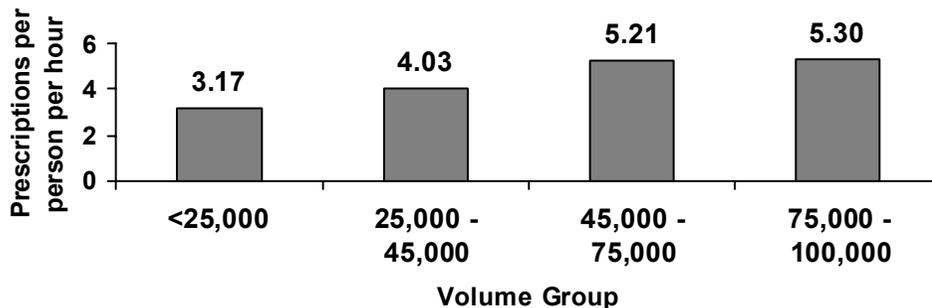
Average Number of Prescriptions per Person per Hour Staffed in the Pharmacy



Little geographic influence



Little difference between store formats

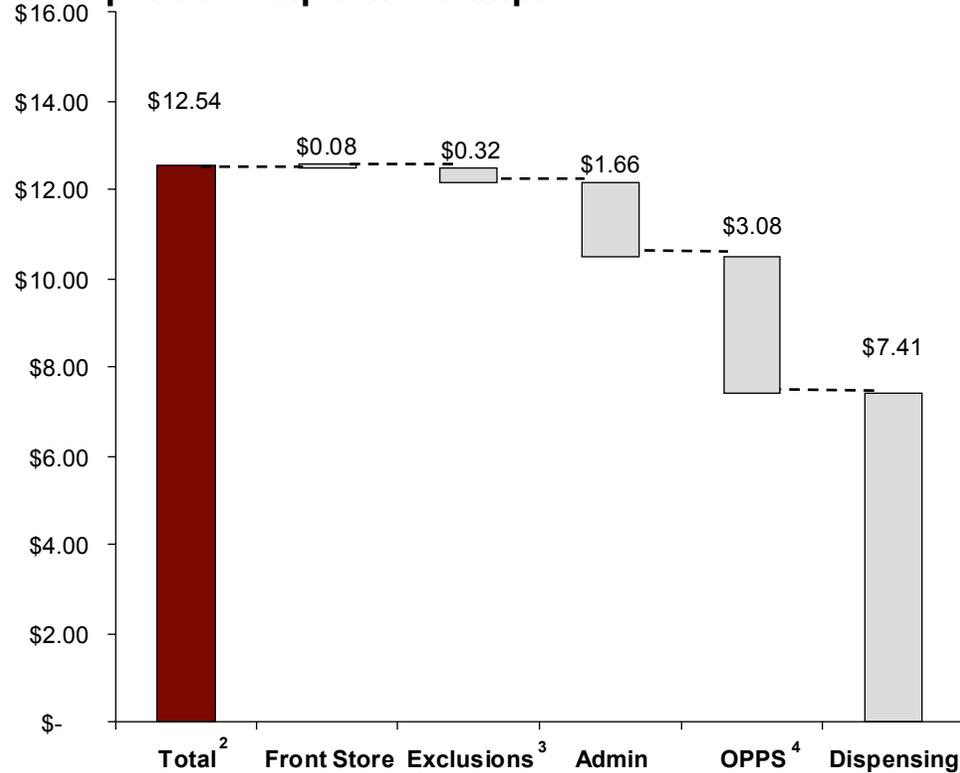


Economies of scale level off above 45,000 Prescriptions per year

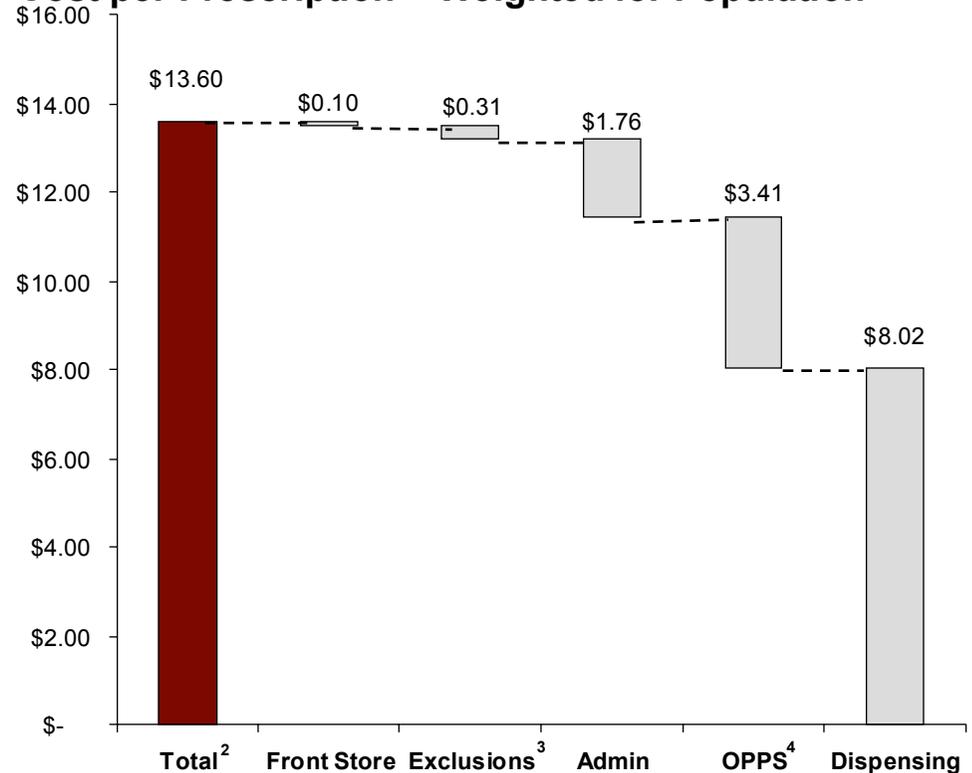


# On average, the weighted<sup>1</sup> dispensing cost is approximately 60% of total pharmacy costs, or \$8.02 per prescription

**Cost per Prescription – Sample**



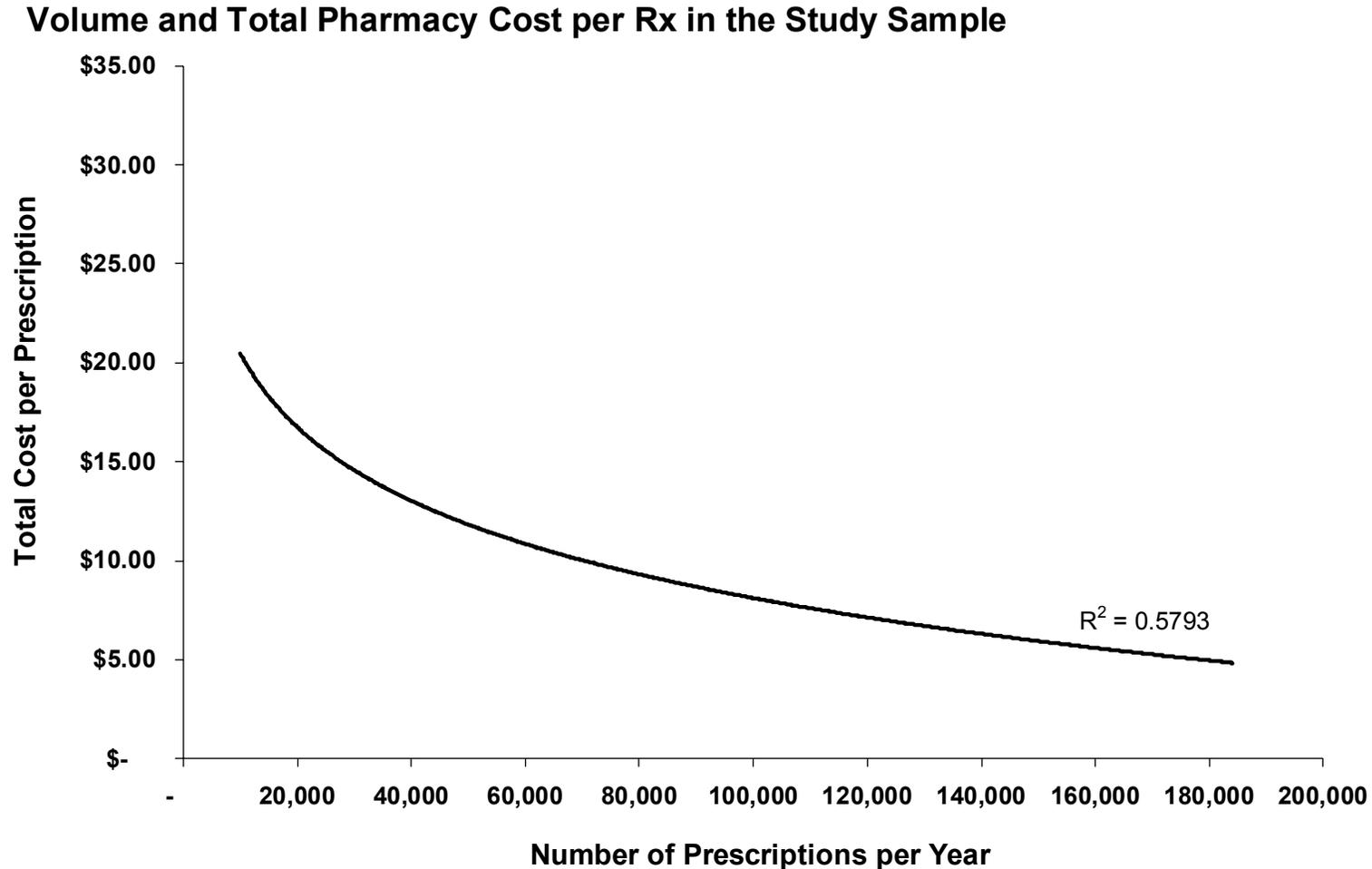
**Cost per Prescription – Weighted for Population**



- Notes:
- See appendix page 151 for sample pharmacy cost analysis
  - (1) The sample size was representative of many combinations of store characteristics, but could not also be representative of the natural frequency of those characteristics. Each sample store was weighted by the number of similar stores in the population. For a detailed description of this methodology see the Appendix
  - (2) Total is the sum of Front Store, Exclusions, Admin, OPPTS and Dispensing; Total cost is the resources used by the pharmacy and does not reflect all resources used by business conducted in the front store
  - (3) Includes costs for methadone, complex compounding and special services fees
  - (4) Other Professional Pharmacy Services (Ongoing counseling, OTC consultation, etc.)
  - (5) While Front of Store, Administrative, and OPPTS are not directly related to the number of prescriptions, we have used volume as a proxy for activity in a store to compare the relative cost

Sources: Pharmacy interviews; Pharmacy financials, AT Kearney analysis

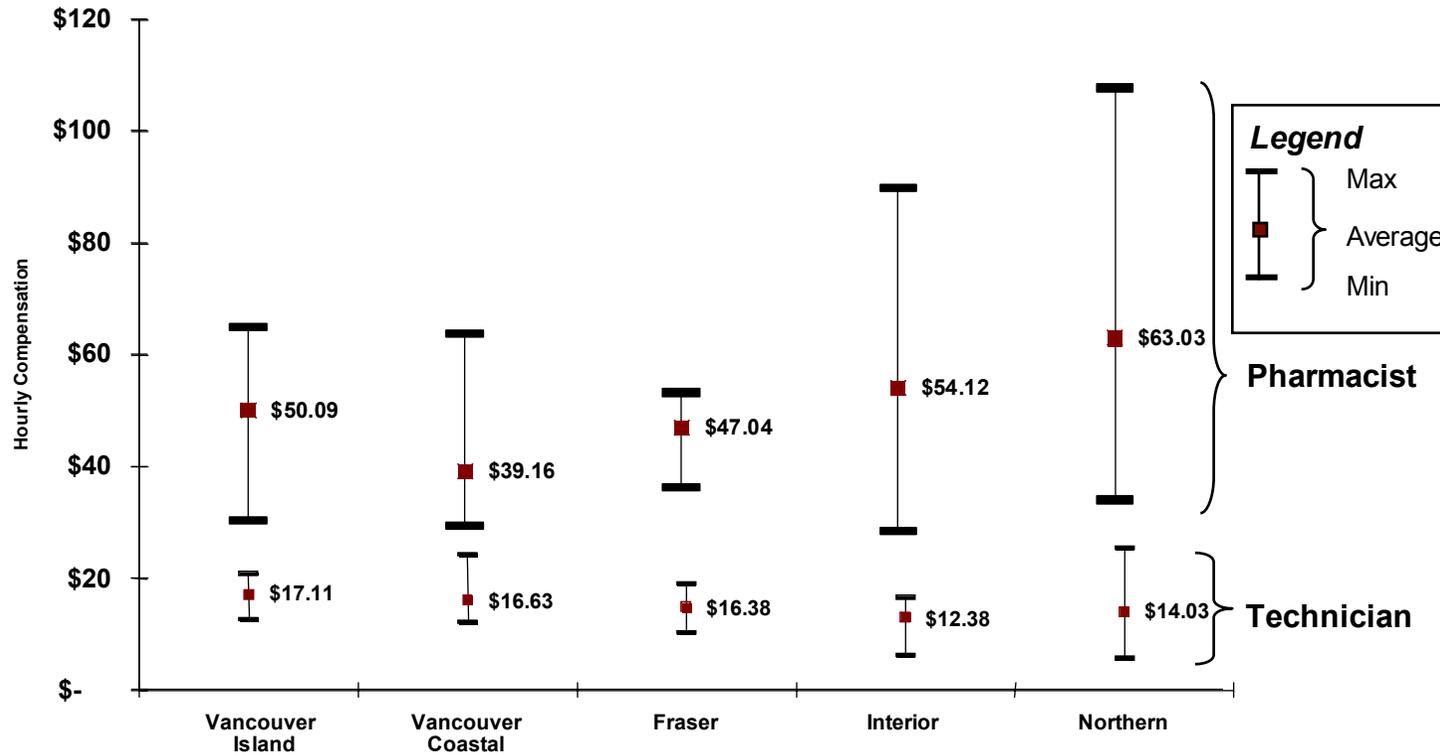
# Total Cost of pharmacies with higher volume is less on a per prescription basis than lower volume pharmacies



Note: (1) Total Cost is absolute cost that was provided in pharmacy data collection before any allocations. This analysis based on sample data (no weighting)  
 (2)  $R^2$  is the statistical measure of how well a regression line fits real data points, or the predictive power of a model. The closer to 1, the stronger the fit.  
 Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

# Average hourly pharmacist and pharmacy technician compensation varies widely both within and across Health Authority

Average Hourly Compensation by Health Authority

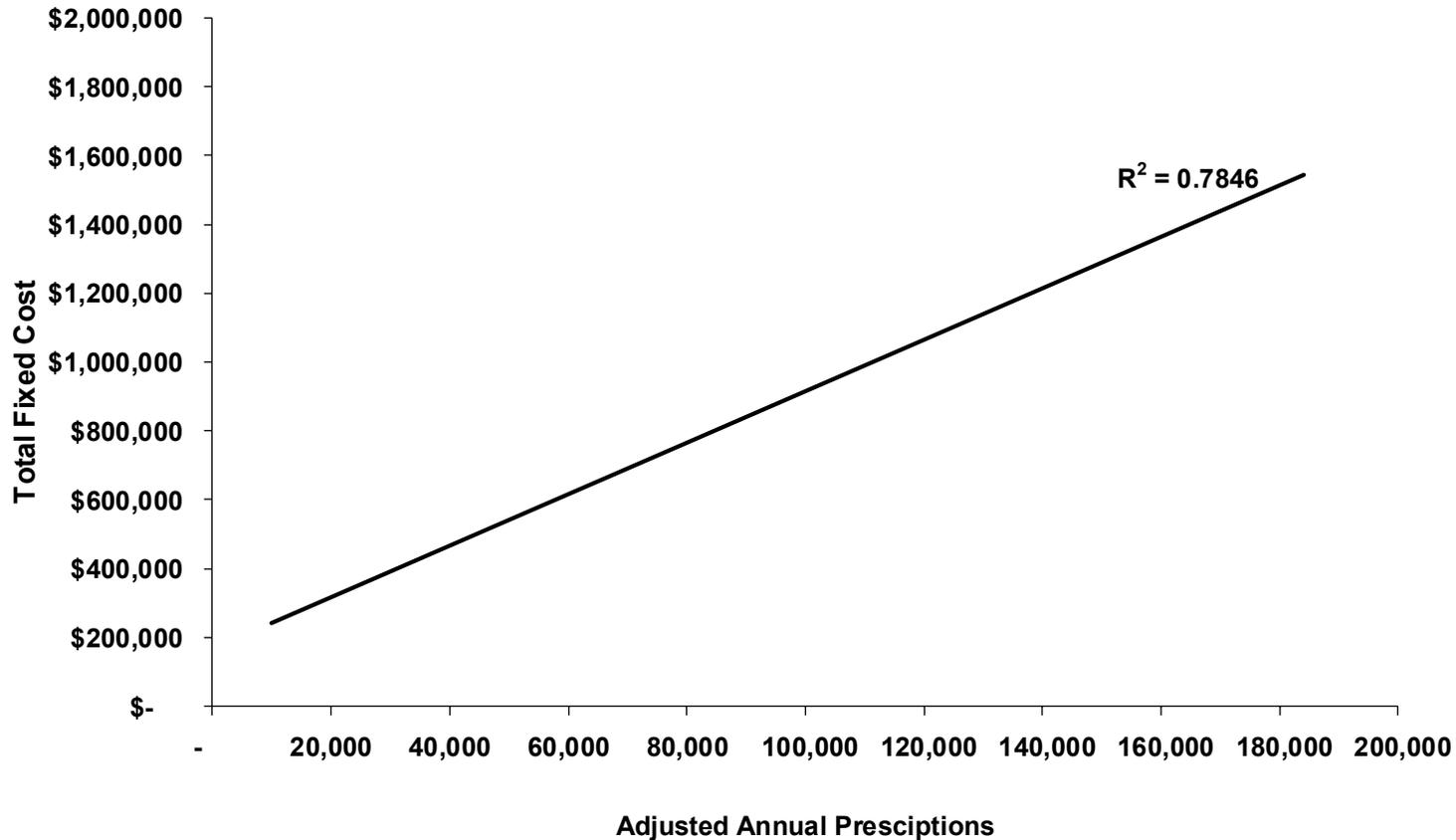


Note: (1) Compensation per hour represents total compensation including taxes, benefits, retention bonus, overtime and any expenses

Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

# Total pharmacy cost is highly correlated to the volume of prescriptions

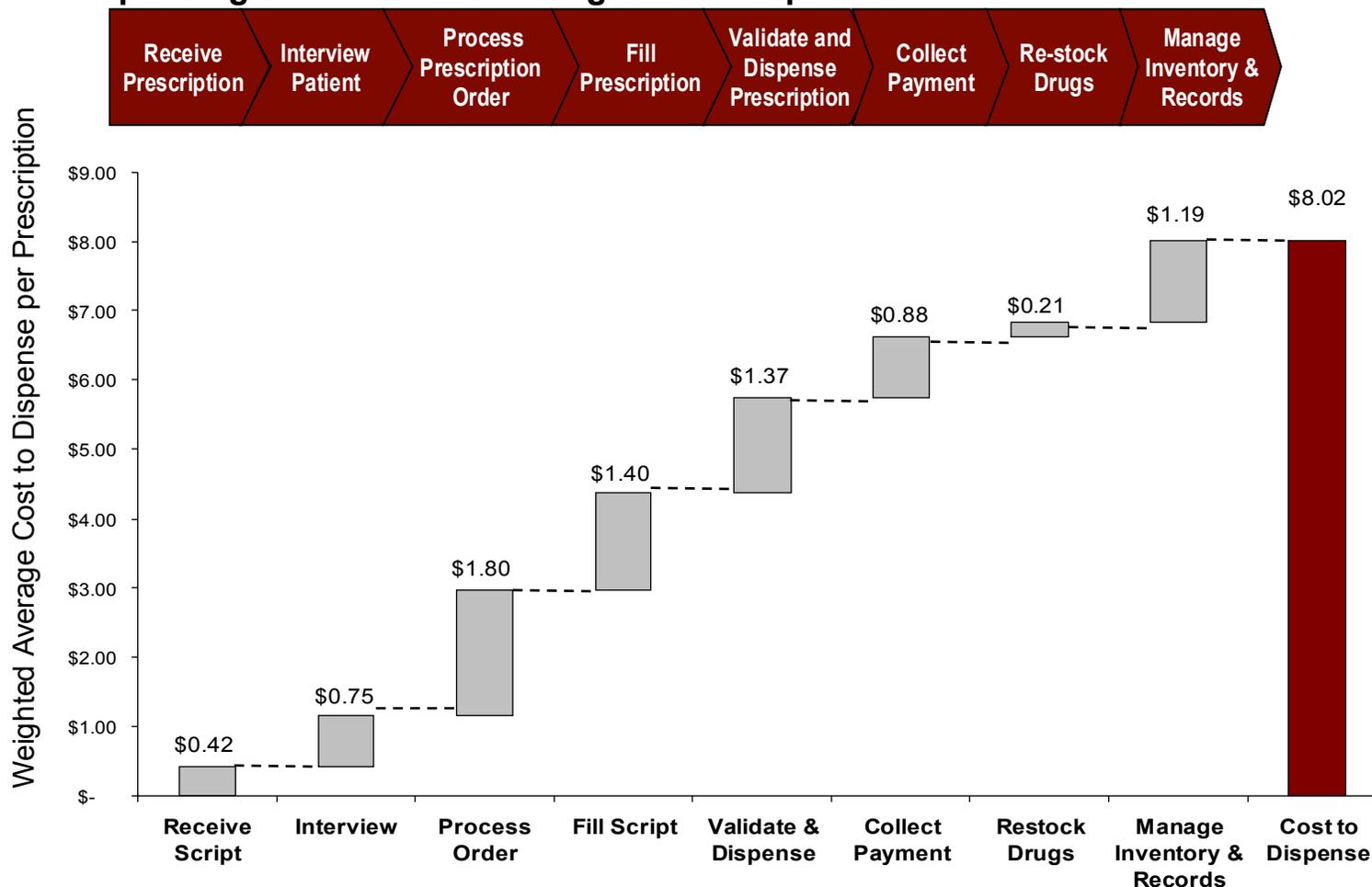
## Total Cost and Annual Prescriptions by Pharmacy



Note: (1)  $R^2$  is the statistical measure of how well a regression line fits real data points, or the predictive power of a model. The closer to 1, the stronger the fit.  
Source: Pharmacy Interviews; Pharmacy financials; A.T. Kearney analysis

# A majority of the dispensing costs reside in the ‘process prescription order’, ‘fill prescription’ and ‘validate & dispense activities’

**Dispensing Sub-Activities – Weighted for Population**



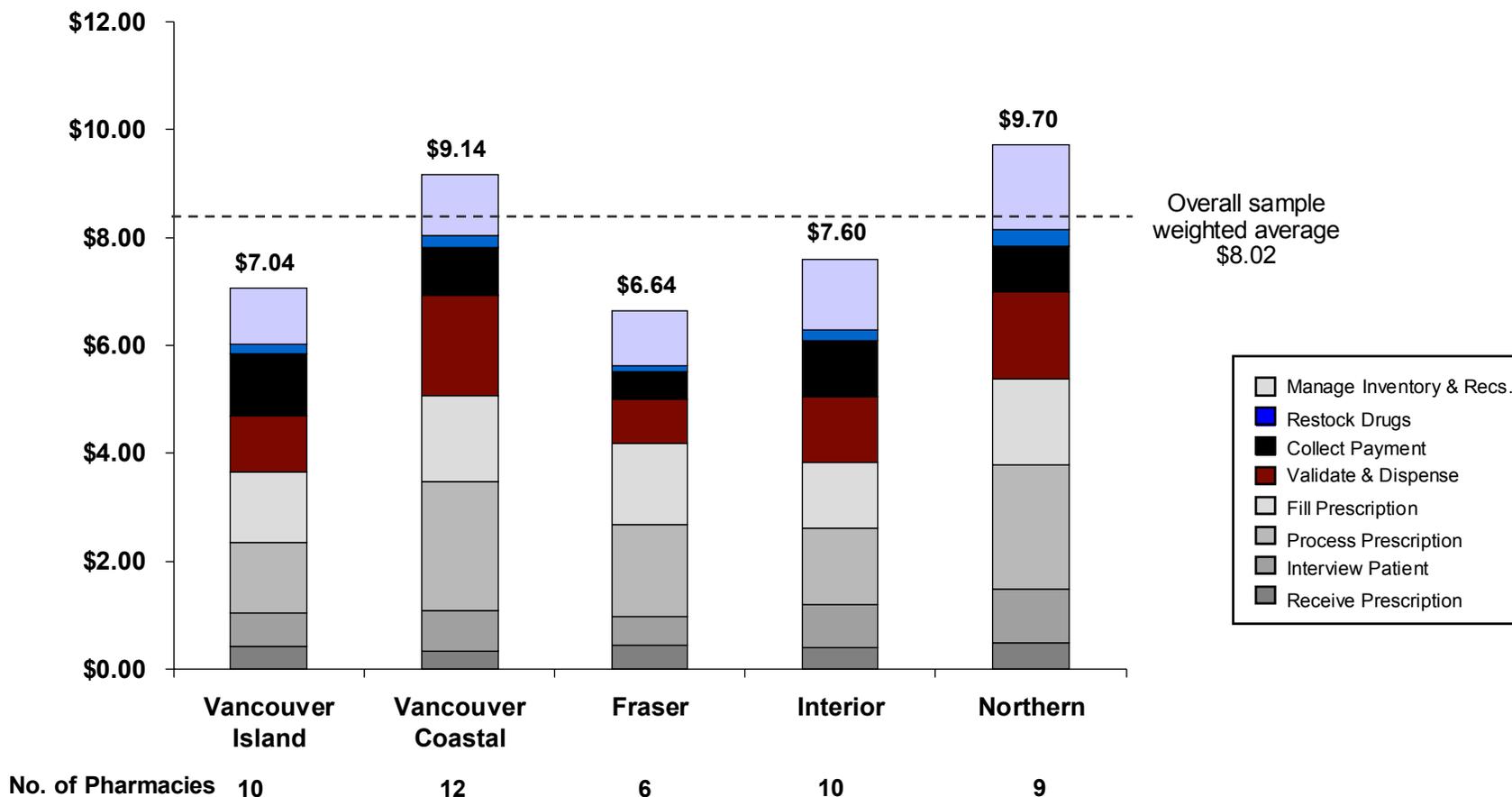
Notes
<ul style="list-style-type: none"> <li>▪ All inventory carrying costs are included in “Manage Inventory &amp; Records”</li> <li>▪ Pharmacists spend over 65% of their time in the ‘Process Prescription Order’ to ‘Dispense’ steps                             <ul style="list-style-type: none"> <li>▪ ‘Fill Prescription’ and ‘Process Prescription Order’ are generally more non-labour resource intensive than the others</li> </ul> </li> <li>▪ Pharmacy Techs’ time is spread more evenly, but has less of a cost impact due to lower wages</li> </ul>

Notes: (1) Costs shown include labour and non-labour components. See appendix for mix of labour and non-labour by sub-activity  
 (2) Totals may not add up exactly to total due to rounding

Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

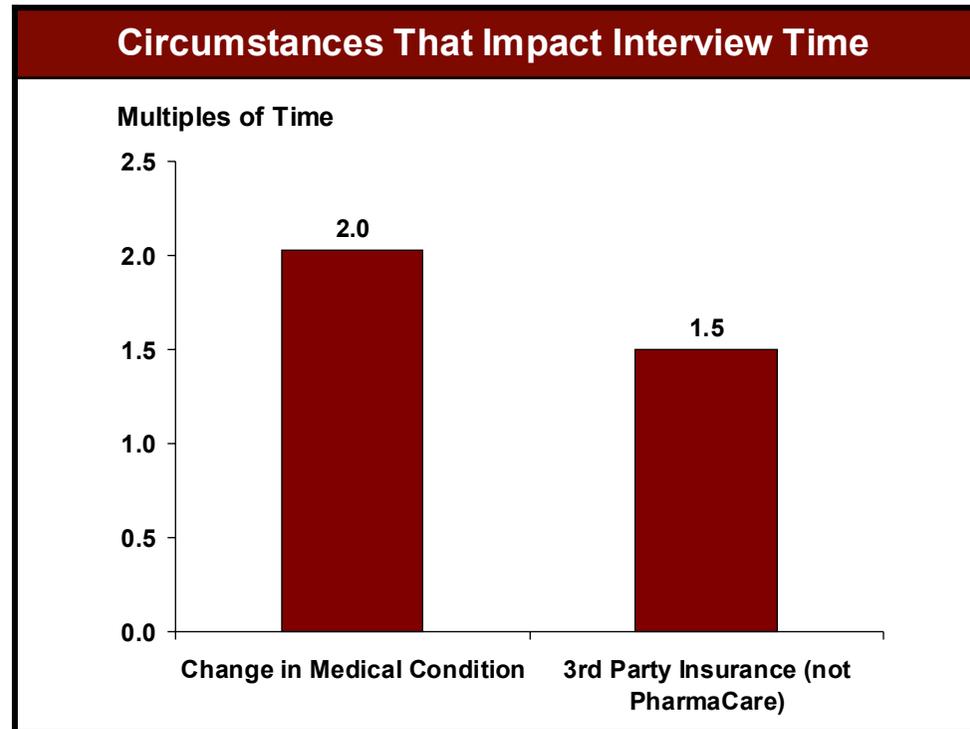
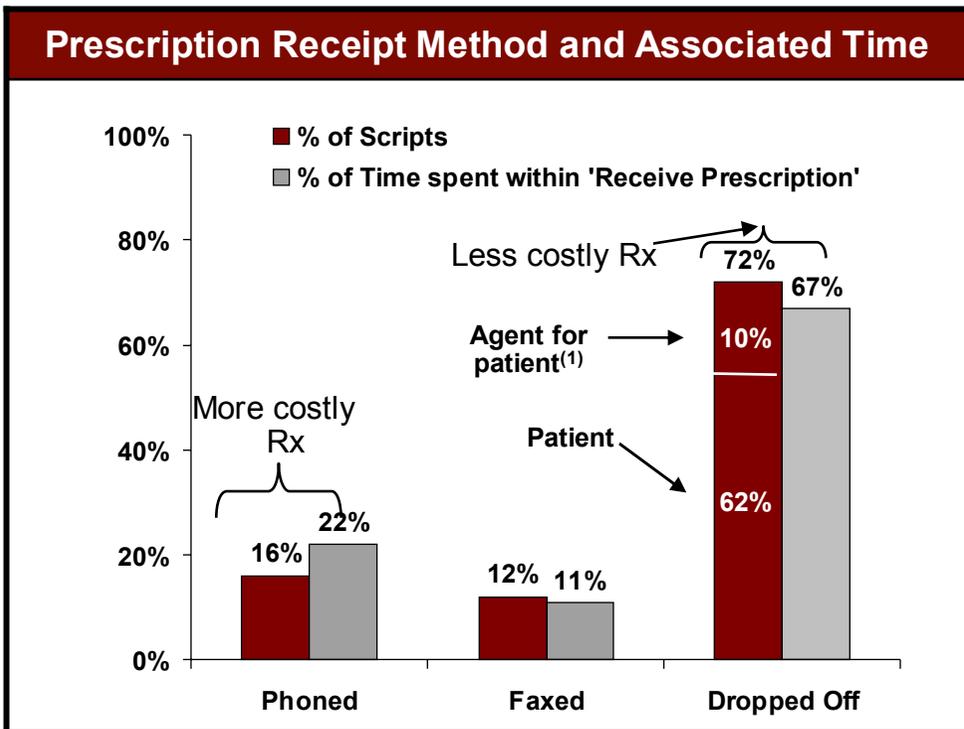
# Across the Health Authorities, the weighted average cost to dispense ranges from \$6.64 to \$9.70 for the sample population

Dispensing Cost per Prescription – Weighted for Population



Notes: (1) See appendix for a map of the Health Authorities  
 Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

# A majority of prescriptions are dropped off in the pharmacies, and in the event that there is a change in medical condition, 68% of interviews are extended

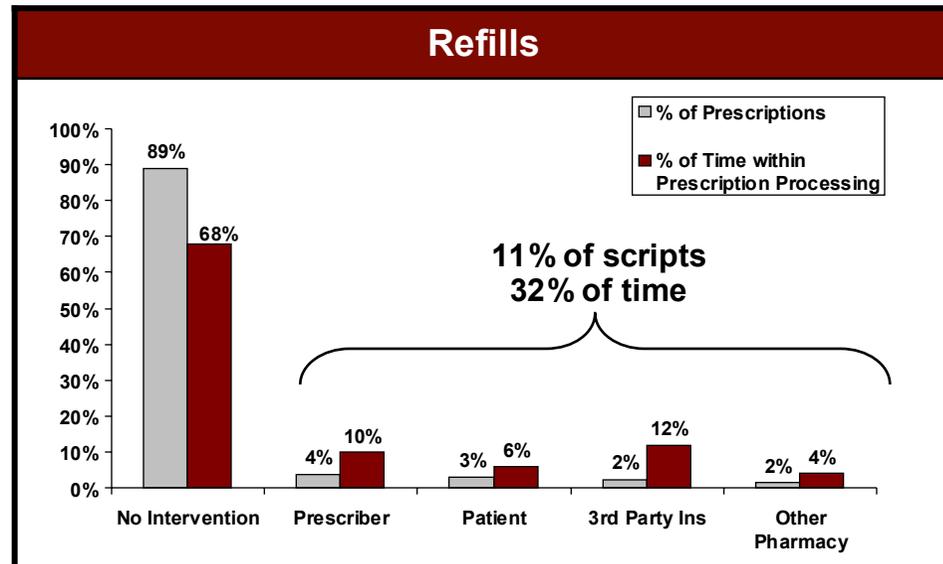
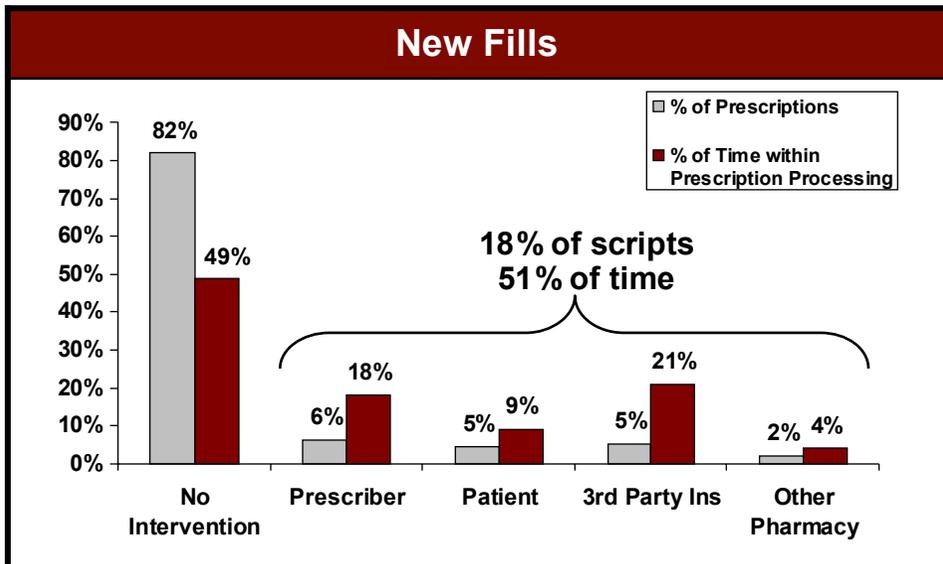


- Receiving prescriptions by phone is the least efficient receiving method
- Prescription receipt takes less than 10% of pharmacy employees' time
- On average, it takes 2.5 times longer to receive a new prescription than a refill prescription

- Over 68% of pharmacies responded that the interview takes longer when a change in medical condition has occurred
- 20% of prescription interviews are impacted by 3<sup>rd</sup> party insurance issues such as finding the card, taking new information when there is a change in insurance carriers, multiple 3<sup>rd</sup> parties per family

Note: (1) An Agent for Patient is a 3<sup>rd</sup> Party representing the patient and could include a family member, friend, care taker, etc.  
 Sources: Pharmacy interviews; A.T. Kearney analysis

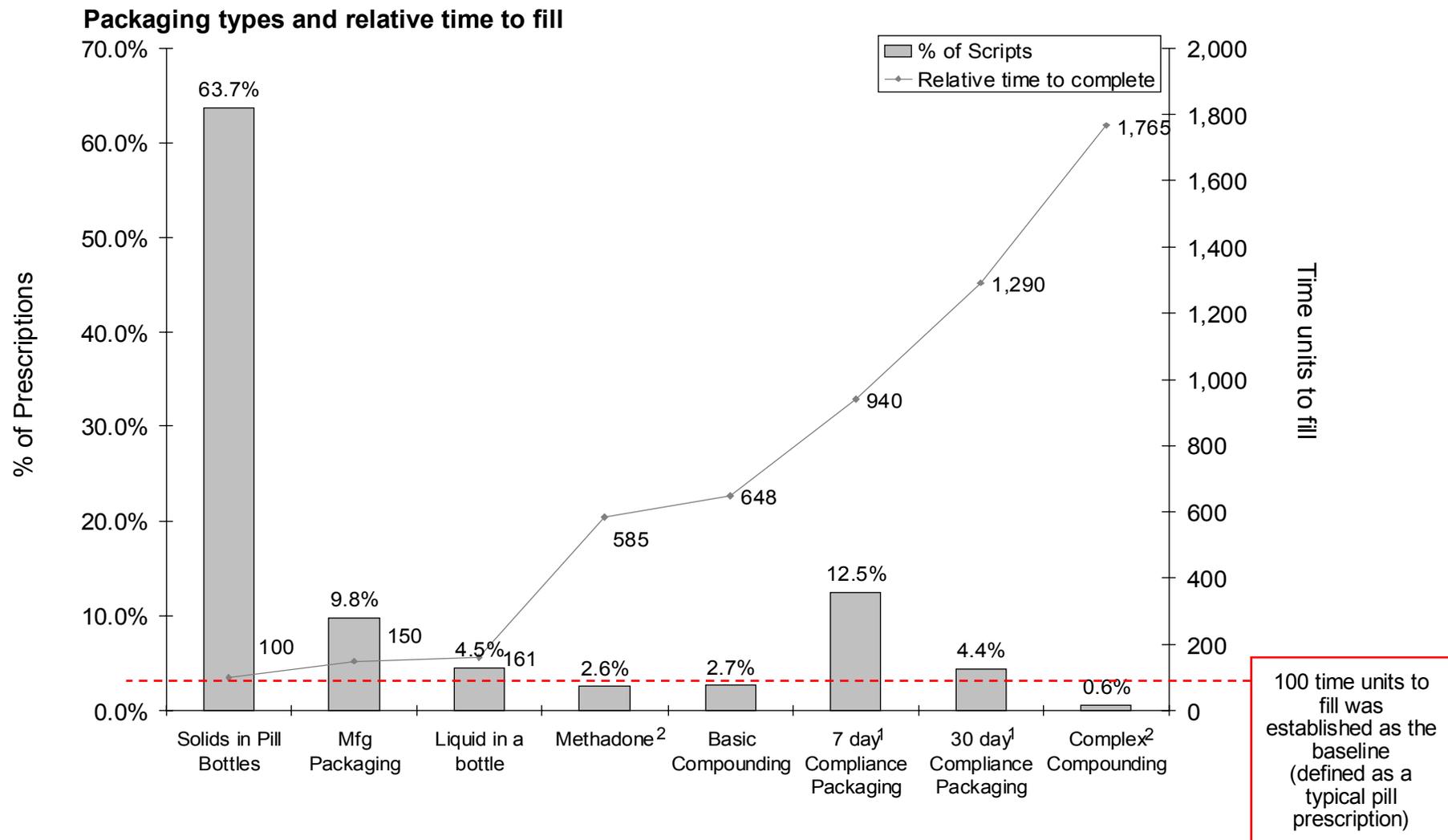
# During ‘prescription processing’, a disproportionate amount of cost and time is consumed by prescriptions that require intervention



Party of Clarification	Most Common Reasons Cited
Prescriber	<ul style="list-style-type: none"> <li>▪ Dosage changes</li> <li>▪ Error in prescription</li> <li>▪ Patient drug interactions</li> </ul>
Patient	<ul style="list-style-type: none"> <li>▪ Confirm prescription changes</li> <li>▪ Clarify drug interactions</li> <li>▪ Potential payment issues</li> </ul>
3rd Party Insurance	<ul style="list-style-type: none"> <li>▪ Verify or confirm coverage</li> <li>▪ Patient information mismatch</li> </ul>
Other Pharmacy	<ul style="list-style-type: none"> <li>▪ Transfers</li> <li>▪ Obtain 3rd party information</li> </ul>

**When interventions are required, multiple contacts are usually required to reach a resolution**

# The average cost to 'fill prescription' is \$1.30, and is impacted significantly by the packaging type



Notes: (1) Incremental time to fill is excluded from Dispensing cost and includes 14-day compliance packaging

(2) Excluded from dispensing cost calculations

Sources: Pharmacy interviews; A.T. Kearney analysis

## Over half of the pharmacies reported that prescriptions with complicated dosages/ drug interaction issues prolong ‘validating and dispensing’

Examples of Issues Encountered in Validating and Dispensing	% of Pharmacies Reporting	% of Prescriptions <sup>1</sup>	Multiples of Time to Dispense
Complicated dosage, numerous meds, risk of interaction or reaction	53%	14%	3.1x
Patient confusion (e.g., elderly, hearing problem, dementia)	47%	20%	3x
Language barrier	14%	24%	3.3x
Others: Multiple diseases, patient distrust of medical system, cultural barriers, etc.	14%	46%	3x
Discovering other health issues, health education, disease education	10%	16%	3x

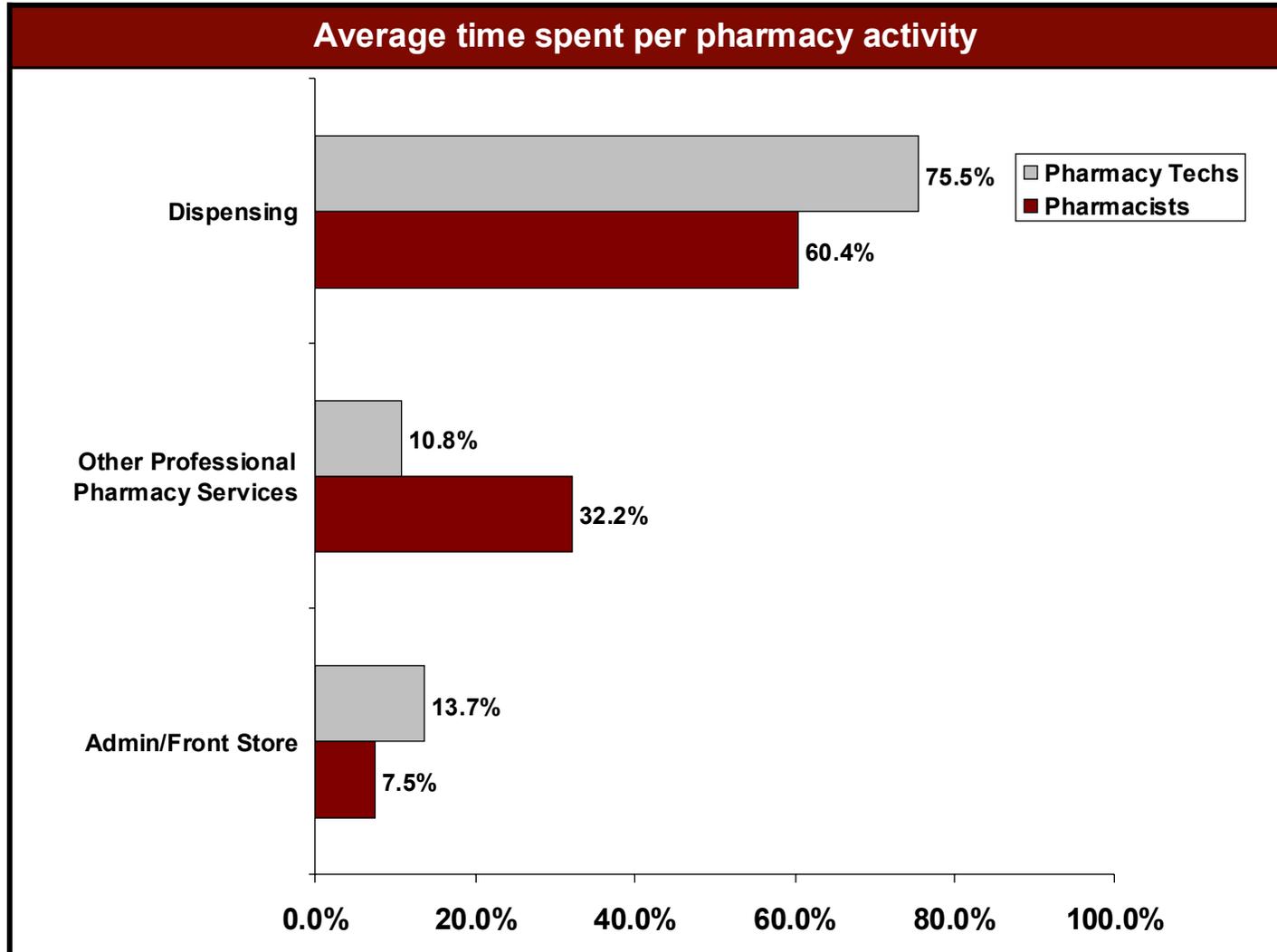
Note: (1) Of the pharmacies reporting the issue, this number represents the average number of prescriptions for which that issue occurs  
 Sources: Pharmacy interviews; A.T. Kearney analysis

## Questions about prescription plan coverage were the most pervasive issue in the 'collect payment' sub-activity

Issue Identified	% of Pharmacies	% of Prescriptions <sup>1</sup>	Multiples of Time to Dispense
PharmaCare Questions	74%	15%	3x
3 <sup>rd</sup> Party Insurance	38%	5%	3x
Special Authority	13%	2%	10x
Credit Card Payments	10%	30%	1.5x
Expensive Drugs	4%	1%	4x
Federal Programs	4%	1%	4x

Note: (1) Of the pharmacies reporting the issue, this number represents the average number of prescriptions for which that issue occurs  
 Sources: Pharmacy interviews; A.T. Kearney analysis

# Pharmacists spend approximately 60% of their time dispensing and 40% performing various other activities

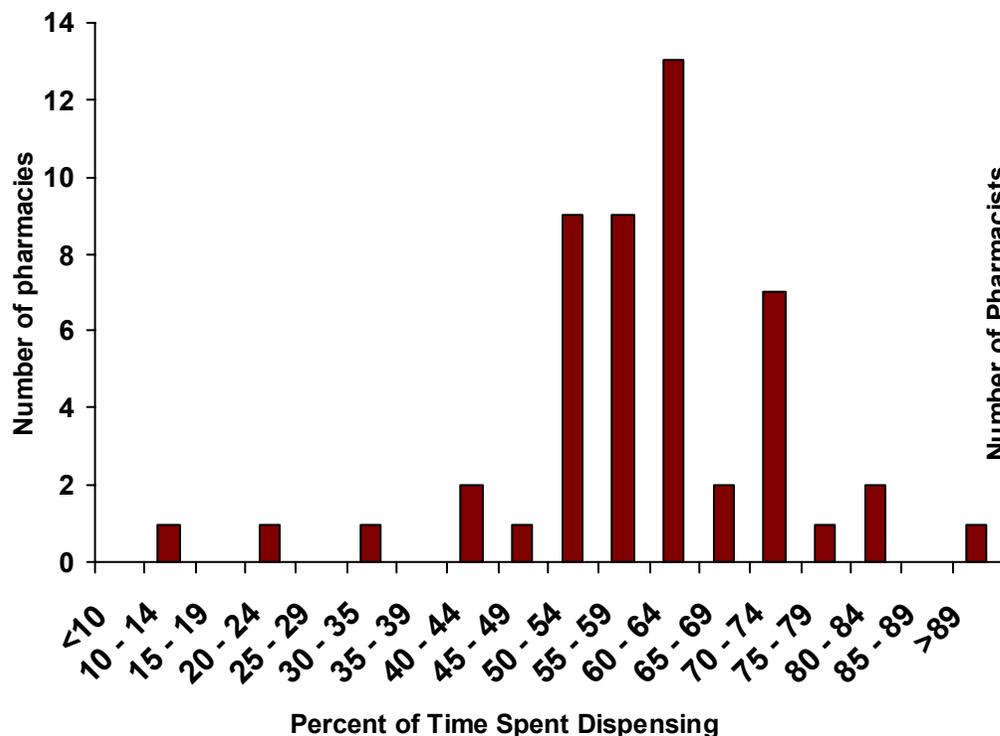


Note: Pharmacy technicians assist with some tasks performed primarily by licensed pharmacist

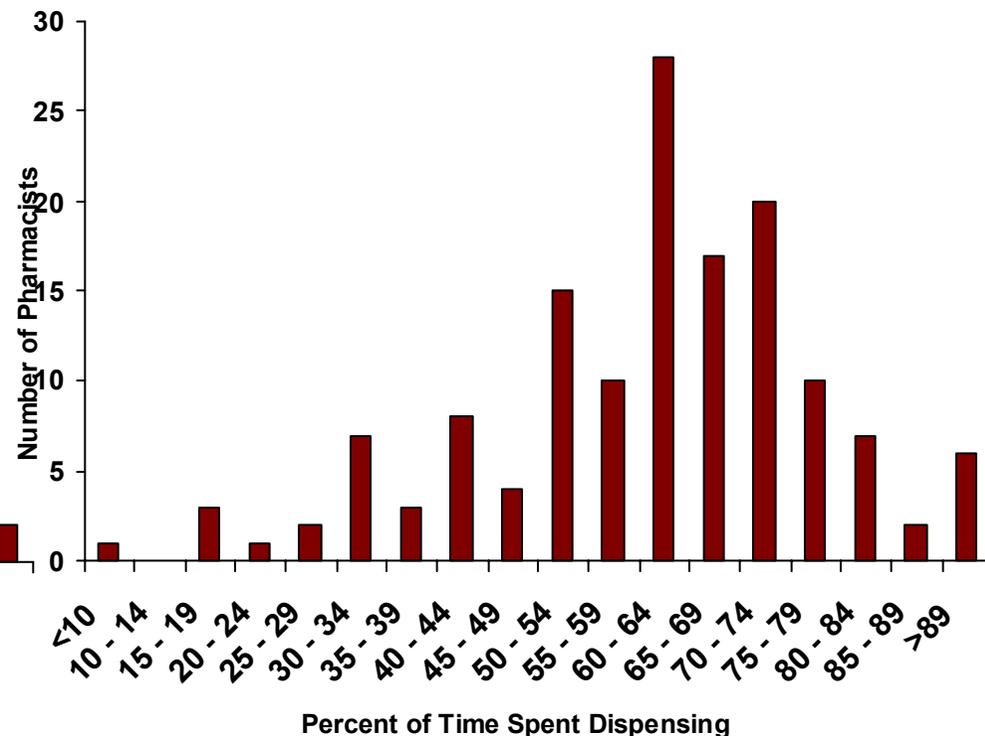
Sources: Average allocation of time across all pharmacy employees in the pharmacy interviews; A.T. Kearney analysis

# Time allocation to dispensing varied in a normal distribution by pharmacy and pharmacist

By Pharmacy: Average % of time spent dispensing  
(Sample = 47 pharmacies)

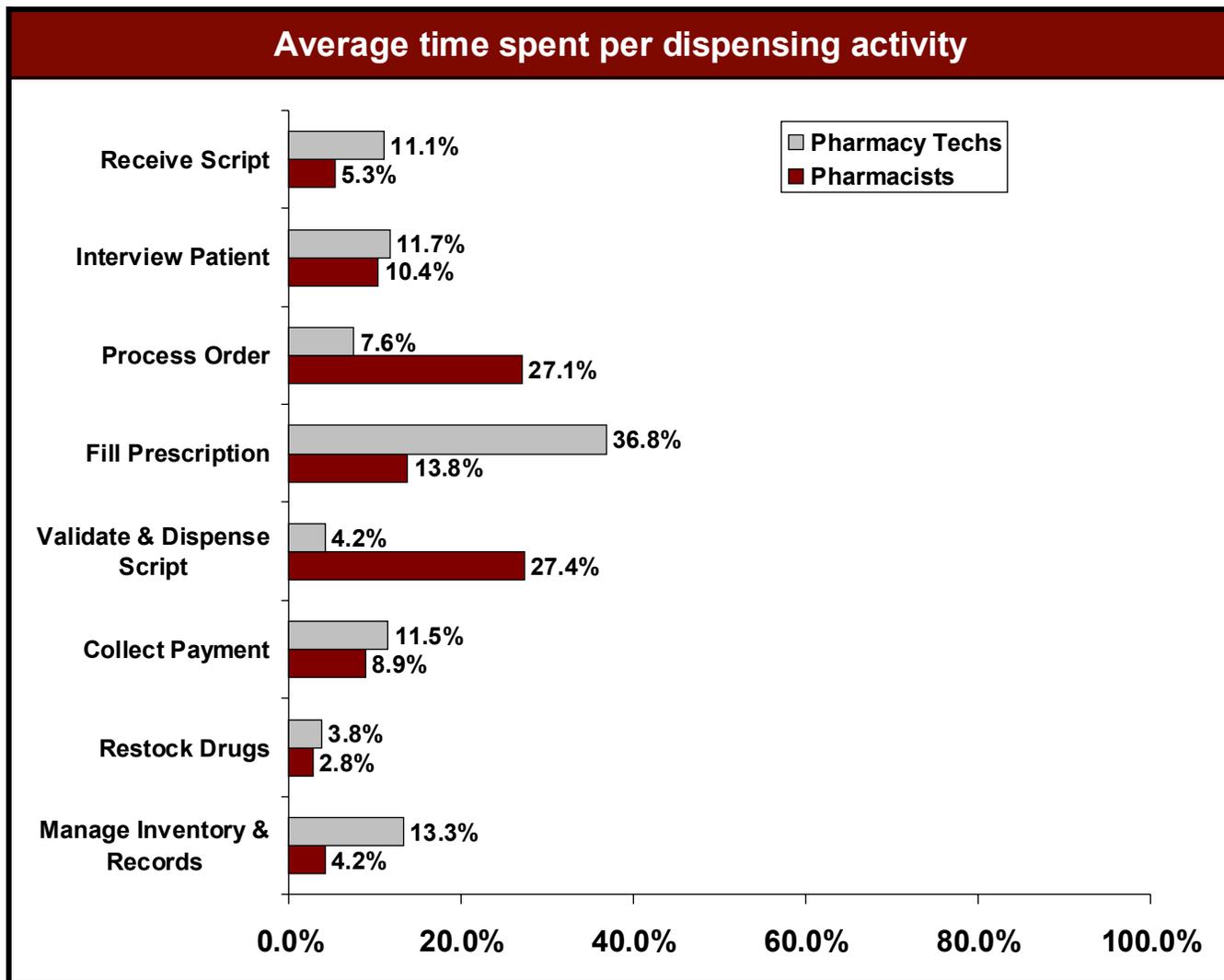


By Pharmacist: Average % of time spent dispensing  
(Sample = 150 pharmacists)



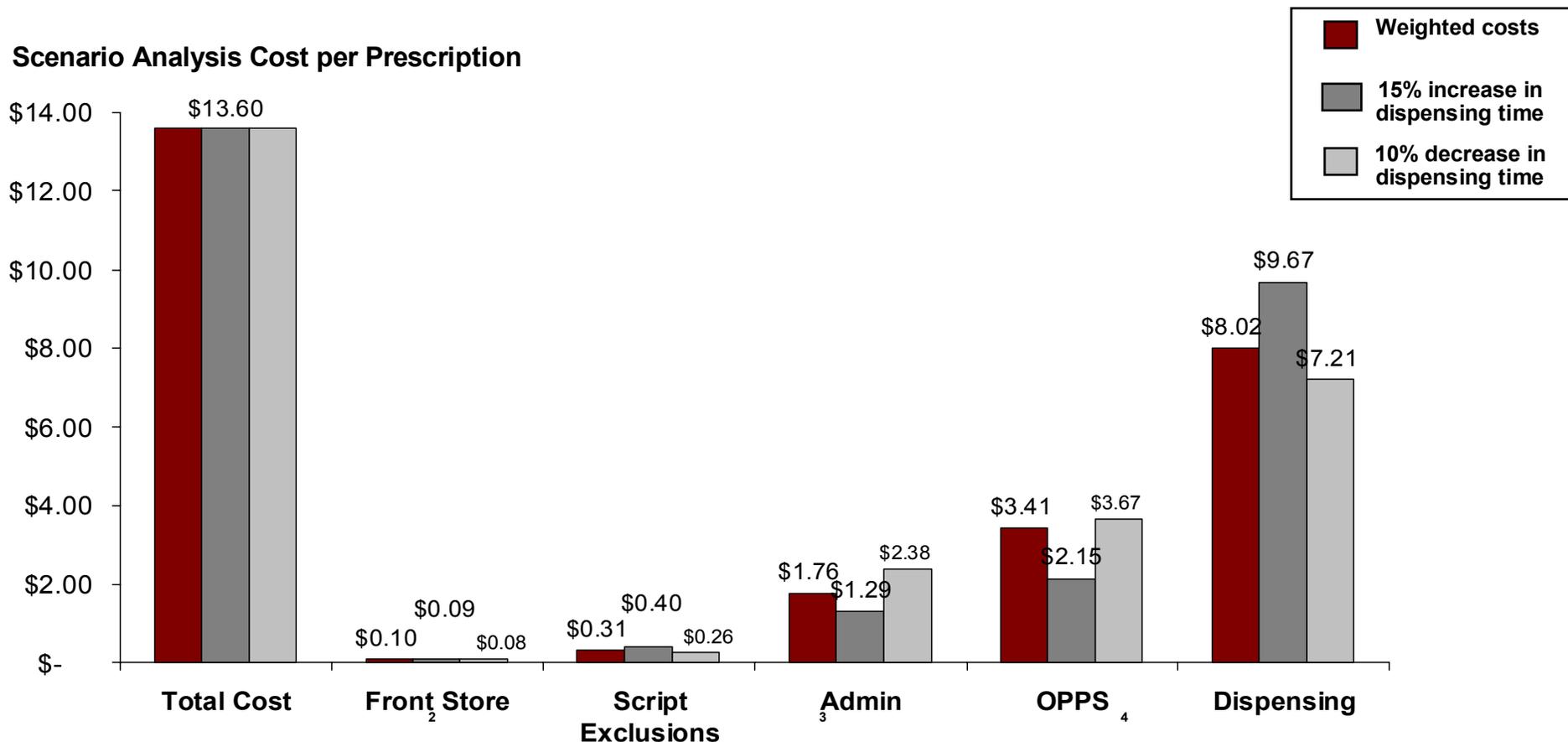
**80% of pharmacies and 75% of pharmacists fell within the 50% - 75% range of time spent dispensing**

# Pharmacists spend a majority of their time processing orders and dispensing scripts



- Notes/Findings**
- Pharmacists are legally required to provide counseling to patients and check for drug interactions
  - Pharmacy Techs were typically in charge of ordering, receiving and stocking inventory
  - Pharmacists and Pharmacy Techs spent similar amounts of their time interviewing patients
  - Descriptions of the sub-activities can be found in the Activity Dictionary included in the appendix

# Weighted average dispensing cost ranges from \$7.21 to \$9.67 as the percentage of time spent dispensing<sup>1</sup> changes from 50% to 75%



Notes: (1) Represents the percentage of pharmacist's time spent dispensing. This analysis accounts for variation in pharmacy tech's dispensing time as well  
 (2) Total Cost is absolute cost that was provided in pharmacy data collection before any allocations  
 (3) Includes costs for methadone, complex compounding and special service fees  
 (4) Other Professional Pharmacy Services (Ongoing counseling, OTC consultation, etc.)

Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

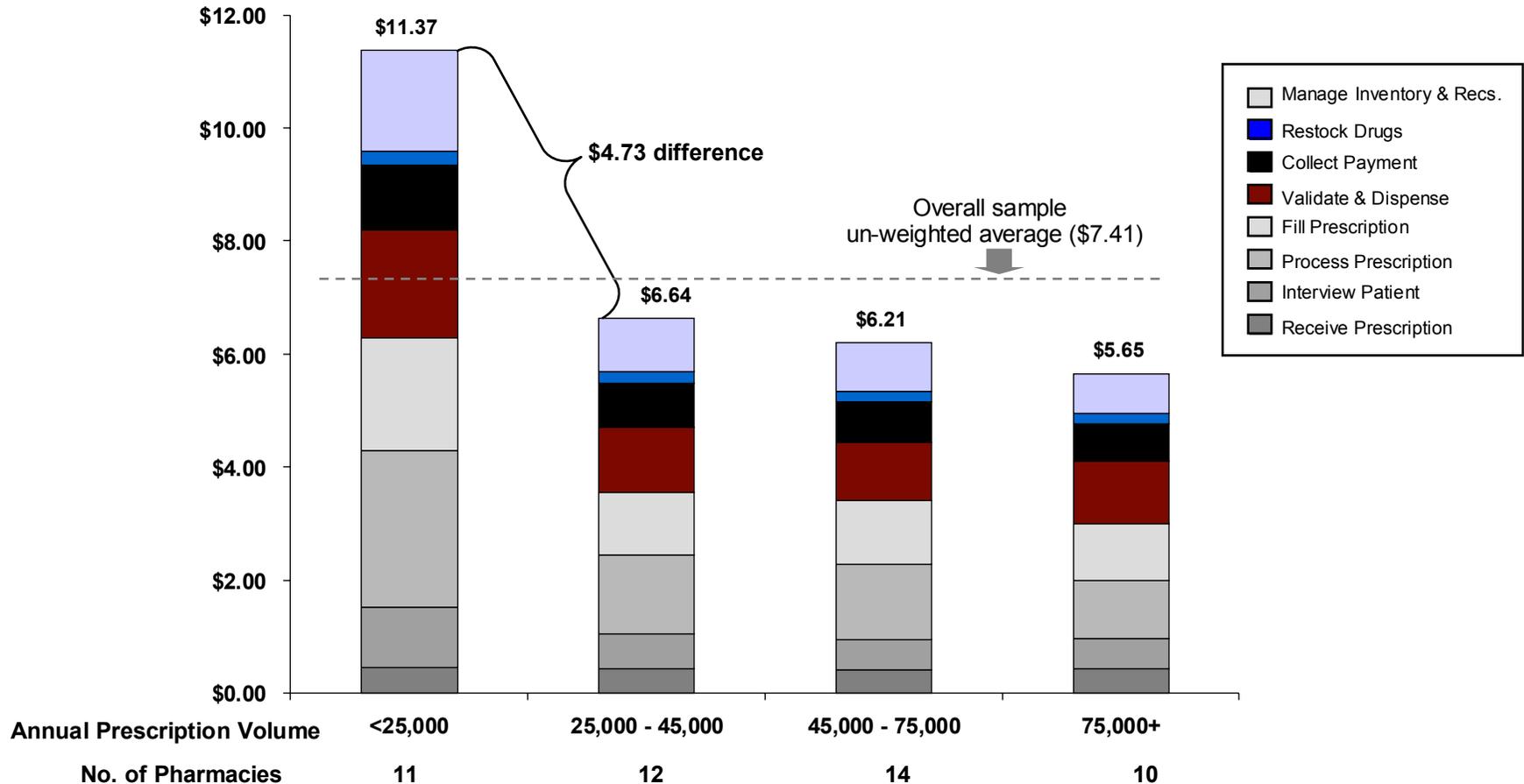
## **Analysis identified two major cost drivers in the sample pharmacies**

- Labour Costs – Cost of pharmacy staff to process prescriptions (particularly pharmacists)<sup>1</sup>
- Volume – Annual number of prescriptions

Notes: (1) Average pharmacists wages varied across the Health Authorities, consistent with Working Group hypotheses and prior BCPHA studies. For extrapolation purposes, the Health Authority distribution is used as a proxy for the variations in compensation.

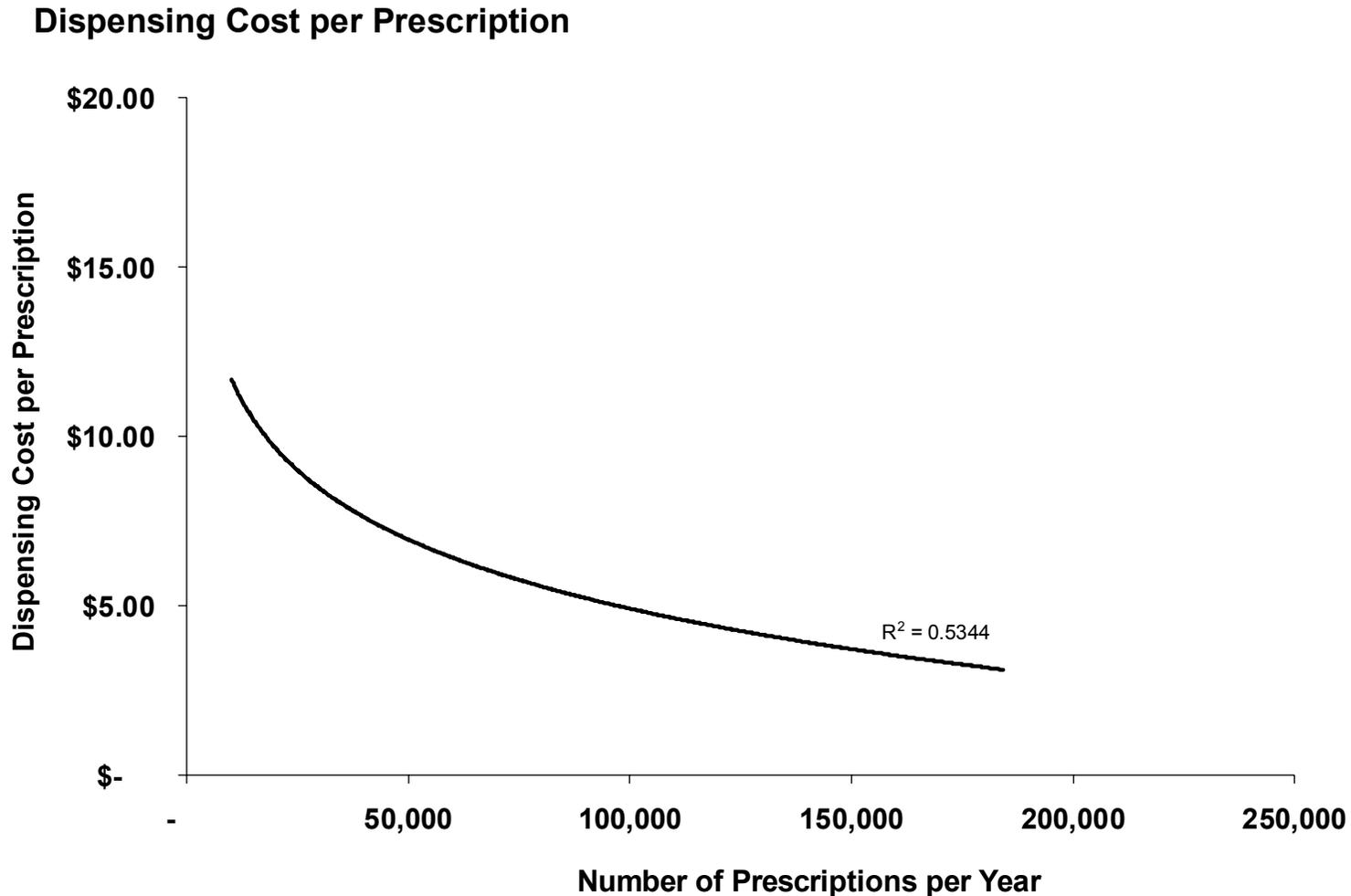
# Pharmacies filling fewer prescriptions annually have significantly higher dispensing costs per prescription

Dispensing Cost per Prescription



Note: Numbers are representative of the sample pharmacies  
 Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

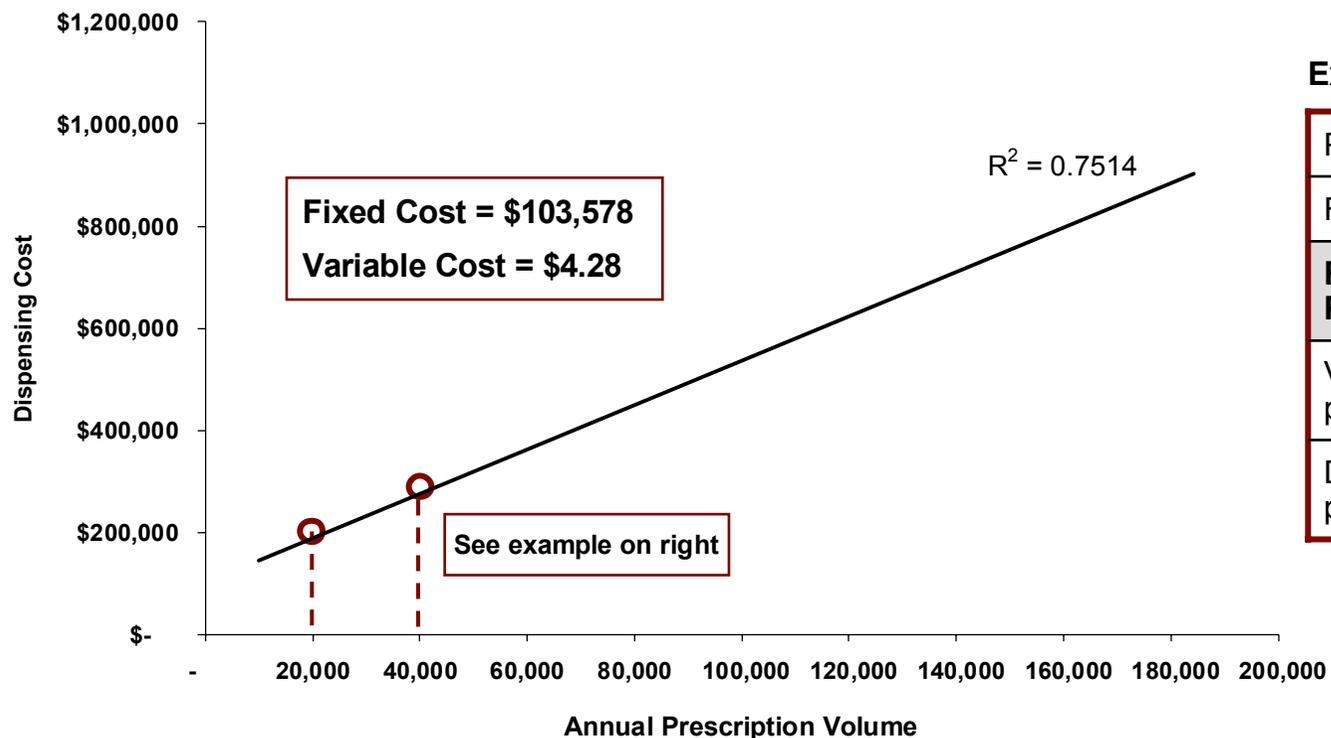
# As volume increases the dispensing cost per prescription decreases



Note: (1) R<sup>2</sup> is the statistical measure of how well a regression line fits real data points, or the predictive power of a model. The closer to 1, the stronger the fit.  
 Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

# The high dispensing cost per prescription in smaller volume pharmacies is a result of the fixed costs necessary to operate a pharmacy

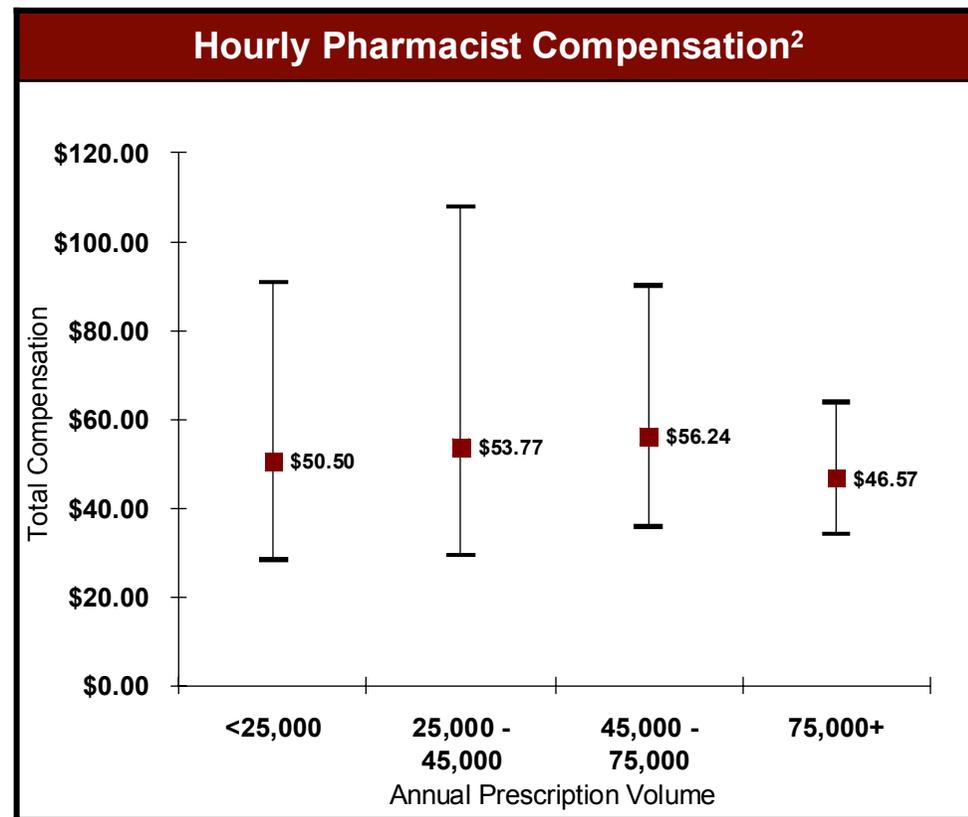
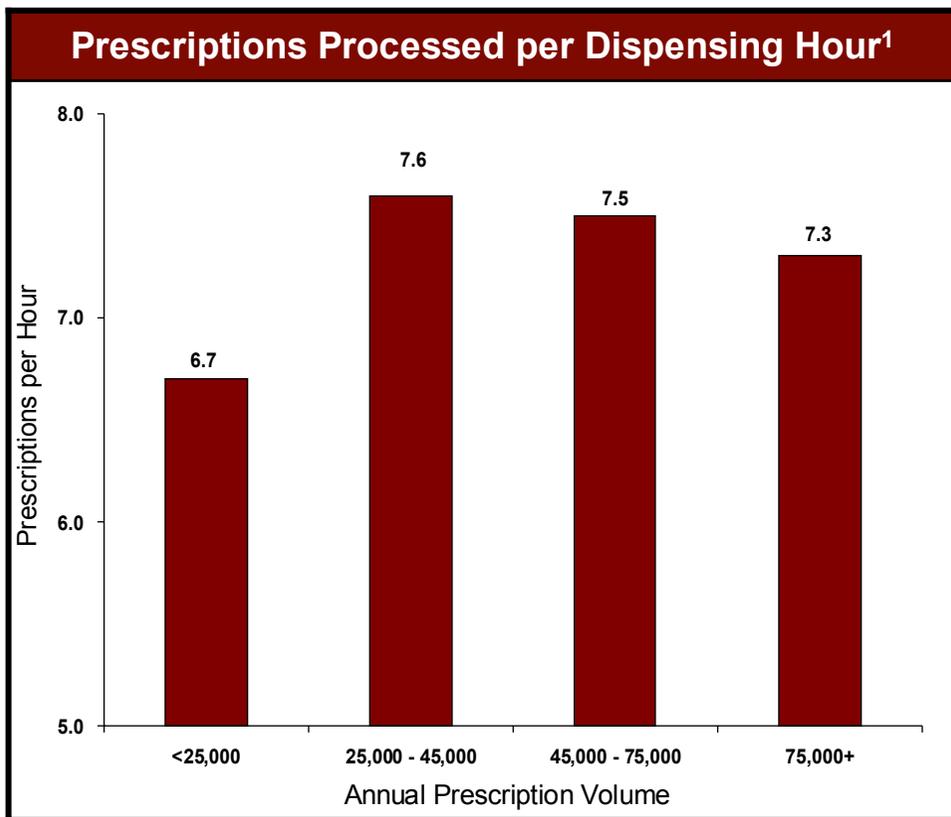
Total Dispensing Cost and Annual Prescriptions by Pharmacy



Example

Prescriptions	20,000	40,000
Fixed Cost	\$104,000	\$104,000
<b>Fixed Cost per Prescription</b>	<b>\$5.20</b>	<b>\$2.60</b>
Variable cost per prescription	\$4.28	\$4.28
Dispensing Cost per prescription	\$9.48	\$6.88

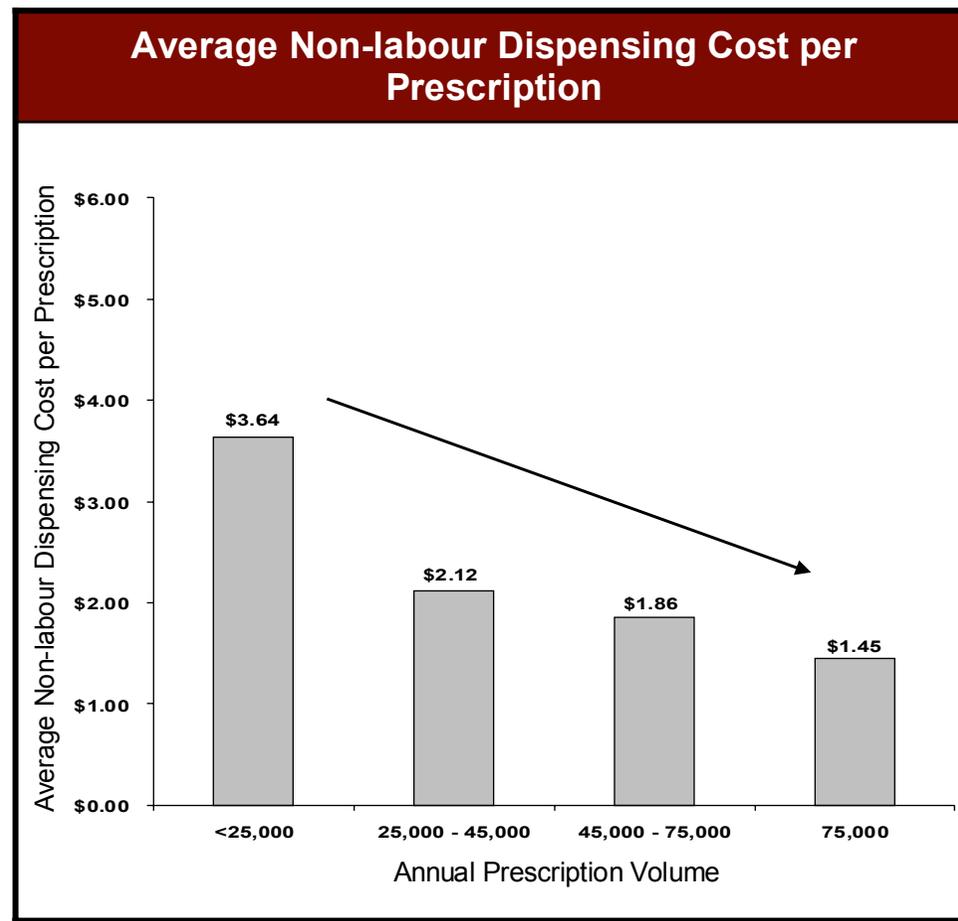
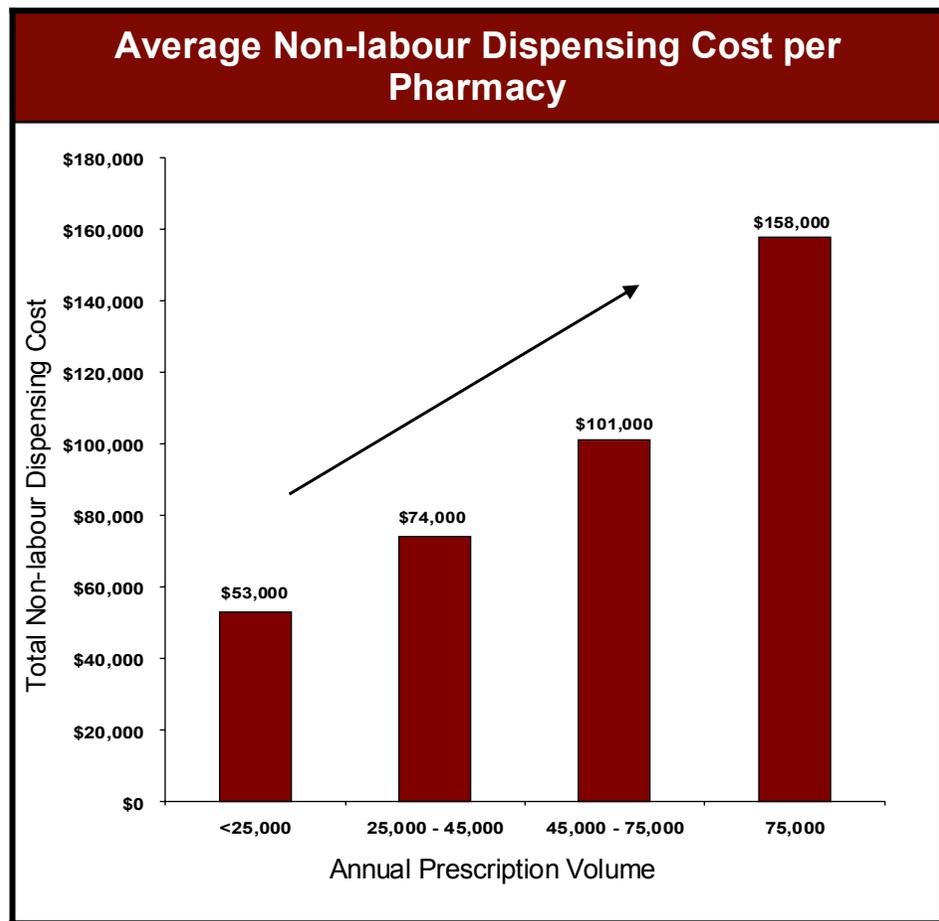
# Lower volume pharmacies in the sample cannot use labour as efficiently for dispensing prescriptions



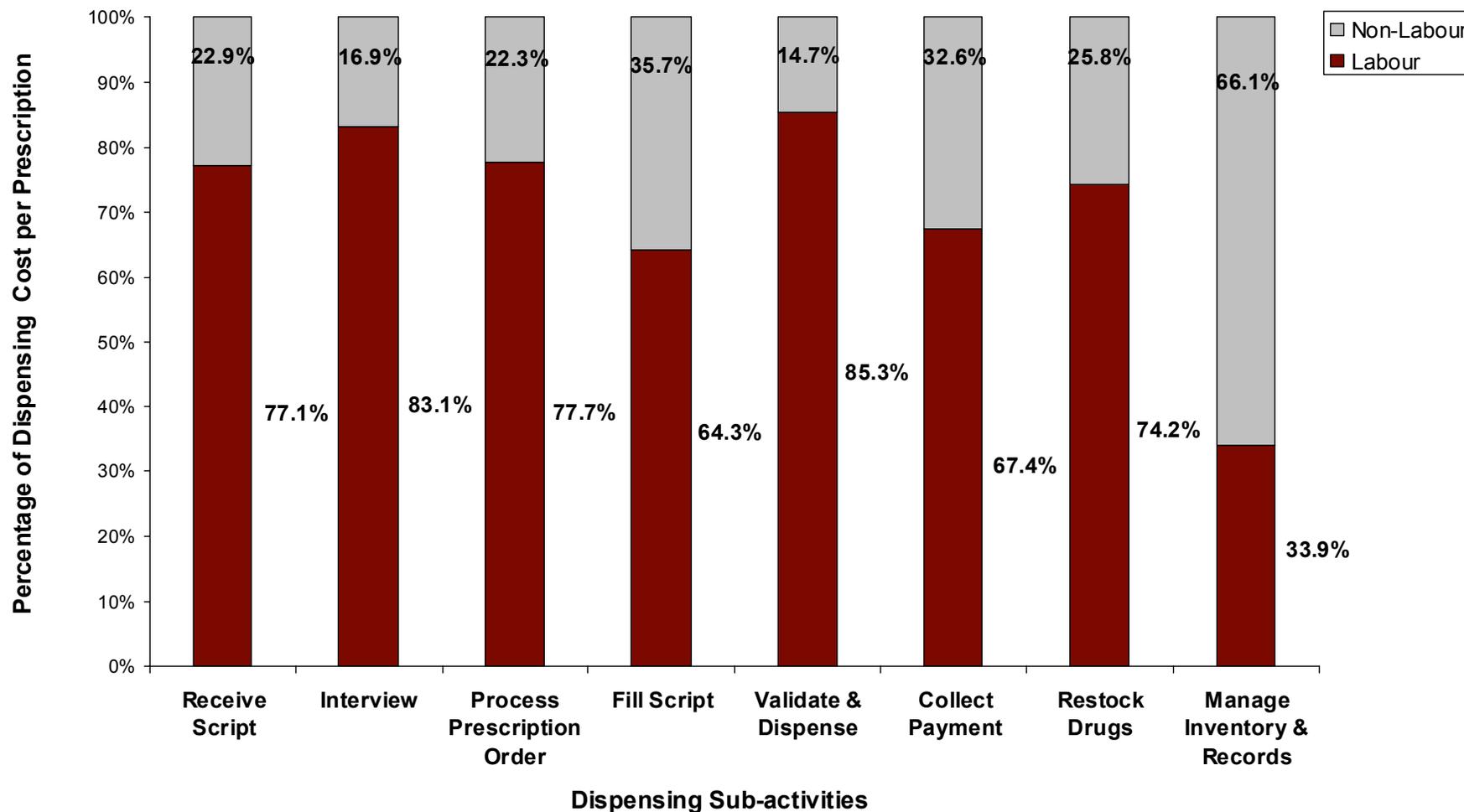
Note: (1) Dispensing hours were calculated as the sum of (% time reported dispensing \* hours worked per year for each person in the pharmacy)  
 (2) Compensation includes wages, bonuses, taxes, benefits, etc. For this chart, compensation is compared across all Health Authorities based upon volume level with no adjustment for regional variations.

Sources: Pharmacy Interviews; Pharmacy financials; A.T. Kearney analysis

# Likewise, smaller volume pharmacies cannot leverage their non-labour resources as effectively as larger volume pharmacies

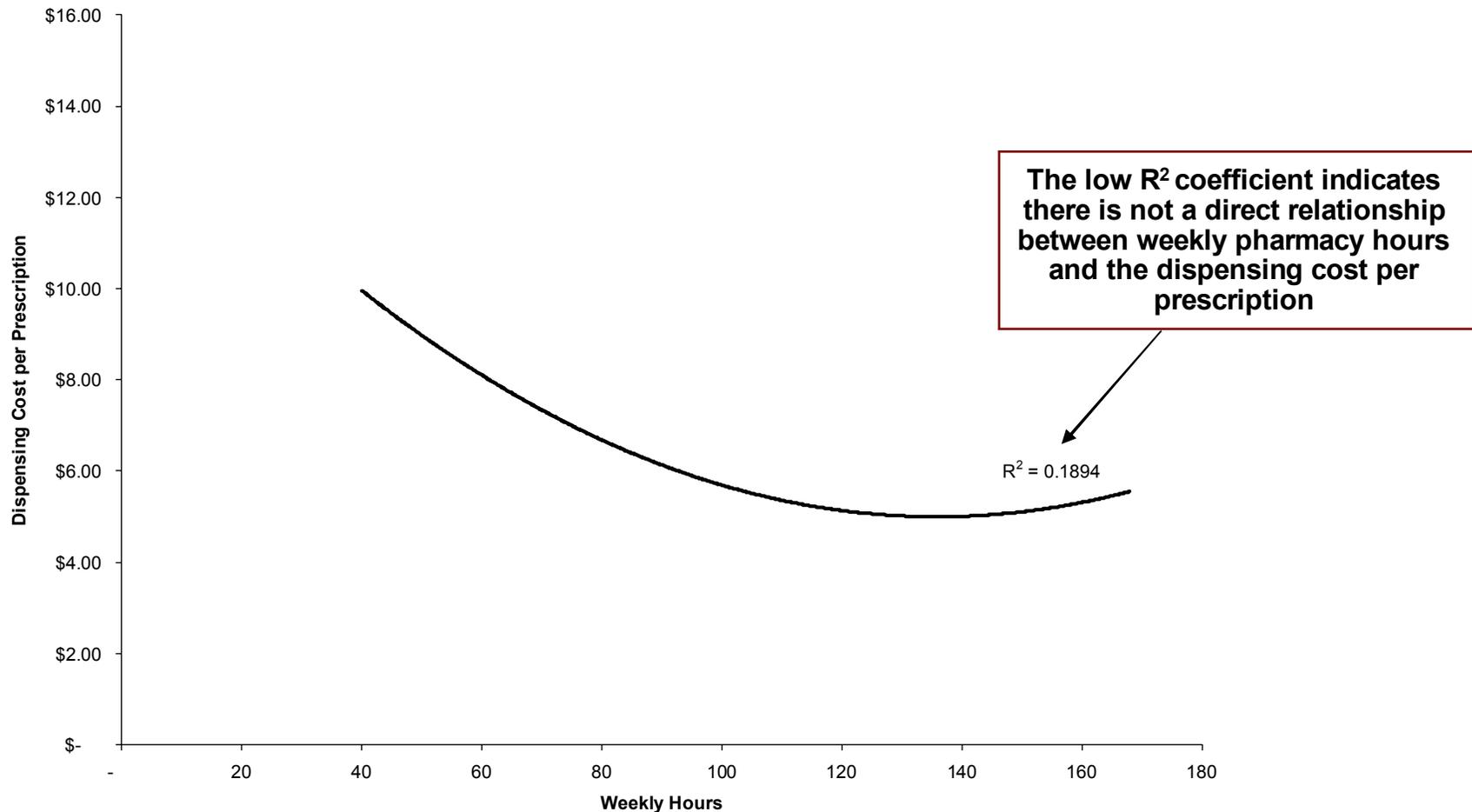


# The mix of labour and non-labour varies across the dispensing sub-activities



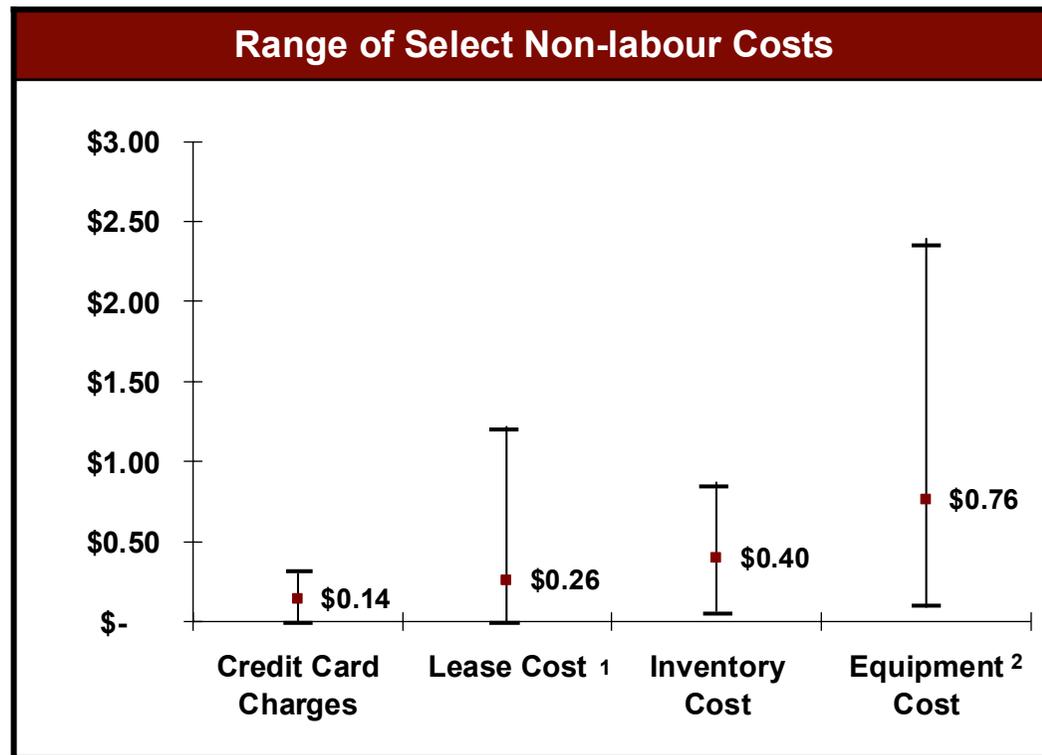
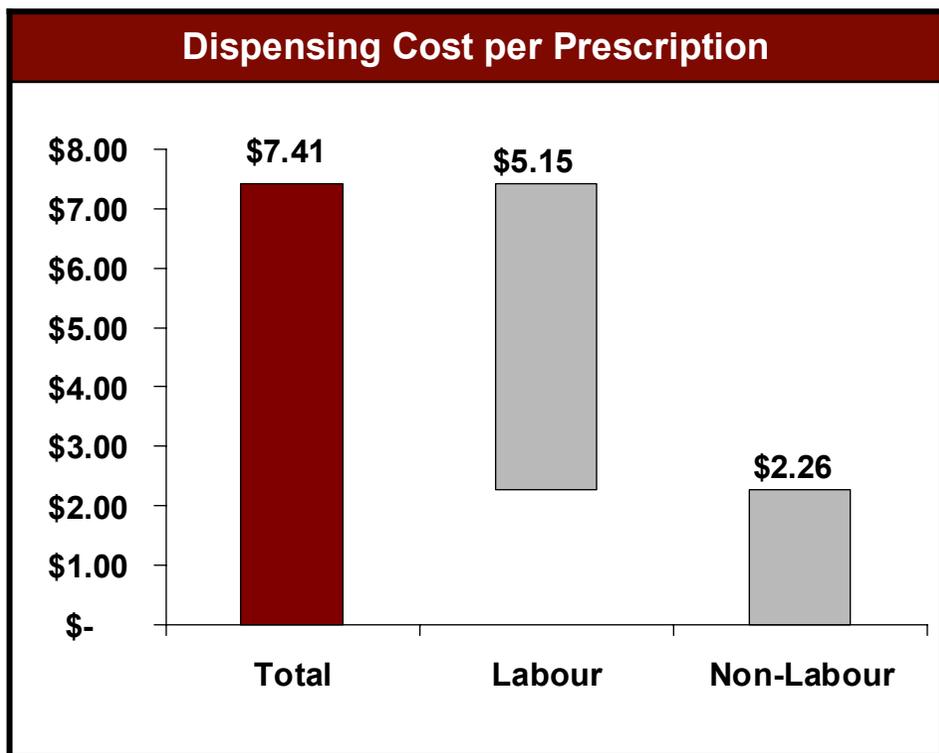
# Pharmacy operating hours do not appear to influence the dispensing cost per prescription

Weekly pharmacy hours compared to dispensing cost per prescription



Note: (1) R<sup>2</sup> is the statistical measure of how well a regression line fits real data points, or the predictive power of a model. The closer to 1, the stronger the fit.  
 Source: Pharmacy Interviews; Pharmacy financials; A.T. Kearney analysis

# While non-labour costs only account for roughly 30% of dispensing costs, these resource costs vary across pharmacies

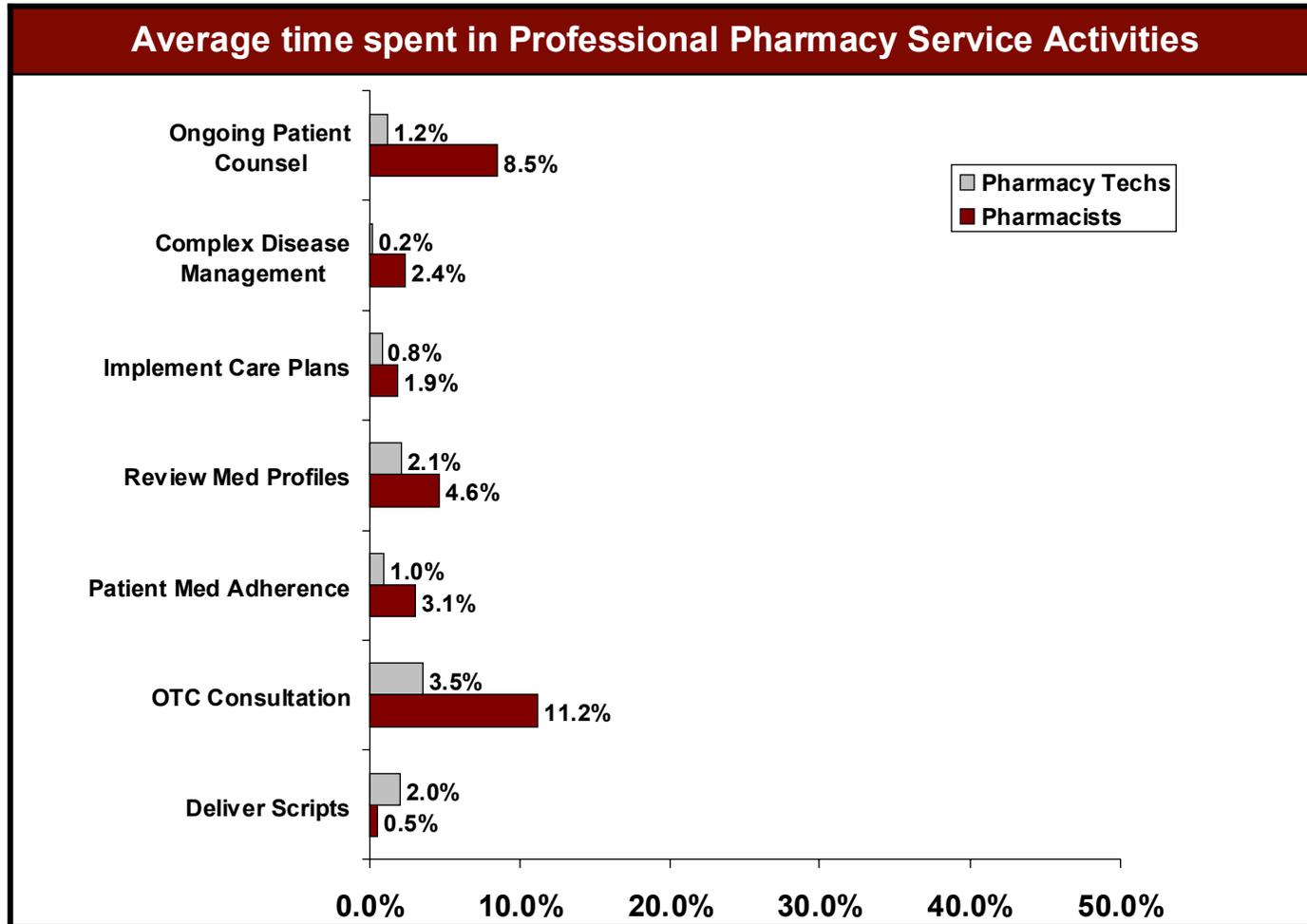


Note: (1) Select pharmacies owned their building and therefore do not have lease costs. However, those pharmacies incurred depreciation expenses for those buildings

(2) Includes Computers, Furniture & Fixtures, Associated Depreciation, Packaging Equip., etc.

Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

# Pharmacists spend approximately 30% of their time providing Other Professional Pharmacy Services (OPPS)



Note: (1) Pharmacy technicians assist with some tasks performed primarily by licensed pharmacists

Sources: Average allocation of time across all pharmacy employees in the pharmacy interviews; A.T. Kearney analysis

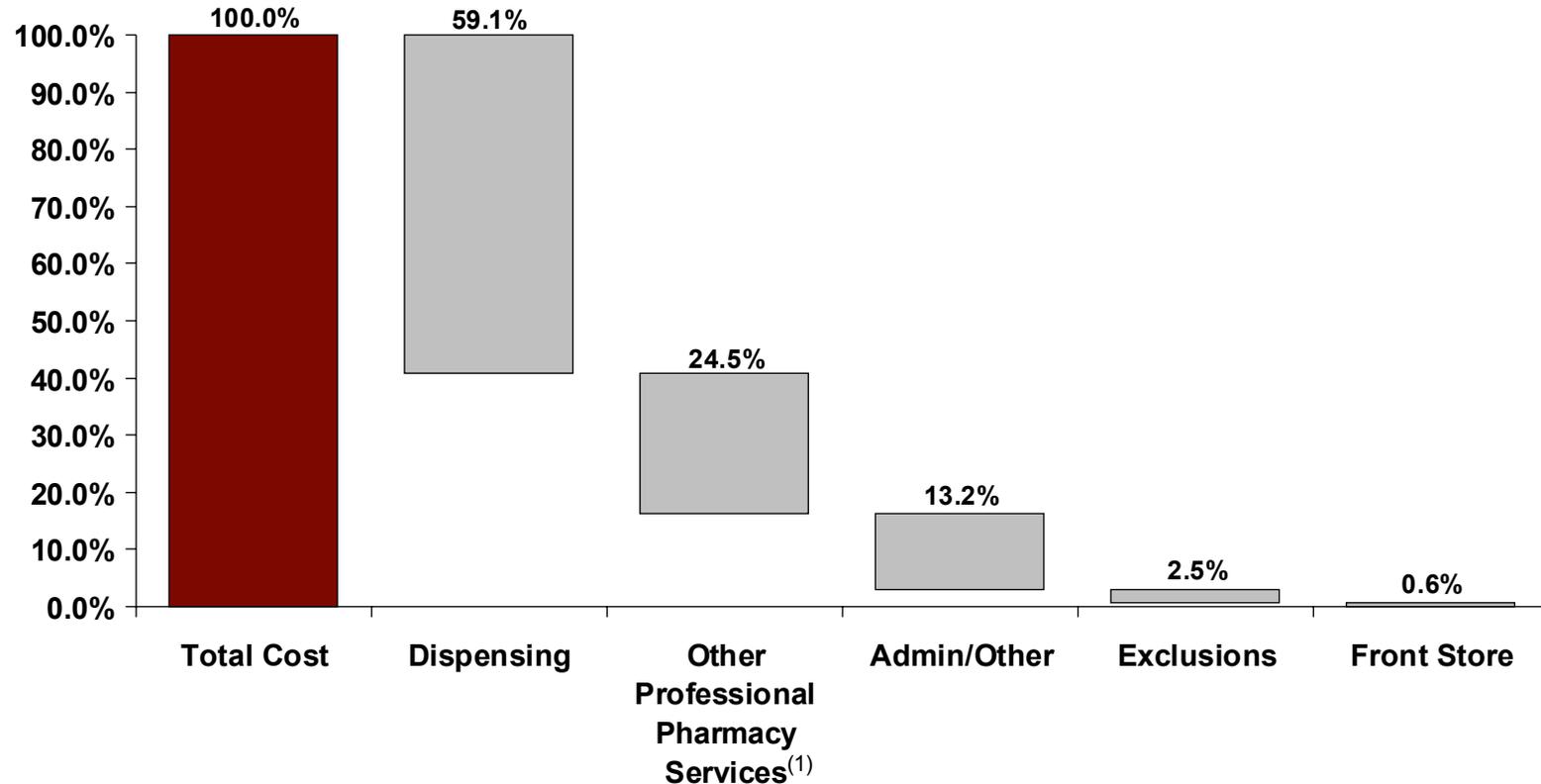
# Other professional services not specifically related to dispensing prescriptions, include 7 activities commonly associated with the pharmacy role in health-care

## Professional Pharmacy Activities

Ongoing Patient Counsel	Complex Disease Management	Implement Care Plans	Review Patient Medication Profiles	Assist Patients with Medication Adherence	OTC Consultation	Deliver to Patients
<ul style="list-style-type: none"> <li>Follow up with a patient beyond legal requirements</li> <li>Follow up with a prescriber beyond legal requirements</li> </ul>	<ul style="list-style-type: none"> <li>Counsel with prescribed patient regarding non-dispensing issues</li> <li>Advice on a holistic approach to treatment: e.g. blood sugar test counsel for a diabetic patient receiving insulin e.g. nutrition, exercise, diet counsel for a patient taking cholesterol medication</li> </ul>	<ul style="list-style-type: none"> <li>Working with patients to develop plans for comprehensive health care</li> <li>e.g. cardiocare – take blood pressure regularly, glucose monitoring, etc</li> </ul>	<ul style="list-style-type: none"> <li>Check the Pharmanet system to answer medication questions from patients</li> <li>e.g. checking multiple drug interactions; allergies, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Ensuring patients are complying with stated drug instructions</li> <li>e.g. taking medications 3 times per day – 30 day supply will last 30 days, not 25 or 35 days</li> </ul>	<ul style="list-style-type: none"> <li>Counseling of medical supplies: breast pumps, glucometers, inhalers, aerochambers, pregnancy tests, etc</li> <li>Counseling of over the counter drugs</li> </ul>	<ul style="list-style-type: none"> <li>Activities related to prescription delivery to patients</li> <li>Includes the preparation of delivery schedules, physical delivery, etc.</li> </ul>

**Costs were calculated for each activity but detailed drivers were not analyzed**

# Other professional pharmacy services accounted for approximately 25% of total pharmacy costs by activity

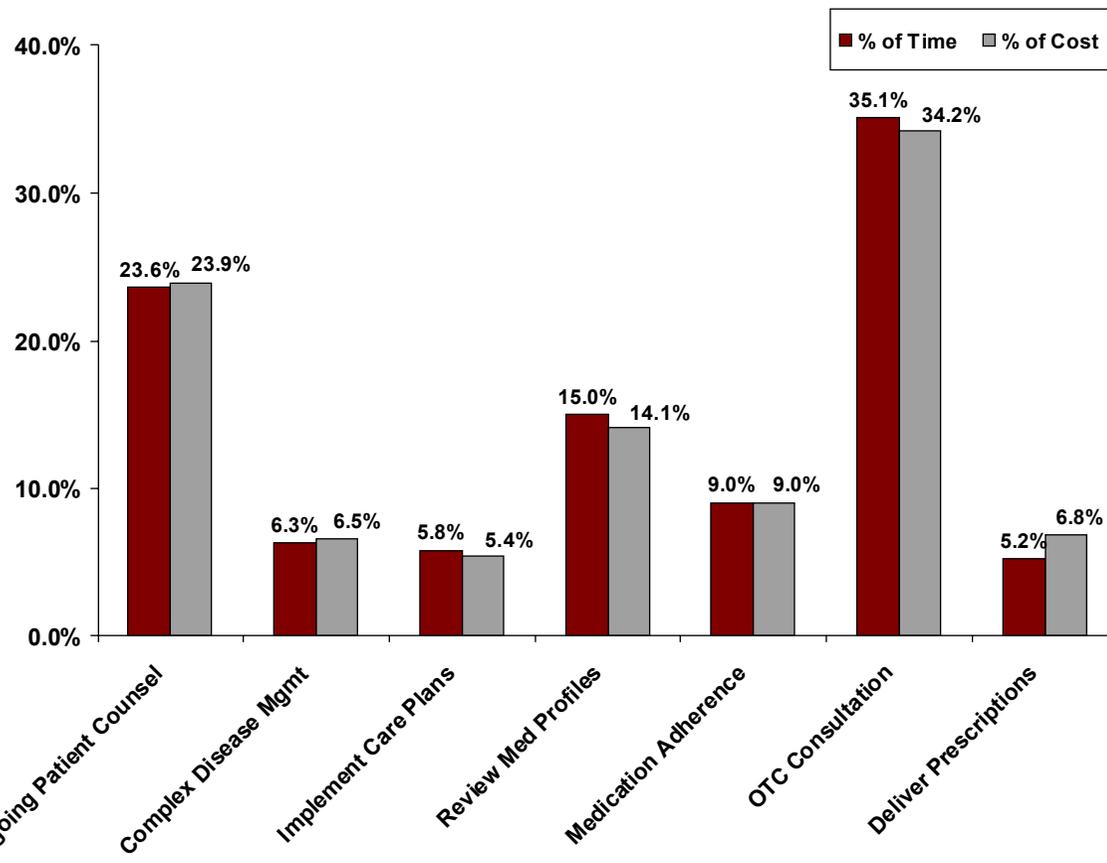


Notes: (1) The average cost spent by study participants providing Other Professional Pharmacy Services (OPPS) to patients outside the prescription dispensing is on average \$3.43 per prescription. \$1.04 of that is for OTC Consultation. Activities also include ongoing patient counsel, complex disease management, etc

Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

# Professional pharmacy services are highly labour intensive, sharing space but using little or no specialized equipment

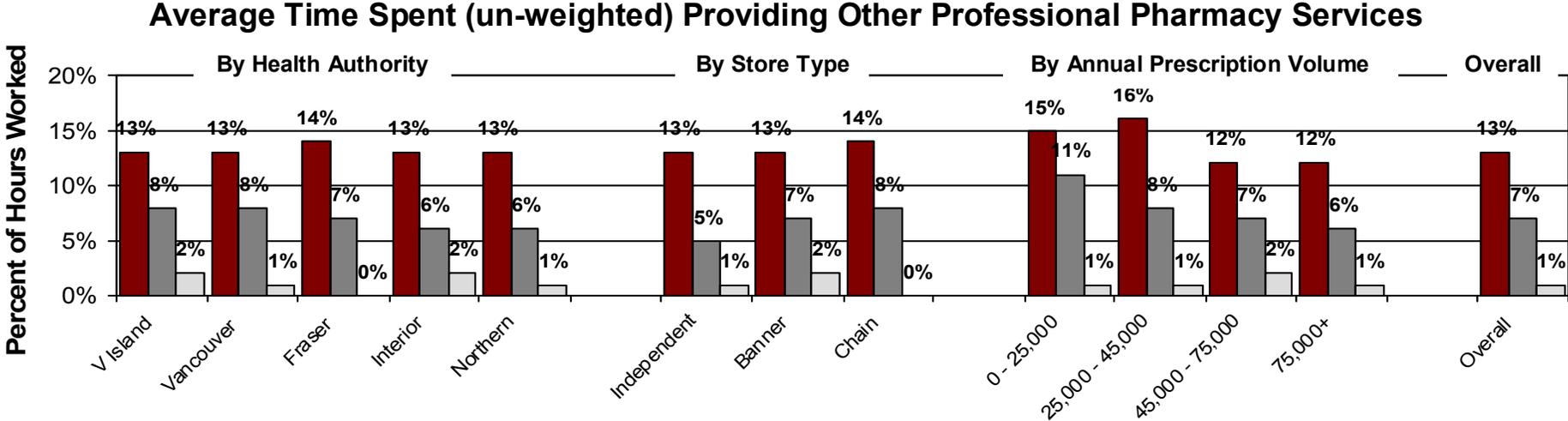
## Relative Costs and Pharmacists' Time for Other Professional Pharmacy Services



## Notes

- Ongoing patient counseling and OTC consultation are regular/daily activities in all pharmacies
- The other professional pharmacy services occur much less frequently, but each instance consumes significant time
- Over 80% of the pharmacies in the sample delivered prescriptions
  - Only a few charged patients for delivery
  - Of the pharmacies that deliver, an average of 3% and a median of .1% of prescriptions are delivered
  - Compliance pack prescriptions were generally delivered to most patients
  - Delivery uses non-labour resources more than other professional pharmacy services

# We looked at 3 distinct potential drivers of time for other services – Health Authorities, Store Type and Annual Prescription Volume



■ Health or Pharma-related Services ■ OTC Counsel □ Delivery

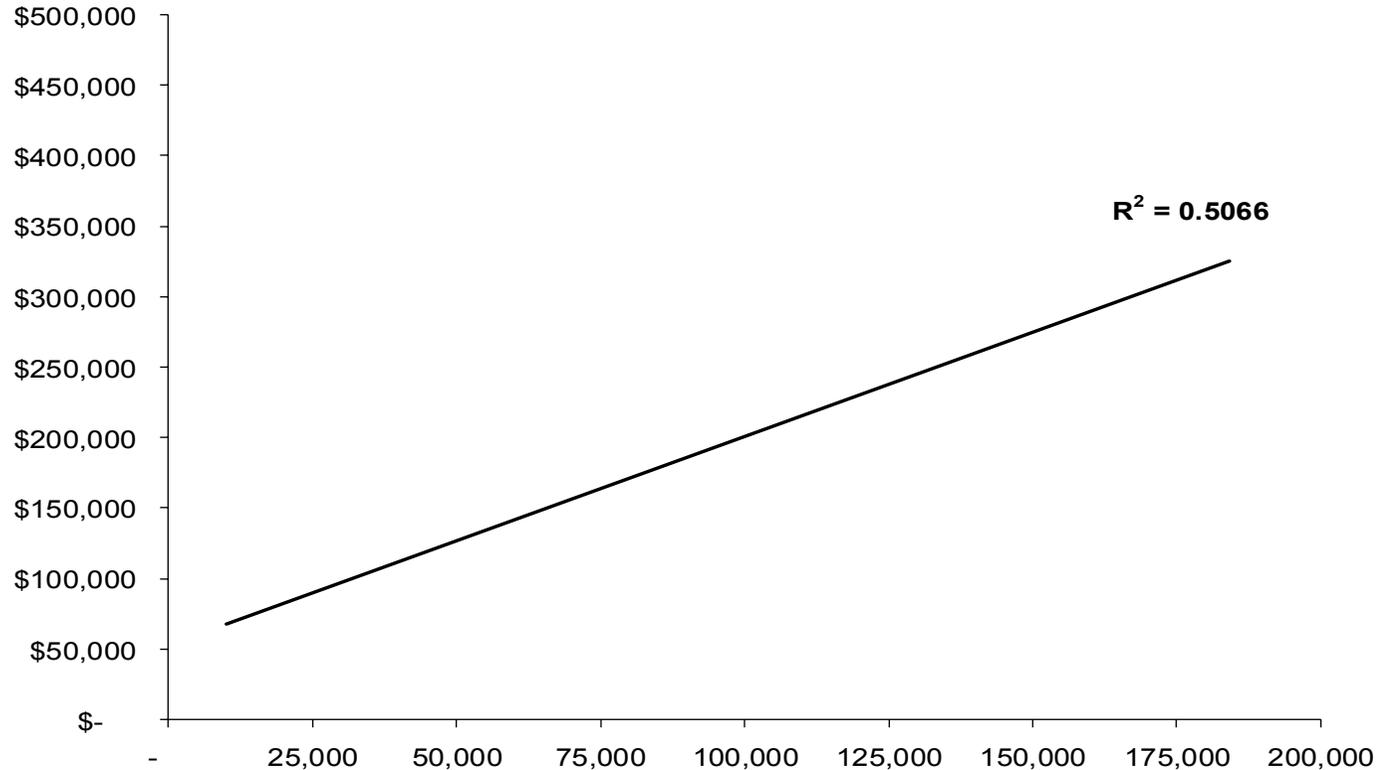
- Ongoing patient counsel
- Complex disease management
- Implement care plans
- Review patient medical profiles
- Assist patients with medication adherence

**Only volume shows any apparent correlation**

Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis of sample data

# There is only a moderate correlation between OPPS cost and volume of prescriptions, with tighter variances at the lower volume levels

## Annual OPPS per Store by Volume



Note: (1)  $R^2$  is the statistical measure of how well a regression line fits real data points, or the predictive power of a model. The closer to 1, the stronger the fit.

# Exclusions of about 5% included items covered under other programs (e.g., methadone, complex compounding) or included the incremental time required to fill a compliance package

Exclusions from Dispensing Costs Specified by the Steering Committee	Findings	Implications
<p><b>Methadone, special services fees and complex compounding</b> The respective time, cost and prescription counts were removed in the calculations for dispensing costs</p>	<ul style="list-style-type: none"> <li>▪ These types make up a very small percent of total prescriptions<sup>1</sup> in the study</li> <li>▪ Complex compounds take 10 times longer to fill and methadone takes 4 times longer to fill</li> </ul>	<p><b>Two percent of dispensing cost was omitted from the calculations</b></p>
<p><b>Compliance Packaging</b> The <u>incremental</u> costs to fill a 7 day compliance pack were excluded from the averaged dispensing cost</p>	<ul style="list-style-type: none"> <li>▪ On average, 13% of all prescriptions are 7 day compliance packs, and it takes a little less than twice as long to put the pills in the compliance card than in a vial</li> <li>▪ On average, putting a prescription in a 7 day compliance pack costs \$1.16 more per prescription (17%)</li> </ul>	<p><b>Because it only affects 12.5% of prescriptions, 2.2% of the total dispensing fee was excluded for the cost to fill 7 day compliance packs – just the incremental activity of placing the pills in a compliance pack</b></p>
<p><b>Compliance Packaging</b> The <u>incremental</u> costs to fill a 28 day compliance pack were excluded from the averaged dispensing cost</p>	<ul style="list-style-type: none"> <li>▪ On average, 4% of all prescriptions are 28 day compliance packs, and it takes two and a half times as long to put the pills in the compliance card than in a vial</li> <li>▪ On average, putting a prescription in a 28 day compliance pack costs \$1.35 more per prescription (19%)</li> </ul>	<p><b>Because it only affects 4% of all prescriptions, less than 1% of the total dispensing fee was excluded for 28 day compliance packs – just the incremental activity of placing the bills in a compliance pack</b></p>

Notes: (1) The small numbers of methadone and complex compounding reflect the decision to exclude pharmacies specializing in either type of practice from the study.

Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis

# At the beginning of the study, the Working Group and Steering Committee identified hypotheses for the variation of dispensing costs

## Hypotheses Addressed in the Study

- 1) Larger volume pharmacies have a lower cost (see prior discussion in report)
- 2) Pharmacies in rural locations have higher costs than those in urban locations
- 3) Cost for pharmacies with high technician to pharmacist ratios are lower

## Hypotheses Which Were Not Addressed In the Study<sup>1</sup>

- Large chains have more automation, resulting in greater efficiencies<sup>2</sup>
- Pharmacists in rural areas have more diverse duties / provide clinical services
- Mix of new fills and refills drives cost in pharmacies
- Overtime costs may be more significant for chain pharmacies in urban locations
- Stores with fewer merchandise options have lower volume

Notes: (1) Not evaluated due to insufficient representation in sample or lack of data  
(2) Degree of automation varied within chains, and the overall number of stores with automated support was not large enough to support analysis  
(3) Based on sample data (n=47)

## Hypothesis 2: Pharmacies in rural locations have higher costs than those in urban locations

### Rural and Urban pharmacies defined

The Working Group decided that “rural” should be defined as a combination of area population and proximity to another pharmacy.

- 1) Rural pharmacies are in areas with low numbers of people, and are outside of a reasonable driving distance to another pharmacy.
- 2) To be considered urban, the population should be considered dense and multiple choices for pharmacies should be accessible within a reasonable driving distance.

### Inputs to Urban/ Rural Analysis

- There are 70 Local Health Authorities (LHAs) for which population, land area, and population density by LHA and municipality (Demographic Profiles by LHA, BC Stats) were available
- BCPhA provided a list of community pharmacies in British Columbia with their addresses
- The Working Group determined that a reasonable driving distance would be a 60km drive – therefore a pharmacy is “rural” if the closest other pharmacy is beyond 60km

### Process

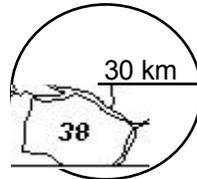
- Proximity: Compared the ratio of pharmacies in an LHA to the ratio of area in an LHA and area required to be considered reasonable distance.
- Population: If population density in an LHA is less than 3 persons per square kilometer, it is considered rural.

# Hypothesis 2: Pharmacies in rural locations have higher costs than those in urban locations (continued)

Criteria	Urban	Rural
Population Density	>3 people per Km <sup>2</sup>	<3 people per Km <sup>2</sup>
Pharmacy Proximity <sup>1</sup>	Closest pharmacy is less than 30km radius	Closest pharmacy is greater than 30km radius

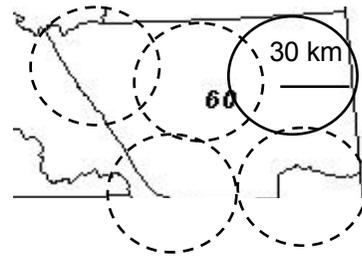
### Examples of how the urban and rural criteria were applied

**Richmond - Urban**



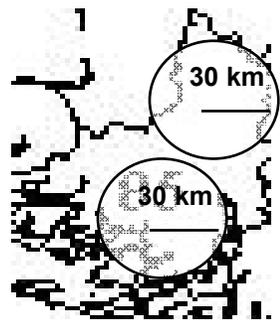
When the size of an LHA is less than 2,826 km<sup>2</sup> (reasonable driving distance) it is automatically considered Urban

**Peace River North - Urban**



When the size of an LHA is larger than a reasonable distance, but the ratio of pharmacies' driving distance in that LHA is greater than the total area, it is Urban

**Vancouver Island North – Rural**



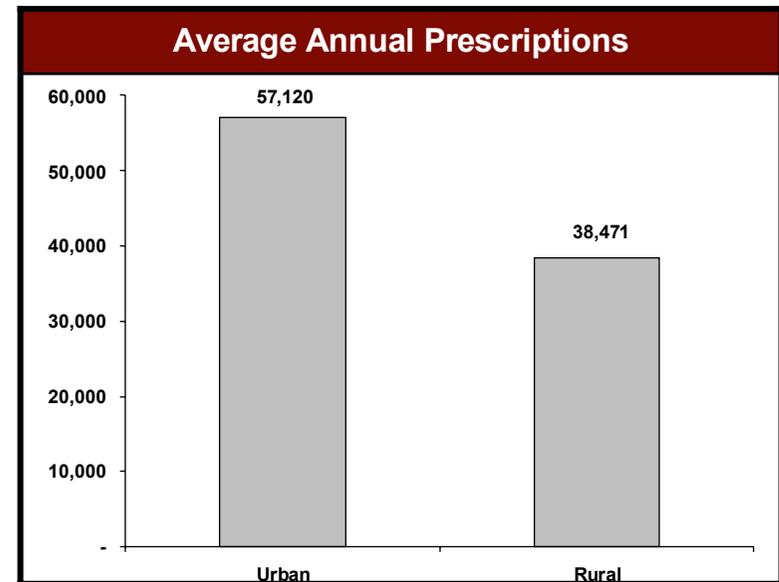
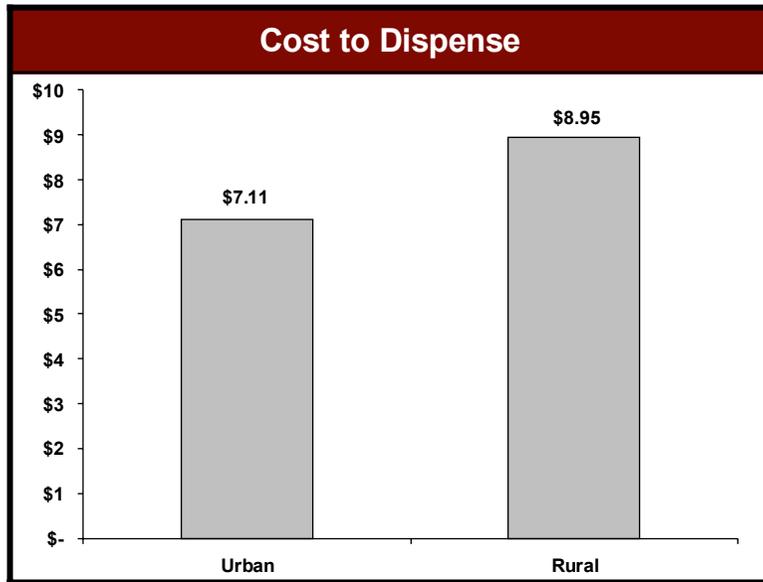
When the size of an LHA is larger than a reasonable distance, and the ratio of pharmacies' driving distance in that LHA is less than the total area, it is Rural

Note: (1) The working group determined that a reasonable driving distance was considered 60km, therefore we assumed 30 kms of actual distance to account for travel routes  
 Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis of sample data (n=47)

# Hypothesis 2: Pharmacies in rural locations have higher costs than those in urban locations (continued)

## Rural Representation in Sample Pharmacies<sup>1</sup>

Criteria	LHAs in Population	Pharmacies in Population	Pharmacies in Sample
<b>Density:</b> Less than 3 people per Km <sup>2</sup>	33	98	11
<b>Proximity:</b> Fewer pharmacies than ratio of driving distance to LHA	18	58	9
<b>Density AND Proximity – Rural Pharmacies</b>	18	58	9



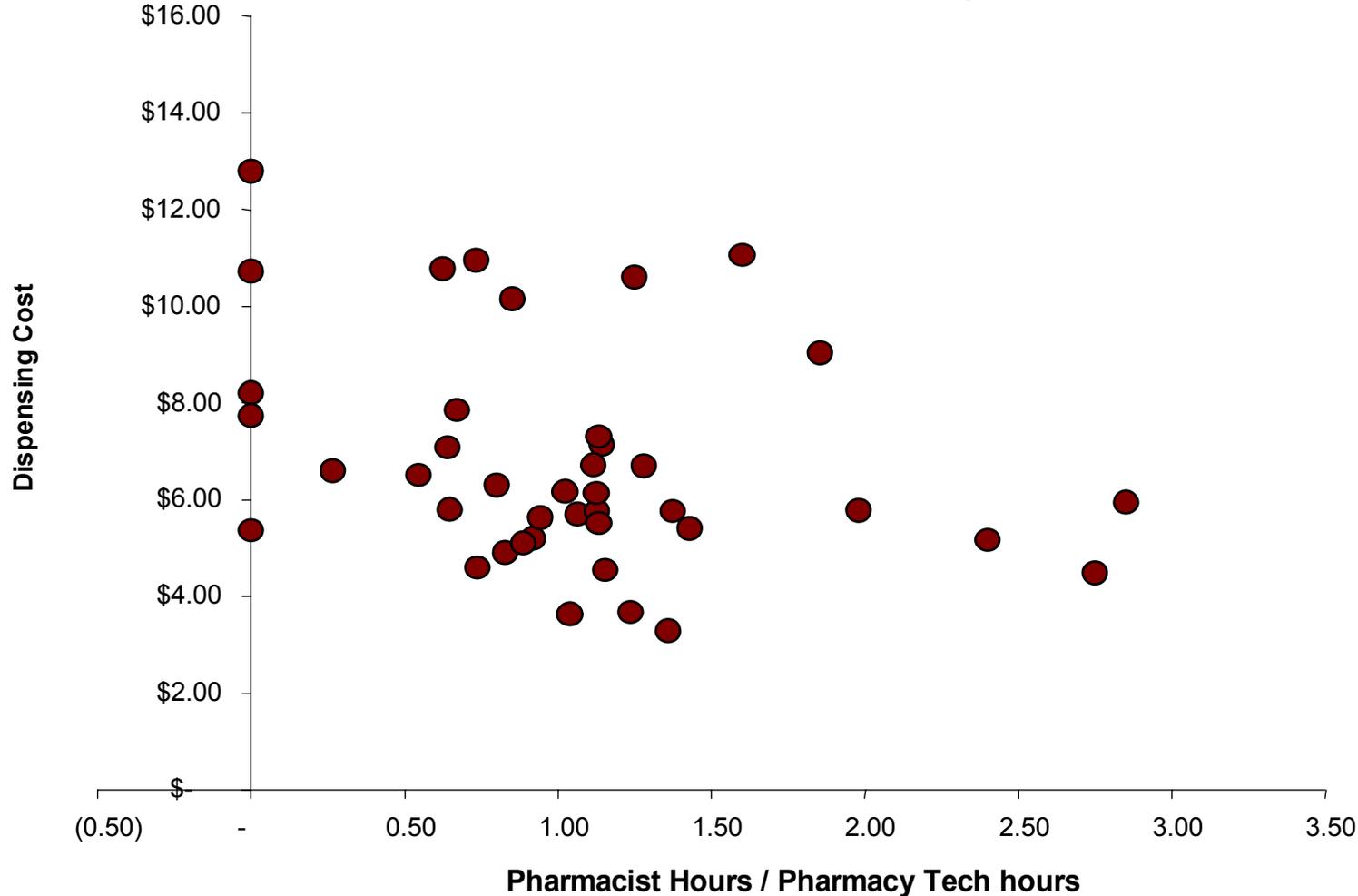
**The nine pharmacies in the sample that met the rural criteria had a higher cost to dispense – consistent with the study findings that compensation and volume are primary cost drivers (the rural pharmacies in the sample are in high compensation locations<sup>1</sup> and have lower volumes)**

Note: (1) Eight are located in the Northern HA, one in the Interior. Four chains, three banners/franchises and two independents

Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis of sample data (n=47)

# Hypothesis 3: Pharmacies with higher pharmacist to pharmacy technician ratios have higher costs

**Pharmacists/Tech Full Time Equivalent Ratio and Dispensing Cost**  
**Pharmacist to tech ratio does not seem to have a meaningful impact on the dispensing cost**



Note: Points on y axis did not employ techs in 2005  
 Sources: Pharmacy interviews; Pharmacy financials; A.T. Kearney analysis of sample data (n=47)

## Appendices

- Partners and Governance
- Terms of Reference
- Methodology
- Activity Dictionary
- Data Collection Tools
- Other Findings

# A cross-organizational Steering Committee and Working Group collaborated to oversee and conduct this study

**Steering Committee**

- Chair: Marnie Mitchell – CEO, British Columbia Pharmacy Association (BCPhA)
- Heather Davidson, A/Executive Director – PharmaCare <sup>(1)</sup>
- Christina Bisanz, President & CEO - Canadian Association of Chain Drug Stores <sup>(1)</sup>
- Darlene Therrien – A/Director, PharmaNet and Evaluation, British Columbia Ministry of Health

- Oversee the study from its start to completion to ensure that the study’s methodology is scientifically rigorous and the results are valid and accurate

**Working Group**

<ul style="list-style-type: none"> <li>▪ Bill Bright – Shoppers Drug Mart</li> <li>▪ Derek Desrosiers – UniPHARM</li> <li>▪ Ken Foreman – Pharmasave</li> <li>▪ Polly Graves – Ministry of Health</li> <li>▪ Paul Inglis -- A.T. Kearney</li> <li>▪ Ralph Lai – Overwaitea Food Group</li> <li>▪ Ian Maxwell – Peoples Drug Mart</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ken McCartney – BCPhA</li> <li>▪ Linda Olsson – A. T. Kearney</li> <li>▪ Darcy Stann – Canada Safeway</li> <li>▪ John Tse – London Drugs</li> <li>▪ Jeannette Wang – Katz Group</li> <li>▪ Brett Wilmer – Ministry of Health</li> <li>▪ Allan Malek – Canadian Association of Chain Drug Stores</li> </ul>
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- Approve the activity based costing methodology
- Provide assistance with pharmacy specific issues
- Impart knowledge of individual pharmacies
- Periodic reviews of project

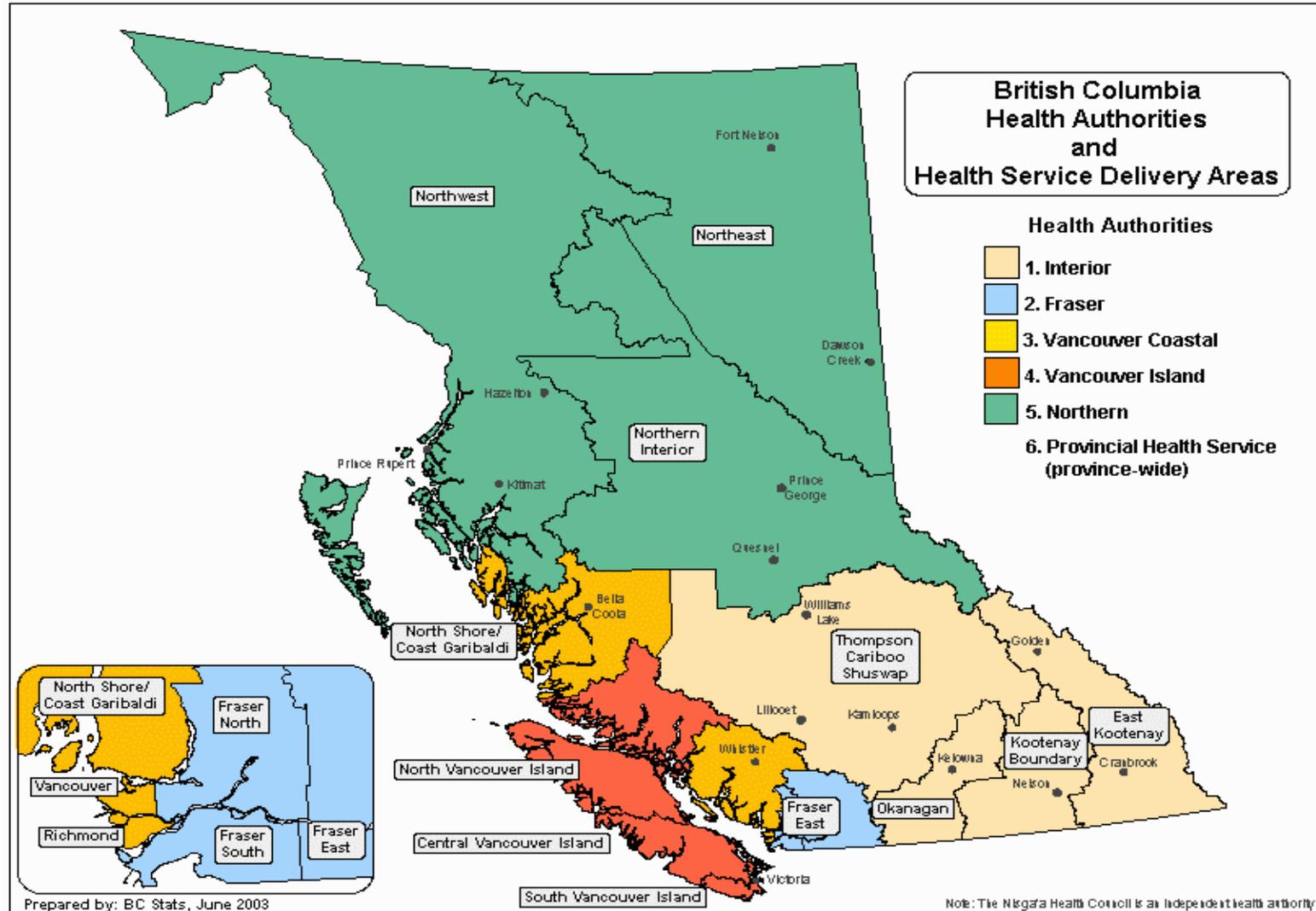
**A.T. Kearney Core Team**

- Megan Geelhoed
- Alan Vitek

- Develop interview guides and data collection tools
- Schedule and conduct pharmacy interviews
- Develop activity based costing model
- Validate and analyze data and results of interviews
- Write report

(1) Heather Davidson was replaced by Suzanne Solven, Executive Director, PharmaCare in April, 2006 and Christina Bisanz was replaced by Allan Malek, Vice President, Pharmacy, CACDS in April, 2006

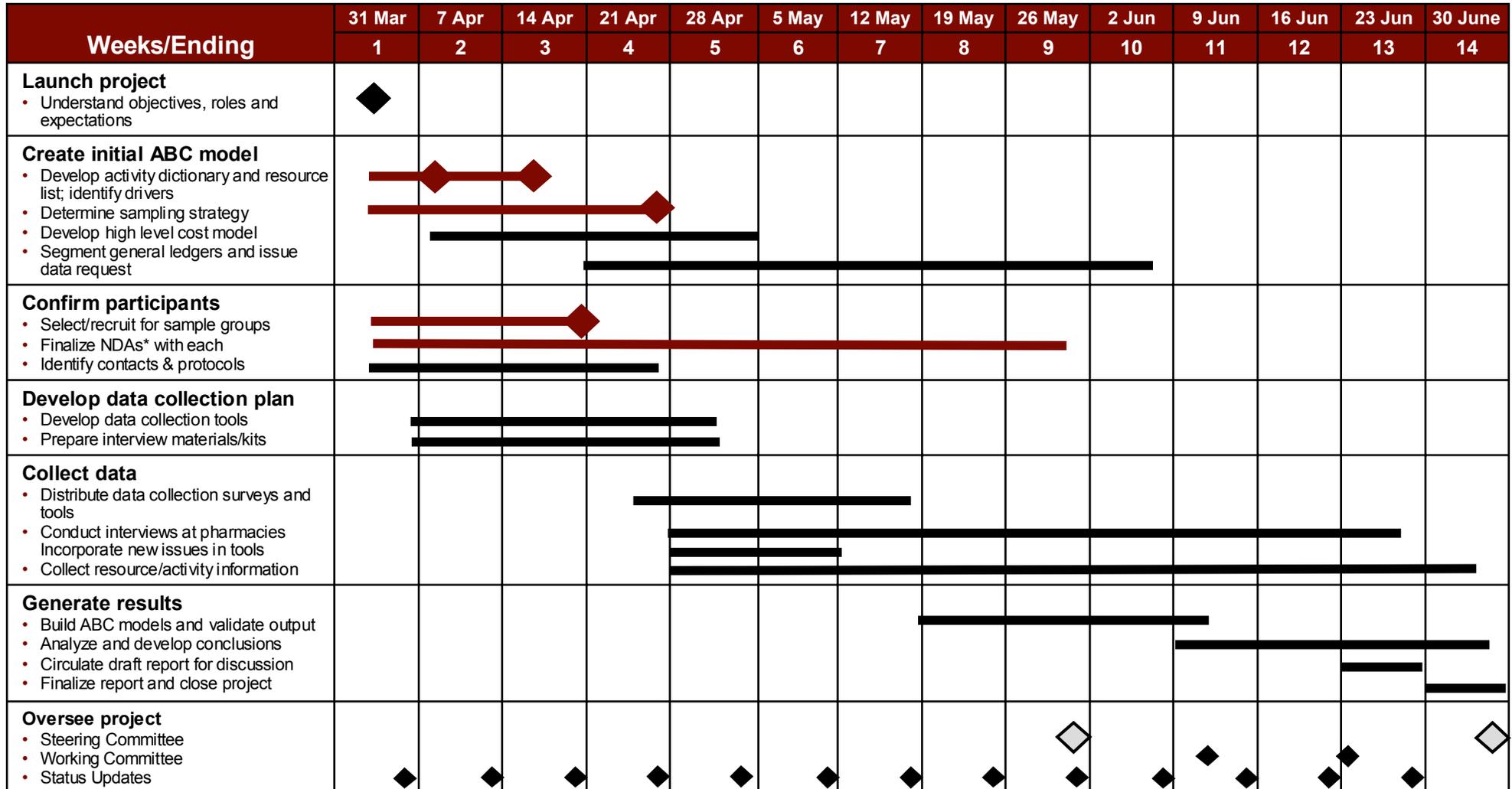
# B.C. is organized into Health Authorities, Health Service Delivery Areas – and further into Local Health Areas



# A majority of the 14-week project was devoted to pharmacy interviews and data collection

## Project plan and milestones

- Critical Path
- ◆ Steering Committee Meetings



\* NDA = Non-Disclosure Agreement (confidentiality agreement between A.T. Kearney and each participating business)

## **Appendices**

- Partners and Governance
- Terms of Reference
- Methodology
- Activity Dictionary
- Data Collection Tools
- Other Findings

## Purpose

The Activity Based Costing Study (the study) is a partnership between The British Columbia Ministry of Health, the British Columbia Pharmacy Association, and the Canadian Association of Chain Drug Stores. The purpose of the study is to investigate and determine the costs to the pharmacy for dispensing medications and providing pharmaceutical services to the residents of British Columbia.

For the purposes of this study, pharmacy services are defined as comprehensive services that may or may not be related to a dispensing event. It involves assessment, prevention, triage and care, detailed reviews of patients' medication profiles with patients and/or other providers, implementing a care plan, complex disease management, monitoring patient outcomes and assisting patients with medical adherence.

Dispensing services are technical and professional services required by regulation to safely provide a medication. This includes interviewing the patient about prescription services, counseling about the medication being prescribed, its side effects and potential drug interactions, and selecting, counting, filing, and appropriately labeling the product.

It is recognized that there is overlap between the two activities, but an important objective of the project will be to delineate and develop activity cost estimates for dispensing services separate from the costs of delivering comprehensive pharmacy services. This is critical for PharmaCare to adequately determine the appropriate reimbursement to pharmacists for their core service, dispensing medications to PharmaCare recipients. Activities additional to the core service, related to more comprehensive pharmacy services, are included in the study for information purposes at this time.

AT Kearney Ltd has been contracted to undertake the pharmacy survey through the project working group. AT Kearney's proposal, which includes their approach and deliverables, is attached as Appendix 1.

## Steering Committee Members

CHAIR: Marnie Mitchell, CEO – British Columbia Pharmacy Association

Darlene Therrien, A/Director - PharmaCare, PharmaNet and Evaluation

Heather Davidson, A/Executive Director – PharmaCare <sup>(1)</sup>

Christina Bisanz, President & CEO - Canadian Association of Chain Drug Stores <sup>(1)</sup>

(1) Heather Davidson was replaced by Suzanne Solven, Executive Director, PharmaCare in April, 2006 and Christina Bisanz was replaced by Allan Malek, Vice President, Pharmacy, CACDS in April, 2006

# Steering Committee

## Roles and Responsibilities

The purpose of the Steering Committee is to oversee the study from its start to completion to ensure that the study's methodology is scientifically rigorous and the results are valid and accurate.

The Steering Committee will:

- a) Come to a common understanding and agreement on the delineation between dispensing services and pharmacy services and how this relates to study outcomes before the study commences
- b) Come to a common understanding and agreement on the activity components associated with dispensing services and other pharmacy services, before the data collection commences
- c) Approve and sign off on the definitions of the activities associated with dispensing services and other pharmacy services (the "activity dictionary")
- d) Approve and sign off on the agreed upon sample size, and the make up of pharmacies to be surveyed in the activity based costing survey portion of the project, before the data collection commences
- e) Develop a common communication strategy for both internal (amongst respective members) and external communication of the approach, methodology, ongoing status and results of the study, before the data collection commences
- f) Approve and sign off on the consultant's proposal on how to conduct the pharmacy survey of the Activity Based Costing Study
- g) Provide advice, assistance, and recommendations throughout the Activity Based Costing Study to the working group members
- h) Evaluate the survey results and how they relate to current reimbursement models
- i) Review, provide comments and approve the final Activity Based Costing Study report
- j) Monitor the costs of the project to ensure progress is within budget

# Working Group

## Roles and Responsibilities

The Working Group is responsible for developing the activity based costing methodology, undertaking the pharmacy survey, and all other tasks as agreed to by the steering committee. Specifically the Working Group will:

- a) Construct a list and working definitions of the activities associated with the provision of pharmaceutical products and services within a pharmacy, for the purpose of the study, at the study commencement
- b) Recommend a sample size and make up of pharmacies to be used in the study
- c) Carry out other tasks as agreed to by the Steering Committee

## Members

- Paul Inglis, A.T. Kearney Co
- Brett Wilmer, Senior Economist – PharmaCare, PharmaNet and Evaluation
- An additional member from PharmaCare, to be determined
- Ken McCartney, Deputy CEO and Director Professional Services, BCPHA
- Allan Malek, Vice President, Pharmacy, CACDS
- Representatives of pharmacy groups for Roles and Responsibilities (a) and (b) above, and as needed for (c)

# Activity Based Costing Study Project

## Project Scope

The activity based costing survey will:

- a) Only assess community-based pharmacies.
- b) Be comprised of a predetermined and agreed upon number, and type of pharmacy, in order to ensure that the research is robust and valid
- c) Be comprised of the agreed activity components associated with dispensing services and pharmacy services. Compounding activities and activities associated with providing services to Long Term Care facilities are explicitly excluded from the scope of this study.
- d) Assess the costs of providing services but will not assess the quality or health benefits of services provided.

## Desired Outcomes from Study

- a) Develop a common understanding of the delineation between dispensing services and pharmacy services, and the activities involved in each.
- b) Provide a reliable and accurate evaluation of the cost of dispensing services as well as the cost of providing pharmaceutical services to residents of BC
- c) The results of the study will be accepted as an accurate reflection of the cost of Pharmacy practice in British Columbia

## Frequency and Attendance

The steering committee will meet on a weekly basis to carry out its responsibilities. A Member who is unable to attend may have a person from their organization attend in their absence

# Activity Based Costing Study Project

## Decision Making Process

The support or acceptance of decisions regarding substantive matters including but not limited to the study and final report shall be by Consensus. “Consensus” means general agreement or collective opinion; group solidarity in sentiment and belief.

In the event that consensus cannot be reached on a matter connected with the Study, the Steering Committee shall attempt to resolve the dispute in an amicable fashion, through negotiation. If a resolution has not been reached through negotiation over a consecutive thirty (30) day period, the Steering Committee shall determine a procedure for resolving the dispute.

## Confidentiality of Pharmacy Information

No proprietary information from the study participants will be accessible to the Steering Committee, or any other individuals or groups involved in the study. All data will be reported to the Steering Committee in the aggregate. The level of aggregation will be agreed upon by the Steering Committee before the study commences.

A. T. Kearney Co. (the “Consultant”) shall use the data and information provided by the pharmacies in the sample (the “Disclosing Parties”) pursuant to this agreement (the “Data”) solely for the purpose of carrying out the study, in accordance with this agreement. A copy of the Confidentiality Disclosure Agreement between the Disclosing Party and the Consultant is attached as Appendix 2.

The Consultant will store the Data on secure servers.

# Activity Based Costing Study Project

## Confidentiality of Pharmacy Information

Subject to the Access to Information Act (Canada), the Privacy Act (Canada), the Freedom of Information and Protection of Privacy Act (British Columbia) and other applicable laws of British Columbia and Canada, the Consultant shall not release or disclose any Data to any party other than aggregate data to the Steering Committee without the prior written consent of the Disclosing Party who provided such Data.

The parties acknowledge and agree that all Data disclosed by Disclosing Parties pursuant to this agreement is provided on an “as is” basis without any warranty, representation or condition of any kind, except that each of the Disclosing Parties has the right to disclose the Data.

The obligations described in this section “Confidentiality of Pharmacy Information” shall survive the termination of this agreement.

# Approved by

## Confidentiality of Pharmacy Information

Darlene Therrien, A/Director - PharmaCare, PharmaNet and Evaluation

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Signature

Date

Heather Davidson, A/Executive Director – PharmaCare

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Signature

Date

Marnie Mitchell, CEO – British Columbia Pharmacy Association

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Signature

Date

Christina Bisanz, President & CEO - Canadian Association of Chain Drug Stores

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Signature

Date

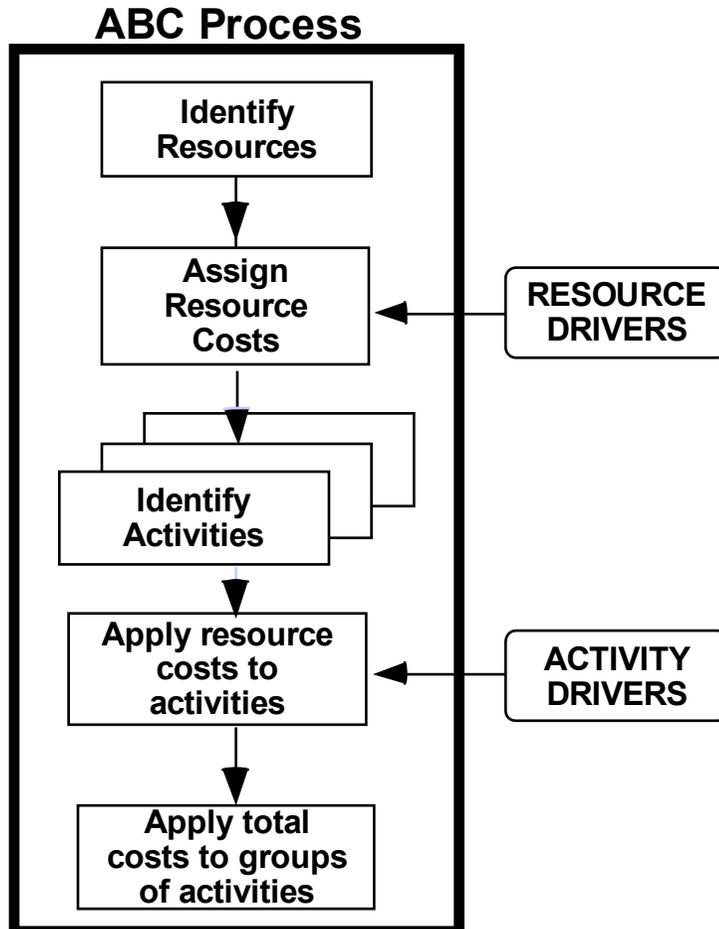
## Appendices

- Partners and Governance
- Terms of Reference
- Methodology
- Activity Dictionary
- Data Collection Tools
- Other Findings

## **Methodology**

- Study Design – ABC Methodology
- Study Sample
  - Weighted for Population
- Analysis Process

# In the ABC methodology, resources are allocated to specific activities based upon how the resources are consumed



- Resources include people (labour), people-related costs and other non-labour costs
  - People-related costs include work space, reference materials, computers, telephones, etc.
  - Non-labour costs include storage space, equipment, inventory, etc.
- Participating pharmacies provided data from general ledgers with the cost data for resources
- Resource costs are assigned to activities based upon causal relationships, e.g.,
  - % of time resource is consumed
  - Ratio of space involved
  - How resources are used (dedicated or shared)

**All resource costs must be allocated to an activity**

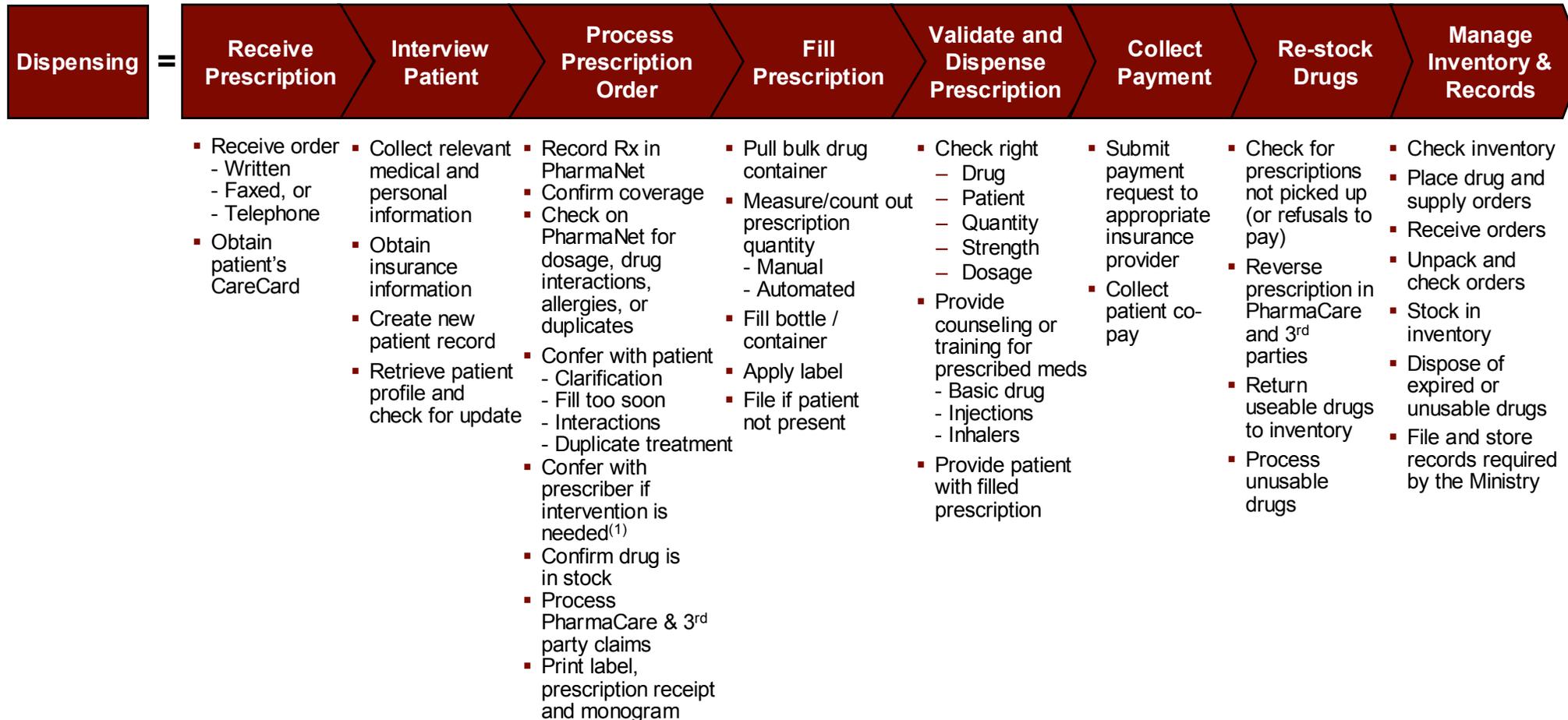
# An Activity Dictionary was created at the beginning of the project to clarify meaning and boundaries

## Level 1 Activities (the first level at which resources are allocated)

Dispensing	Ongoing Patient Counsel	Complex Disease Management	Implement Care Plans	Review Patient Medication Profiles	Assist Patients with Medication Adherence	OTC Consultation	Deliver to Patient	Administrative
(See next page)	<ul style="list-style-type: none"> <li>Follow up with a patient beyond legal requirements</li> <li>Follow up with a prescriber beyond legal requirements</li> </ul>	<ul style="list-style-type: none"> <li>Counsel with prescribed patient regarding non-dispensing issues</li> <li>Advice on a holistic approach to treatment: e.g. blood sugar test counsel for a diabetic patient receiving insulin e.g. nutrition, exercise, diet counsel for a patient taking cholesterol medication</li> </ul>	<ul style="list-style-type: none"> <li>Working with patients to develop plans for comprehensive health care</li> <li>e.g. CardioCare – take blood pressure regularly, glucose monitoring, etc</li> </ul>	<ul style="list-style-type: none"> <li>Check the Pharmanet system to answer medication questions from patients</li> <li>e.g. checking multiple drug interactions; allergies, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Ensuring patients are complying with stated drug instructions</li> <li>e.g. taking medications 3 times per day – 30 day supply will last 30 days, not 25 or 35 days</li> </ul>	<ul style="list-style-type: none"> <li>Counseling of medical supplies: breast pumps, glucometers, inhalers, aerochambers, pregnancy tests, etc</li> <li>Counseling of over the counter drugs</li> </ul>	<ul style="list-style-type: none"> <li>Activities related to prescription delivery to patients</li> <li>Includes the preparation of delivery schedules, physical delivery, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Staff hiring, scheduling, training and supervision</li> <li>Appointments with drug representatives</li> <li>Answering telephone questions, general inquiries</li> <li>Fulfill requests from patients needing duplicate receipts, tax information</li> <li>End of day reports</li> <li>Breaks</li> <li>Any unassigned time</li> </ul>

# To better understand dispensing, a second level of dispensing activities was defined for further resource allocation...

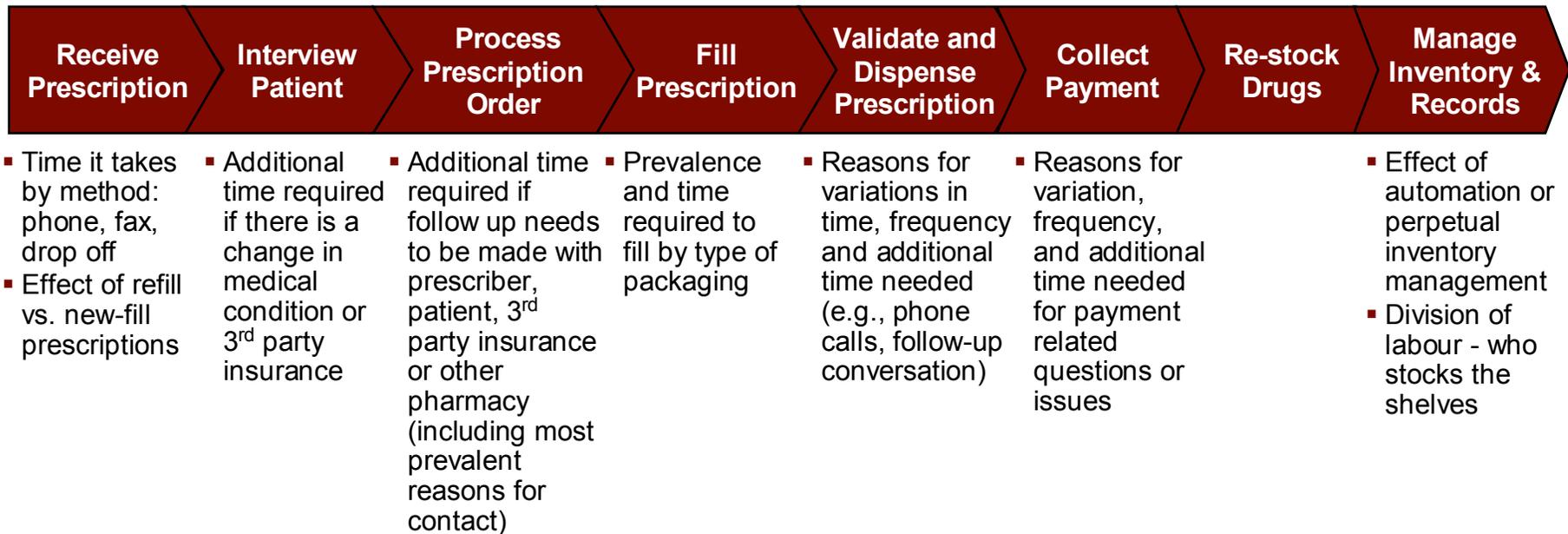
Level 2 Activities (resources allocated to dispensing were further allocated to these activities)



Note: (1) This activity can occur before or after processing prescriptions, it varies by pharmacy

# ...and for each of the dispensing activities an additional level of information was collected and analyzed to identify potential sources of variation influencing costs

## Level 3 Activities (drivers of variation in dispensing activities)



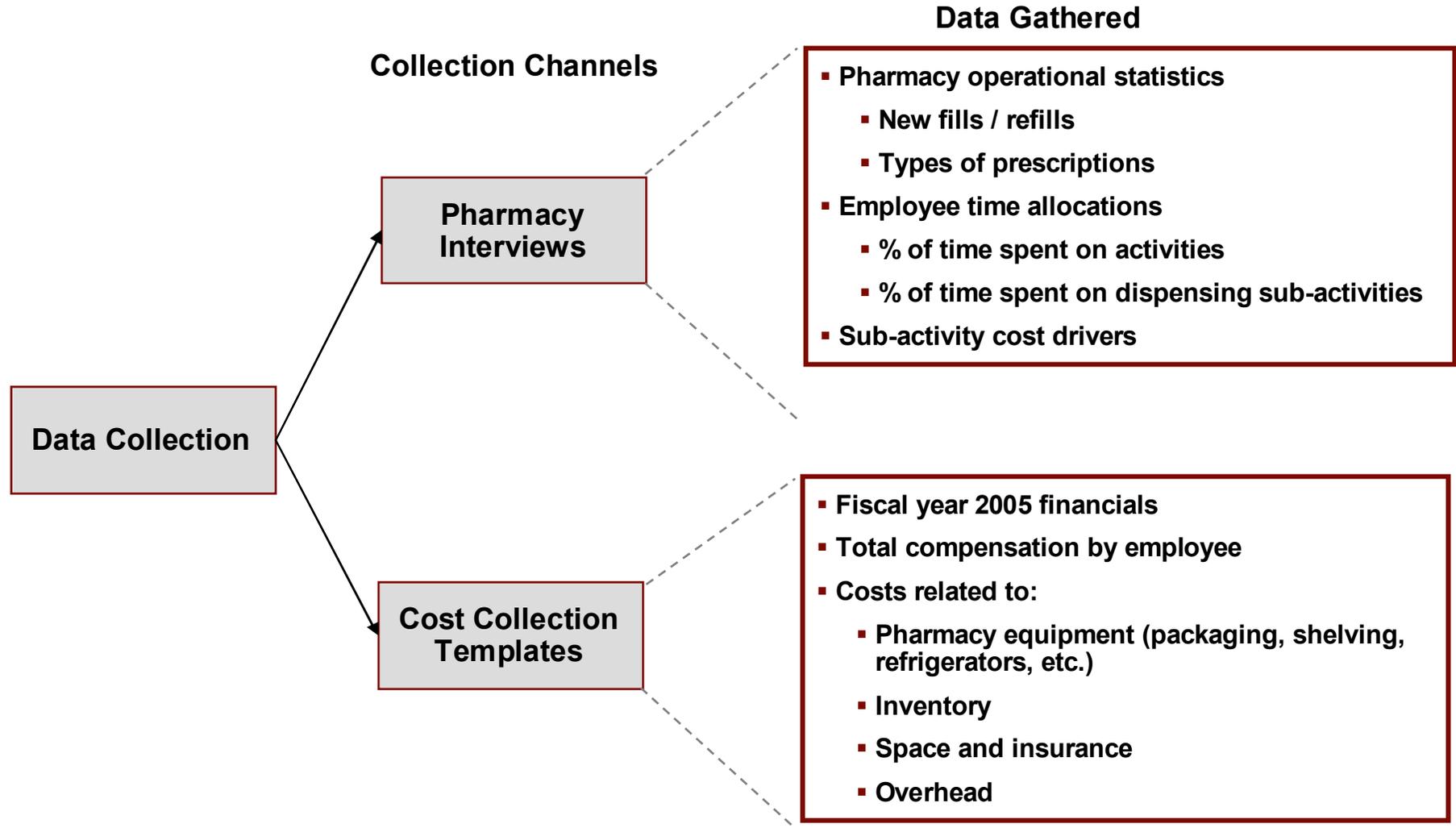
# Four approaches were used to allocate resources<sup>1</sup> in this study

## Allocation Methodology

% of Space Used	% of Time Consumed	% of Resource Used	100% Allocation
<ul style="list-style-type: none"> <li>• Lease expenses</li> <li>• Common Area Maintenance Costs</li> <li>• Building depreciation</li> <li>• Repairs and maintenance</li> <li>• Building repairs and maintenance</li> <li>• Security expenses</li> <li>• Utility expense</li> <li>• Other heating and cooling costs</li> <li>• Taxes</li> <li>• Leasehold improvement expense</li> <li>• Depreciation - leasehold improvements</li> <li>• Furniture/fixtures or Depreciation</li> <li>• Other equipment or depreciation</li> </ul>	<ul style="list-style-type: none"> <li>• Pharmacy professional fees</li> <li>• Malpractice insurance</li> <li>• Professional development fees</li> <li>• Business licensing fees</li> <li>• Payroll related</li> <li>• Royalties</li> </ul>	<ul style="list-style-type: none"> <li>• Computers and peripheral expenses</li> <li>• Depreciation - computers and peripherals</li> <li>• Software - pharmacy related</li> <li>• Depreciation - software, pharmacy</li> <li>• Software - shared software with entire store</li> <li>• Depreciation - software, entire store</li> <li>• Office supplies</li> <li>• Telecommunications</li> <li>• Technology support</li> <li>• Internet connectivity</li> <li>• Library or reference materials</li> </ul>	<p>To Dispensing:</p> <ul style="list-style-type: none"> <li>• Cost of Capital for average inventory value</li> <li>• Drug/inventory insurance</li> <li>• Inventory write-offs</li> <li>• Expired or defective drug disposal cost</li> <li>• Packaging Equipment<sup>1</sup></li> <li>• Depreciation - packaging equipment<sup>1</sup></li> <li>• Drug packaging containers<sup>1</sup></li> <li>• Credit Card</li> </ul> <p>To Delivery Service:</p> <ul style="list-style-type: none"> <li>• Delivery costs</li> </ul> <p>To Administration</p> <ul style="list-style-type: none"> <li>• Accounting support</li> <li>• HR/Admin support</li> <li>• Company vehicle expenses</li> </ul>

Note: (1) Proposed methods were discussed with the Working Group and approved by the Steering Committee

# Data were gathered through two channels – pharmacy interviews and data templates completed by pharmacies



## **Methodology**

- Study Design – ABC Methodology
- Study Sample
  - Weighted for Population
- Analysis Process

# The design of the sample was structured to capture and understand key differences (rather than a totally random sample)

## Guiding principles for approach

- The purpose of sampling is to develop a representative understanding
- There is no one cost for dispensing a prescription
- Classic statistical sample size validity is costly and difficult in an environment where there is day to day and year to year variability – variation within a store is greater than across stores
- Credibility may still be achieved if key drivers of costs and variation are well represented

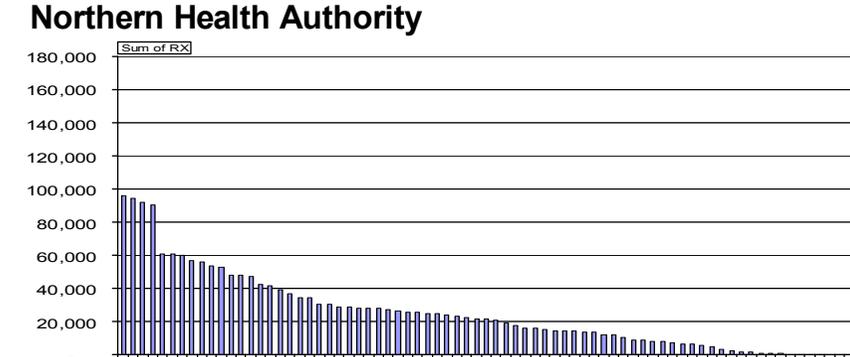
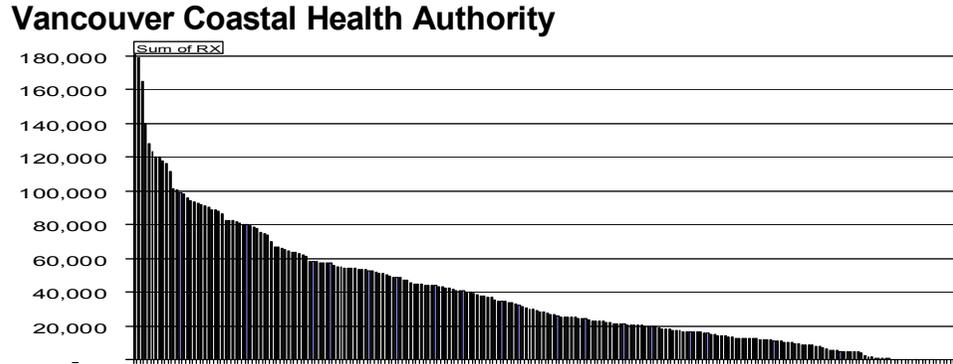
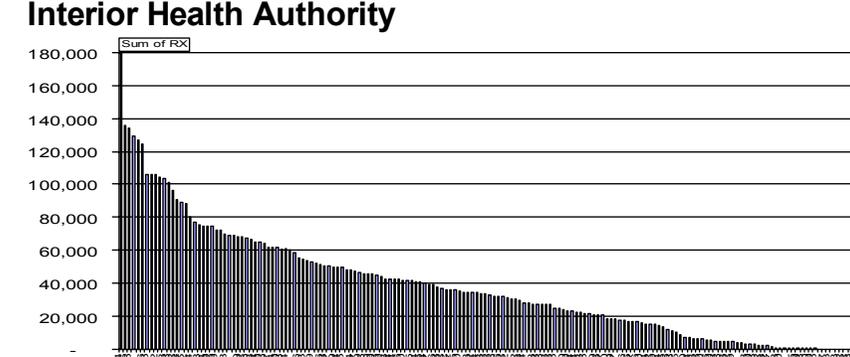
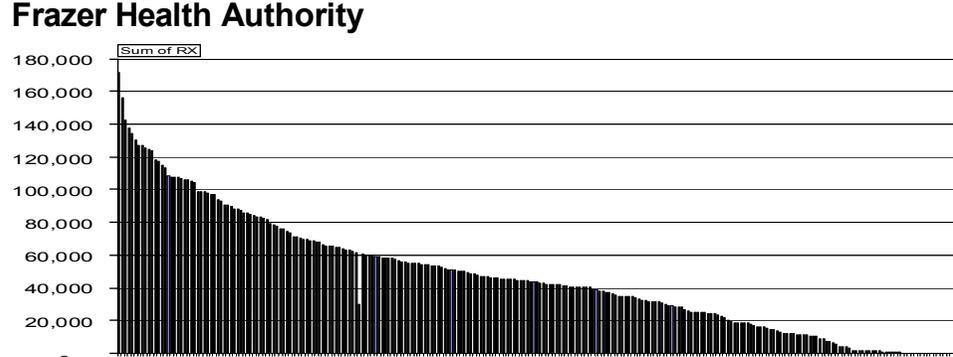
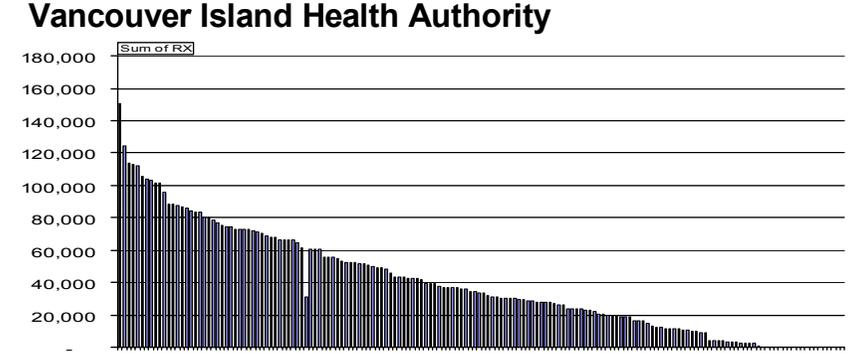
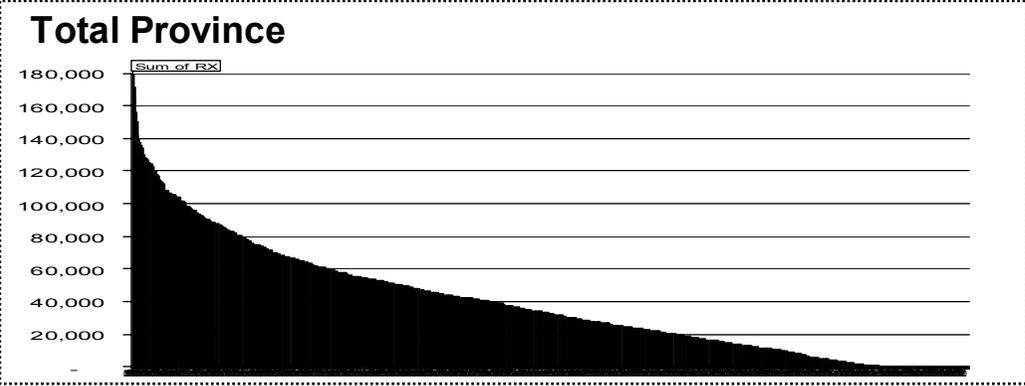
## Implications:

- Degrees of variation should be well represented in what are believed to be key drivers
- The sample group should attempt to represent the population in dimensions of key drivers
- Extrapolation to the population can adjust for known differences

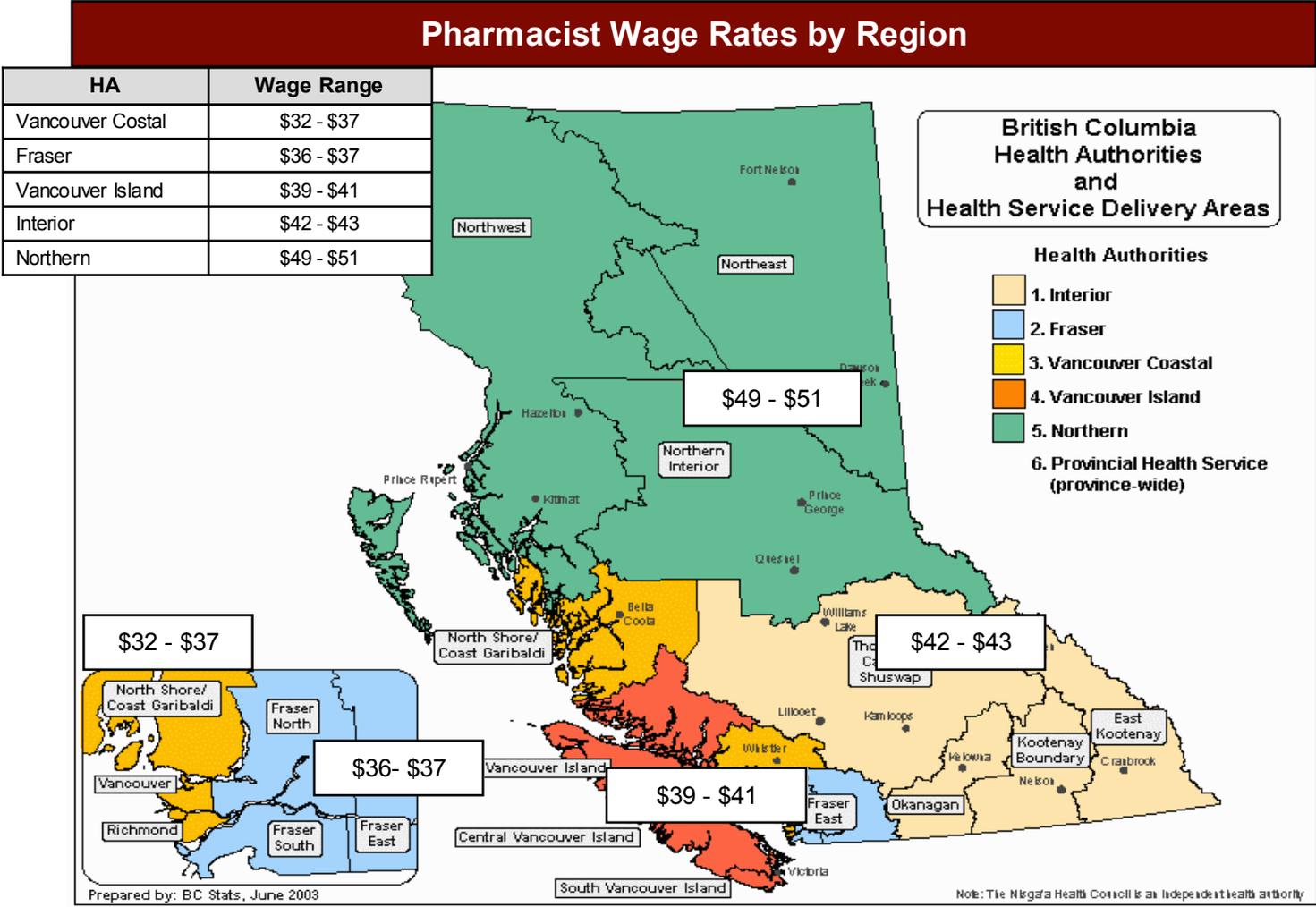
**Our objective was to understand the average cost of dispensing a prescription, its component costs and how the average may vary by cost driver**



# Annual prescription volume curves in B.C. are continuous and include a wide range – the sample needed to reflect the spread



# Prior studies found wages for pharmacists vary significantly across the Health Authorities

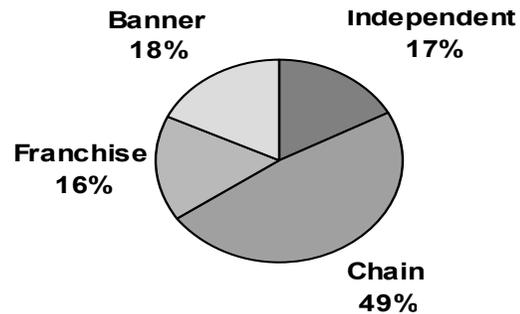


**Segmenting by Health Authority will help to test the impact of these differences and determine if there are offsetting benefits (e.g., lower space costs)**

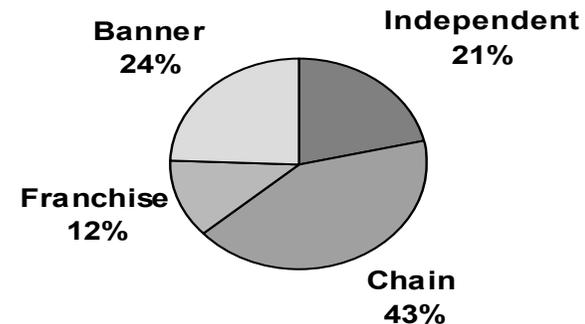
It was not known if different types of pharmacy operations within B.C. would have different cost structures – this was added as a third dimension in designing the sample

### B.C. Community Pharmacy Population

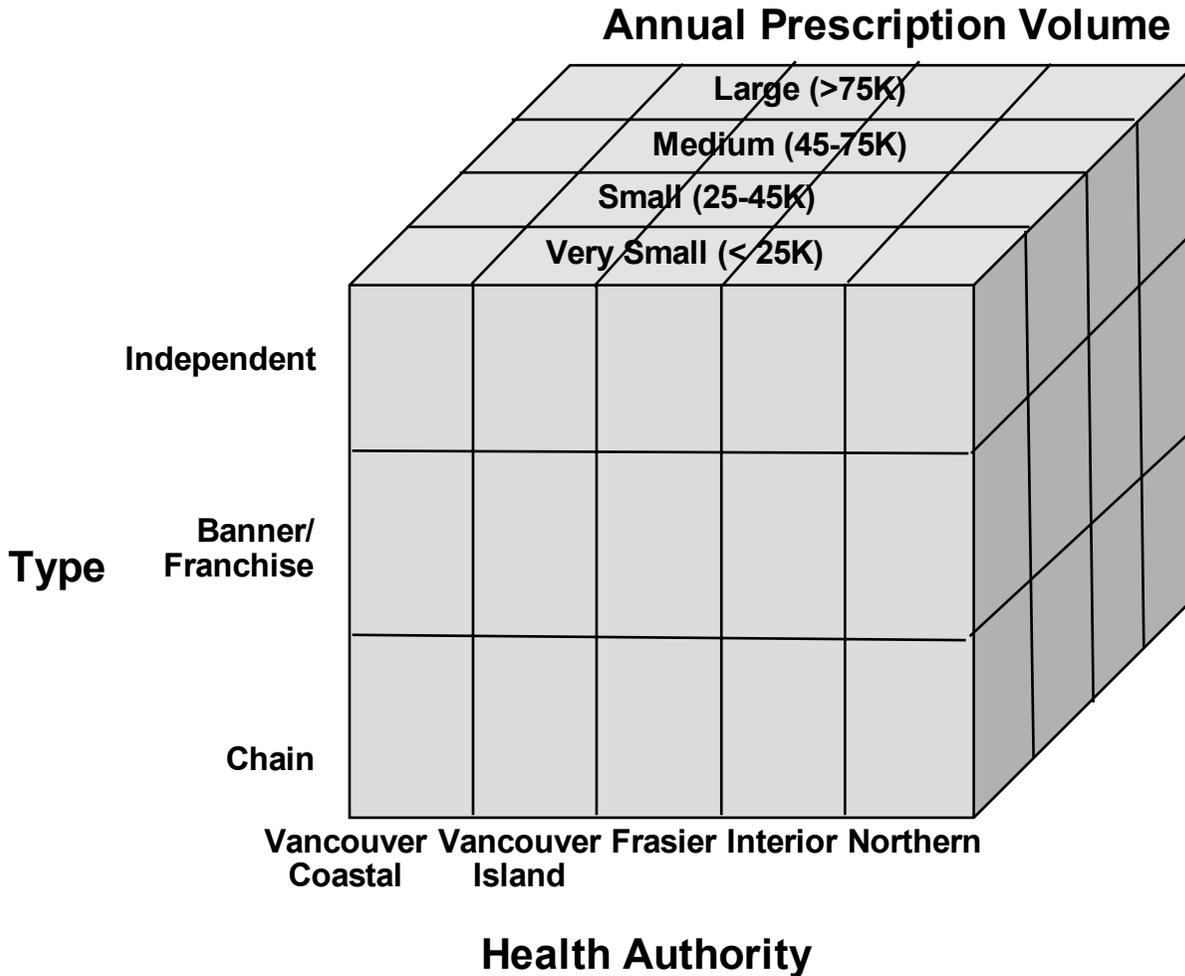
#### Number of Prescriptions



#### Number of Stores



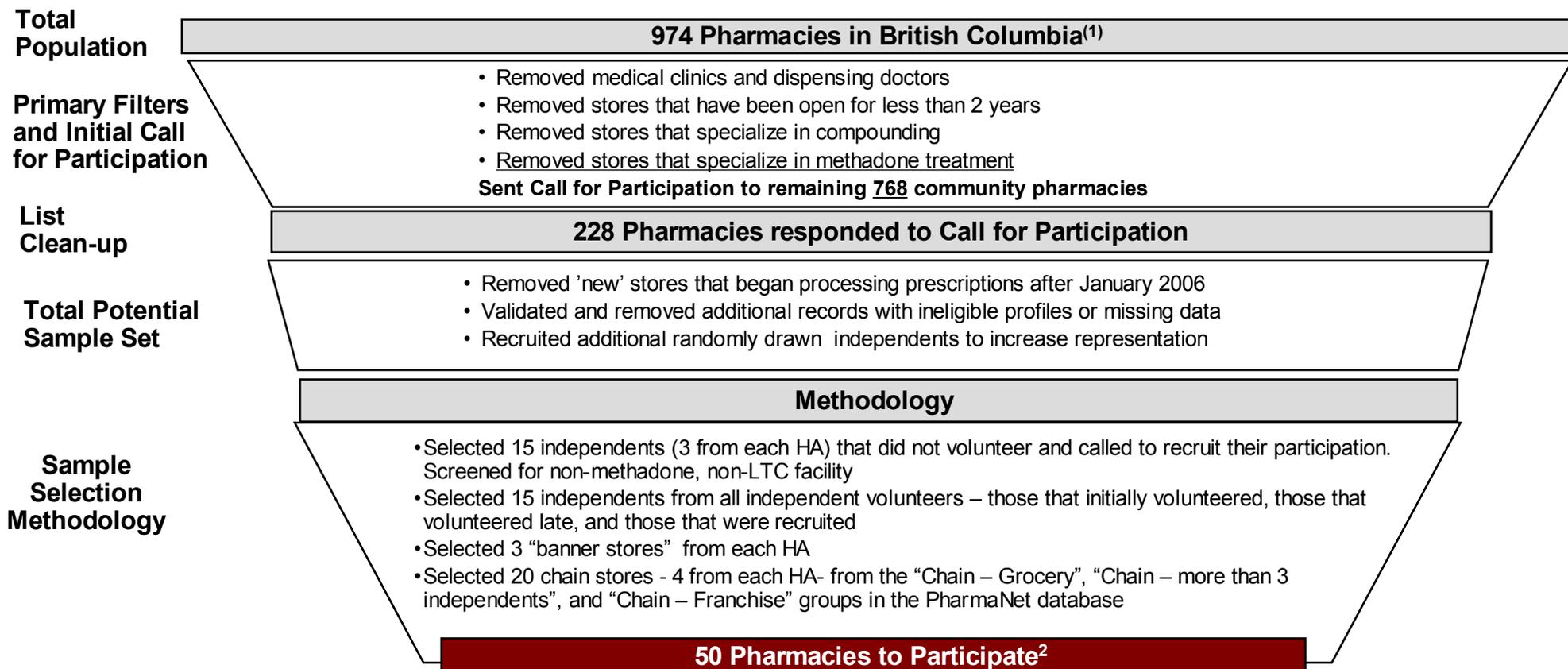
# The decision was made to allocate the sample evenly across the 5 Health Authorities, segmenting by store type and volume



- **Independent:** a pharmacy or small group (4 or less) which operates completely independently and with its own name/brand.
- **Banner:** a pharmacy which is independently owned but named and affiliated with a promoted brand, but the pharmacy owner makes independent purchasing and mutually agreed operating decisions.
- **Franchise:** a pharmacy which has shared or corporate ownership and is tightly controlled by corporate with respect to operating, purchasing and promotion guidelines.
- **Chain:** a pharmacy which is part of a group under centralized management and corporate ownership, purchasing and marketing with pharmacy operations aligned to corporate policy. There are grocery chains, mass merchandise chains, and drug store chains.

Note: Banner and Franchise were combined to protect confidentiality

# Participants were selected from a combination of volunteers and a filtered extract from the PharmaNet database



Notes: (1) National Association of Pharmacy Regulatory Associations (NAPRA) as of January 1, 2006  
 (2) Two additional pharmacies were added later from an additional chain agreeing to participate. One original participating pharmacy was dropped after interviews were conducted as a result of ownership issues and several failed to provide financial data. In total 52 pharmacies were interviewed but 4 were unable to provide financial data and one was received too late to include in the analysis. The final sample with full data consisted of 47 pharmacies.  
 (3) Different pharmacies provide varying levels of OPPS (Other Professional Pharmacy Services) with not all pharmacies undertaking OPPS. The sampling criteria did not consider varying degrees of OPPS. Achieving a balanced representation of OPPS services was not an objective of this study.

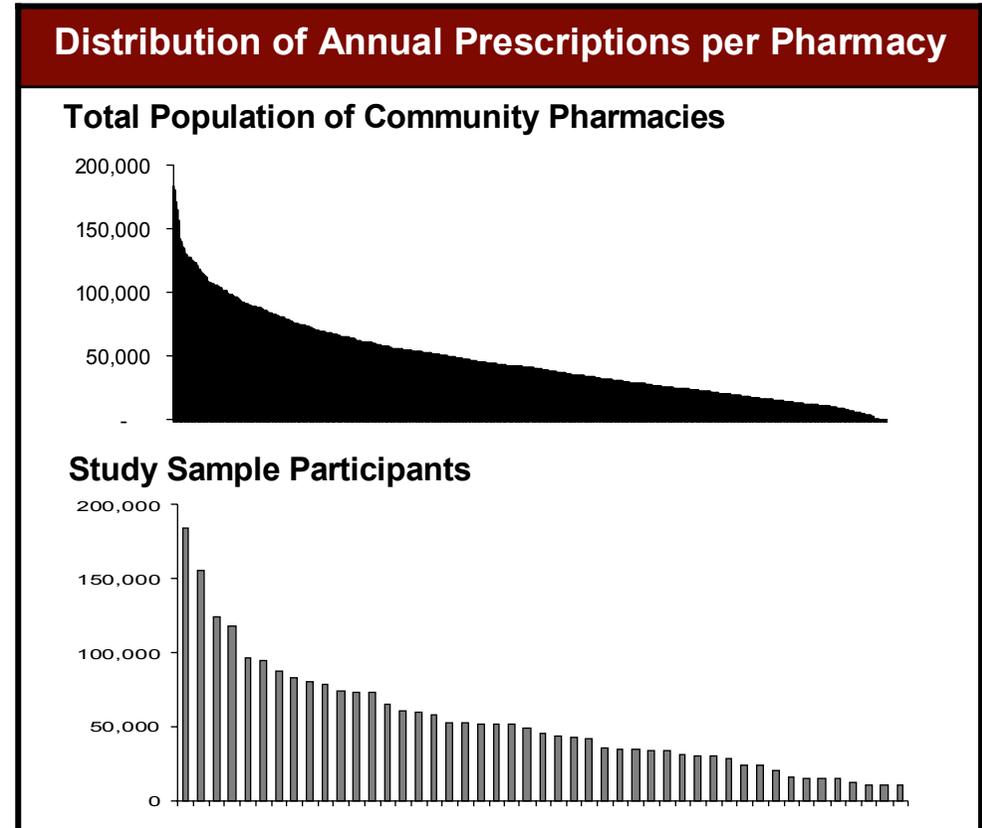
## **The sample was drawn from volunteer pharmacies in BC and is representative of both geography and volume**

- Pharmacies in hospitals and nursing homes in British Columbia were excluded. This study focused on the community pharmacy
- A community pharmacy for this study does not include stores that specialize in methadone, complex compounding, or have been open for less than 2 years.
- The objective was to cover all five health authorities and represent a balance in the sample of different prescription volumes

**The net target population was 768 pharmacies**

# The volume distribution in the resulting sample captures representative volume groups for the overall B.C. population

Annual Volume Segment (000s)	Overall Pharmacy Population	% of Population	Study Participants	% of Sample
<25	282	36%	11	23%
25 – 45	214	27%	12	26%
45 – 75	190	24%	14	30%
75 – 100	69	9%	6	13%
100+	35	4%	4	8%
<b>Total</b>	<b>790</b>	<b>100%</b>	<b>47</b>	<b>100%</b>



**Larger volume pharmacies are slightly over-represented and smaller volume pharmacies are under-represented**

# As designed, a balance of Health Authorities was achieved

This provides better representation for analysis of potential differences but leads to a need to adjust study results to represent the overall pharmacy population

Health Authority <sup>1</sup>	Overall Pharmacy Population	% of Population
Fraser	229	29%
Interior	143	18%
Northern	61	8%
Vancouver Island	143	18%
Vancouver Coastal	214	27%
<b>Total</b>	<b>790</b>	<b>100%</b>

Sample Population	% of Population
6 <sup>1</sup>	13%
10	21%
9	19%
10	21%
12	26%
<b>47</b>	<b>100%</b>

Note: (1) Data could not be obtained from multiple participants in the Fraser Health Authority  
 Sources: Pharmacy interviews; A.T. Kearney analysis

# The sample dispensing costs were weighted by characteristics in the population for a ‘Weighted for Population Dispensing Cost’

ABC Study Dispensing Costs - Sample

	<25	25-45	45-75	75+
Fraser	\$8.20	\$4.55	\$7.83	\$5.86
Interior	\$12.49	\$6.39	\$5.31	\$5.70 <sup>2</sup>
Northern	\$11.47	\$8.45	\$5.94	\$5.79
Vancouver Island	\$10.61	\$6.86	\$5.95	\$5.48 <sup>2</sup>
Vancouver Coastal	\$11.45	\$6.08	\$9.04	\$5.57

Distribution of Annual Prescriptions in BC Community Pharmacies

	<25	25-45	45-75	75+
Fraser	8%	8%	8%	5%
Interior	6%	6%	4%	2%
Northern	4%	2%	1%	<1%
Vancouver Island	6%	5%	5%	2%
Vancouver Coastal	12%	5%	6%	3%

	<25	25-45	45-75	75+	Wt Avg
Fraser					\$6.64
Interior					\$7.60
Northern					\$9.70
Vancouver Island					\$7.04
Vancouver Coastal					\$9.14
Wt Avg	\$10.81	\$5.97	\$7.21	\$4.00	\$8.02

Population Weighted Average Dispensing Cost<sup>1</sup>:  
**\$8.02**

Notes: (1) Weighted Average =  $\bar{x} = \frac{w_1x_1 + w_2x_2 + \dots + w_nx_n}{w_1 + w_2 + \dots + w_n}$ , where 'W' is the percent in the cell and 'X' is the value determined by the study for the same cell.

(2) Estimated. No sample data available. Used average value for this column adjusted for variation across H.A.s and volume.

**Pharmacy types in the sample are representative of the types in the overall B.C. pharmacy population – Pharmacy type was not factored to full sample population**

<b>Pharmacy Type<sup>1</sup></b>	<b>Overall Pharmacy Population</b>	<b>% of Population</b>
Independent	197	25%
Franchise/ Banner	285	36%
Chain	308	39%
<b>Total</b>	<b>790</b>	<b>100%</b>

<b>Sample Population</b>	<b>% of Population</b>
9	19%
18	38%
20	43%
<b>47</b>	<b>100%</b>

Sources: PharmaNet data extract; Pharmacy interviews; A.T. Kearney analysis

## **Methodology**

- Study Design – ABC Methodology
- Study Sample
  - Weighted for Population
- Analysis Process

# The analysis was based upon hypotheses developed by the Study Working Group and Steering Committee

## The two drivers believed most important were:

- Volume of prescription business
- Pharmacists wages (and other location-based costs) that vary within the province  
(Variance across health authorities was considered more relevant than urban vs. rural)

## Other potential drivers:

- Type of store (ownership and operating model)
  - Staffing models (e.g., owner-operated may not have overtime costs)
  - Automation (tied to higher volume and/or chain stores)
- Business mix (e.g., proportion of new customers vs. repeat, percent cash vs. “covered”)

# The analysis process consisted of 3 primary steps

## Data Validation

- Check for completeness
- Review for reasonableness of values
- Follow-up calls to data provider
- Comparisons to similar pharmacies

## Activity Calculations by Pharmacy

- Expansion of labor costs for time allocations
- Allocation of non-labor costs
- Calculation of exclusions<sup>1</sup>
- Aggregation of costs within pharmacies

## Analysis Across Pharmacies

- Analysis by volume, type and Health Authority
- Analysis of other hypotheses
- Graphic and statistical analysis of distributions
- Analysis of drivers for outliers and variation

Note: (1) See separate discussion on following pages for methadone, compliance packaging, and other exclusions

## It was necessary to make select assumptions to complete some pharmacy responses

- Data were reviewed and validated upon receipt for reasonableness and completeness
  - An individual provider's level of understanding could vary
  - Any data which seemed out-of-line with expectations or other similar pharmacies, or was incomplete, was checked through follow-up questions and conversations with the providers
- Assumptions were required in a few cases:
  - One chain submitted total compensation by title by pharmacy – overall costs were complete, but individual payroll had to be allocated
  - For six pharmacies, individual employee time allocations were not provided for a few of their employees.
    - It was necessary to average the time allocation within a pharmacy and a job title based on interview responses from the other employees with the same job title within the same pharmacy
    - Interview responses were obtained from every pharmacy and job title, but not every employee
  - Changes between 2005 and 2006 staffing coverage were adjusted to represent “normal” operations
  - Inventory carrying costs were calculated if not provided, using a standard 10% cost of capital

## Exclusions included prescriptions covered under other PharmaCare programs or considered store specific services

Excluded from Cost of Dispensing	Data Collected	Method to Exclude
Methadone Prescriptions	<ul style="list-style-type: none"> <li>▪ # of Methadone Rxs</li> <li>▪ Associated time it takes to fill</li> </ul>	<ul style="list-style-type: none"> <li>▪ Remove # of methadone Rxs from total Rxs</li> <li>▪ Remove associated labour costs from annual labour cost</li> <li>▪ Remove non-labour costs based on % Rx volume</li> </ul>
Complex Compounding	<ul style="list-style-type: none"> <li>▪ Complex compounding scripts as % of total</li> <li>▪ Associated time it takes to fill</li> </ul>	<ul style="list-style-type: none"> <li>▪ Remove # of complex compound Rxs from total Rxs</li> <li>▪ Remove associated labour costs from annual labour cost</li> <li>▪ Remove non-labour costs based on % Rx volume</li> </ul>
Special services fees	<ul style="list-style-type: none"> <li>▪ Special services fees as % of total scripts</li> </ul>	<ul style="list-style-type: none"> <li>▪ Calculate labour cost of processing special services fees and remove from annual labour cost</li> </ul>
Any cost component of delivery	<ul style="list-style-type: none"> <li>▪ Cost of delivery</li> <li>▪ # of Rxs that are delivered annually</li> </ul>	<ul style="list-style-type: none"> <li>▪ Any possible time allocated to delivery will go into the Other Professional Pharmacy Services</li> </ul>
Portion of vacation days, paid holidays, paid sick days	<ul style="list-style-type: none"> <li>▪ # of Vacation days</li> <li>▪ Sick days</li> <li>▪ Holidays taken</li> </ul>	<ul style="list-style-type: none"> <li>▪ Vacation and holidays 'charged' in proportion to allocated time to Dispensing, Other Professional Pharmacy Services and Other</li> </ul>
Atypical events – clinics, continuing education, meetings with drug reps	<ul style="list-style-type: none"> <li>▪ Time and frequency of each event</li> </ul>	<ul style="list-style-type: none"> <li>▪ Calculate total labour cost of these atypical events</li> <li>▪ Subtract that from annual salary</li> </ul>

# Walking through an example of a typical pharmacy in the study helps explain the cost allocation

ILLUSTRATIVE

## Total Cost Analysis:

Costs		Prescriptions		Total Cost per Prescription	
Total Costs	\$800,000	Total	60,000	Total Cost	\$800,000
Labour Costs <sup>1</sup>	\$560,000	Adjusted <sup>2</sup>	(800)	Adjusted Prescriptions	59,200
Non-Labour Costs <sup>1</sup>	\$240,000	Total Adjusted	59,200	<b>Total Cost per Prescription in example</b>	<b>\$13.51</b>

## Pharmacy Interviews and Analysis Results:

Time Allocation:	Pharmacy Techs		Non-labour Costs <sup>3</sup>		Labour Costs <sup>3</sup>	
	Pharmacists	Pharmacy Techs				
Dispensing	60%	76%	Total	\$240,000	Total	\$560,000
OPPS	32%	11%	Dispensing	\$137,000	Dispensing	\$356,000
Admin/Other	8%	12%	OPPS	\$38,000	OPPS	\$157,000
			Other/Admin	\$61,000	Other/Admin	\$47,000
			Front Store	\$4,000		

Continued on next page...

Notes: (1) 70%/30% mix of labour and Non-labour, respectively  
 (2) Methadone and complex compounding prescriptions are completely removed from sample  
 (3) Breakdown based on average mix across sample

Source: A.T. Kearney analysis

# Walking through an example of a typical pharmacy in the study helps explain the cost allocation (cont'd)

ILLUSTRATIVE

...Continued from Previous Page

## Analysis Results:

Dispensing Costs		Prescriptions		Dispensing Cost per Prescription	
Dispensing – Labour	\$356,000	Total	60,000	Total Dispensing Cost	\$483,000
Exclusions <sup>1</sup>	\$(10,000)	Adjusted <sup>2</sup>	(800)	Adjusted Scripts	59,200
Dispensing –Non-Labour	\$137,000	Total Adjusted	59,200	<b>Dispensing Cost per Prescription</b>	<b>\$8.17</b>
Total	\$483,000				

**While total cost per prescription in this example is \$13.51, dispensing cost per prescription is only \$8.17 after all time and cost allocations**

Notes: (1) Costs associated with methadone, complex compounding, and special service fees were excluded; the additional dispensing time required to place prescriptions in compliance packs was removed from Dispensing Costs and added to OPPS

(2) Pharmacies specializing in methadone and complex compounding prescriptions were not included in the sample

Source: A.T. Kearney analysis

# Further explanation may also be helpful for the portion of compliance pack costs (compliance packaging) excluded

Information Collected	Observations
<ul style="list-style-type: none"> <li>▪ Number of prescriptions:               <ul style="list-style-type: none"> <li>- 7 day Compliance Pack</li> <li>- 14 day Compliance Pack</li> <li>- 28 day Compliance Pack</li> </ul> </li> <li>▪ Amount of time it takes to fill a prescription               <ul style="list-style-type: none"> <li>- 7 day Compliance Pack</li> <li>- 14 day Compliance Pack</li> <li>- 28 day Compliance Pack</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Some physicians prescribe Compliance Packs</li> <li>▪ Compliance Packs aid compliance especially when a patient is on multiple or complex prescriptions e.g. prednisone, or has a new condition and is on many new prescriptions e.g. heart attack</li> <li>▪ Some pharmacies encourage Compliance Packs by offering free delivery because they are more profitable and/or pharmacies believe customers who are likely to benefit from Compliance Packs may have a difficult time getting to the pharmacy</li> </ul>



Action
<ul style="list-style-type: none"> <li>▪ Recognize that each prescription counts, but the <u>additional</u> time and resource costs for the packaging will be considered a service cost (OPPS) rather than a dispensing cost               <ul style="list-style-type: none"> <li>- Calculate difference in time spent filling pill order and compliance pack and associated cost</li> <li>- For 7 day compliance packs, time will be adjusted for based on an average number of prescriptions included (see next page)</li> <li>- Subtract labour cost from dispensing and add to other pharmacy services</li> </ul> </li> <li>▪ Equipment associated with compliance packaging appears to be expensed prior to 2005 in most data-to-date; any associated costs specifically identifiable to this will be considered a service cost</li> </ul>

# Example: Adjusting for compliance packaging service

ILLUSTRATIVE

Input from interviews:

Time estimated to fill a monthly prescription of pills	100 Time Units
Time estimated to fill an average 7-day compliance pack	500 Time Units
Average prescriptions in a 7-day compliance pack	6 Rx

Then, each prescription in compliance pack = 83.3 time units

And the average monthly time per prescription = 361 time units

Calculation:  $\frac{500 \text{ time units}}{6 \text{ Rx}} = 83.3 \text{ time units per Rx} \times \frac{52 \text{ weeks}}{12 \text{ months}} = 361 \text{ time units per Rx}$

**Dispensing cost**

= 100 time units X labour cost  
(a standard monthly prescription cost)

**Compliance Package cost**

= (361-100)=261 time units X labour cost  
(the additional cost of special packaging)

## **Appendices**

- Partners and Governance
- Terms of Reference
- Methodology
- Activity Dictionary
- Data Collection Tools
- Other Findings

# The Activity Dictionary was created at the beginning of the project and defines each of the major activities

## Dispensing Activities

Receive Prescription

Interview Patient

Process Prescription Order

Fill Prescription

Validate and Dispense Prescription

Collect Payment

Re-stock Drugs

Manage Inventory & Records

## Professional Pharmacy Activities

Ongoing Patient Counsel

Complex Disease Management

Implement Care Plans

Review Patient Medication Profiles

Assist Patients with Medication Adherence

OTC Consultation

Deliver to Patient

## Administrative Activities

Admin.

Lunch / Breaks

Other

# Dispensing Activity – Receive prescription

<b>Activity Type:</b>	<b>Dispensing Activity</b>
<b>Activity:</b>	<b>Receive Prescription</b>

<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Receive written order via fax or patient drop off</li> <li>■ Receive order via phone-in from doctor's office</li> <li>■ Ensure the prescription is authentic and contains the following info:             <ul style="list-style-type: none"> <li>• Date, name and address of patient</li> <li>• Name of drug, strength, quantity, dosage instructions, refill authorization</li> <li>• Name and ID number of practitioner, and date dispensed</li> </ul> </li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ This process does not include interviewing the patient – it is simply obtaining the initial prescription</li> </ul>
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ This does not include clarifications with the prescriber. Clarification will be included in Process Prescription Order.</li> </ul>
<b>Cost Drivers:</b>	<ul style="list-style-type: none"> <li>■ Salary and division of labour among pharmacy staff</li> <li>■ New patient vs. recurring patient</li> <li>■ New prescription vs. refill (preauthorized or authorization required)</li> </ul>

# Dispensing Activity – Interview Patient (or Representative)

<b>Activity Type:</b>	<b>Dispensing Activity</b>
<b>Activity:</b>	<b>Interview Patient (or Representative)</b>

<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Interview patient either in person or over the phone and obtain patient information, discuss medication history and allergies</li> <li>■ Obtain insurance information from patient – PharmaCare and any third party insurance</li> <li>■ Create a new patient record or retrieve the patient profile. Check for any updates including             <ul style="list-style-type: none"> <li>• Name, health number, address, phone number, date of birth, address, gender</li> <li>• Allergies and idiosyncratic responses, medical conditions and physical limitations, past or present drug therapy</li> <li>• Drug name, DIN, date dispensed, quantity, intended duration, and ID of authorizing practitioner</li> </ul> </li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ This process is defined by collecting information from the patient.</li> </ul>
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ This does not include entering information into PharmaNet or conferring with 3<sup>rd</sup> party insurance companies or the prescriber.</li> </ul>
<b>Cost Drivers:</b>	<ul style="list-style-type: none"> <li>■ Salary and division of labour among pharmacy staff</li> <li>■ New patient vs. recurring patient</li> <li>■ New prescription vs. refill (preauthorized or authorization required)</li> <li>■ 3<sup>rd</sup> party insurance</li> <li>■ Recent changes in patients’ medical conditions (medical status)</li> </ul>

# Dispensing Activity – Process Prescription Order

<b>Activity Type:</b>	<b>Dispensing Activity</b>
<b>Activity:</b>	<b>Process Prescription Order</b>
<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Record Rx in PharmaNet</li> <li>■ Check PharmaNet for dosage, drug interactions, allergies, or duplicates</li> <li>■ Confer with patient if a problem is detected in PharmaNet <ul style="list-style-type: none"> <li>• Clarification</li> <li>• Fill too soon</li> <li>• Interactions</li> <li>• Duplicate treatment</li> </ul> </li> <li>■ Confer with prescriber if intervention or special authority is needed</li> <li>■ Confirm drug is in stock</li> <li>■ Enter PharmaCare &amp; 3rd party claims either automatically or manually</li> <li>■ Confirm coverage</li> <li>■ Print label, prescription receipt and monograph</li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ This process is defined by entering data into PharmaNet, confirming coverage and printing the label. Follow up activities with PharmaCare, the prescriber, the patient or a third party insurance company may be required.</li> <li>■ This process could include checking an in-store system for patient history.</li> </ul>
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ This process excludes activities related to special services fees, methadone treatments, and complex compounding</li> </ul>
<b>Cost Drivers:</b>	<ul style="list-style-type: none"> <li>■ Salary and division of labour among pharmacy staff</li> <li>■ New patient vs. recurring patient</li> <li>■ New prescription vs. refill (preauthorized or authorization required)</li> <li>■ Prevalence of special drug types, controlled substances</li> <li>■ Prevalence of third party coverage</li> <li>■ Prevalence of required prescriber intervention (e.g. missing info, additional research, therapy concerns, etc.)</li> <li>■ Drug out of stock / prevalence of locating stock</li> <li>■ Frequency of downtime for PharmaNet or in-house systems</li> </ul>

# Dispensing Activity – Fill Prescription

<b>Activity Type:</b>	<b>Dispensing Activity</b>
<b>Activity:</b>	<b>Fill Prescription</b>
<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Pull bulk drug container</li> <li>■ Measure/count out prescription quantity                             <ul style="list-style-type: none"> <li>• Manual</li> <li>• Automated</li> </ul> </li> <li>■ Fill bottle / container</li> <li>■ Apply label</li> <li>■ File if patient not present</li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ Compliance Packaging (aka bubble pack, compliance pack) and Dosette packaging are included in this activity whether they are done as part of this continuous dispensing process or in advance. Data will be gathered to understand the impact of compliance packaging</li> </ul>
<b>Exclusions:</b>	
<b>Cost Drivers:</b>	<ul style="list-style-type: none"> <li>■ Salary and division of labour among pharmacy staff</li> <li>■ Type of drug (liquid, tablet, etc) or drug packaging (dosette)</li> <li>■ Prevalence of special drug types, controlled substances</li> <li>■ Dispensing/packaging technology</li> <li>■ Size of compliance packaging (7 or 30 day)</li> </ul>

# Dispensing Activity – Validate and Dispense Prescription

<b>Activity Type:</b>	<b>Dispensing Activity</b>
<b>Activity:</b>	<b>Validate and Dispense Prescription</b>

<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Verify correct drug, patient, quantity, strength and dosage</li> <li>■ Enter into direct dialogue with the patient regarding:             <ul style="list-style-type: none"> <li>• Confirmation of identity of the patient</li> <li>• Identification and purpose of the drug being dispensed, directions for proper use, common adverse effects or interactions that may be encountered and their avoidance</li> <li>• Storage requirements</li> <li>• Prescription refill information</li> <li>• Response to questions and expressed needs, which may include:                 <ul style="list-style-type: none"> <li>– How to monitor the response to therapy and expected outcomes within defined time periods</li> <li>– Action to be taken in the event of a missed dose</li> <li>– When to seek medical attention</li> <li>– Complementary measures</li> </ul> </li> </ul> </li> <li>■ Alternative forms of patient information, including written information leaflets, pictogram labels, video programs, etc may be used to supplement person-to-person pharmacist/patient dialogue</li> <li>■ Provide patient with filled prescription</li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ This includes all required communication with patient regarding the specific prescription including follow-up calls from the patient or questions regarding side effects</li> <li>■ Patient demographic (new mother, elderly population) could affect the amount of consultation required</li> </ul>
<b>Exclusions:</b>	
<b>Cost Drivers:</b>	<ul style="list-style-type: none"> <li>■ Salary and division of labour among pharmacy staff</li> <li>■ Amount of consultation required for a particular patient or prescription             <ul style="list-style-type: none"> <li>• New prescription vs. refill (preauthorized or authorization required)</li> </ul> </li> <li>■ In-person pick-up or 3<sup>rd</sup> party pickup (in which case, identity of person must be verified)</li> </ul>

# Dispensing Activity – Collect Payment

<b>Activity Type:</b>	Dispensing Activity
<b>Activity:</b>	Collect Payment
<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Collect patient share of payment</li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ The activity takes place in the patient interaction</li> </ul>
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ This does not include reconciling payment claims, or additional reports required for third party insurers. Those activities are included in Administrative Activities.</li> </ul>
<b>Cost Drivers:</b>	<ul style="list-style-type: none"> <li>■ Salary and division of labour among pharmacy staff</li> <li>■ Pharmacy software type and version (may necessitate duplicate order entry for 3<sup>rd</sup> party payment processing)</li> </ul>

# Dispensing Activity – Restock Drugs

<b>Activity Type:</b>	<b>Dispensing Activity</b>
<b>Activity:</b>	<b>Restock Drugs</b>
<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Check for prescriptions not picked up (or refusals to pay)</li> <li>■ Reverse prescription in PharmaNet and 3rd party systems</li> <li>■ Return useable drugs to inventory</li> <li>■ Process unusable drugs (destroy if necessary)</li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ This activity relates only to filled prescriptions</li> </ul>
<b>Exclusions:</b>	
<b>Cost Drivers:</b>	<ul style="list-style-type: none"> <li>■ Sq. Ft. for the pharmacy and stocking area                             <ul style="list-style-type: none"> <li>• Layout of the stocking area</li> </ul> </li> <li>■ Frequency of restocking (# of returns as % of prescriptions dispensed)</li> <li>■ Prevalence of controlled substance, as they would require more processing</li> </ul>

# Dispensing Activity – Manage Inventory and Records

<b>Activity Type:</b>	<b>Dispensing Activity</b>
<b>Activity:</b>	<b>Manage Inventory and Records</b>

<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Check inventory</li> <li>■ Place drug and supply orders</li> <li>■ Receive orders</li> <li>■ Unpack and check orders to ensure drug shipments are unopened and safe</li> <li>■ Stock inventory</li> <li>■ Be responsible for inventory management and procedures for proper destruction of unusable drugs and devices</li> <li>■ Dispose of expired or unusable drugs</li> <li>■ Return recalled drugs and maintain documentation</li> <li>■ File and store records required by the bylaws                             <ul style="list-style-type: none"> <li>• Invoices recording the purchase and receipt of Schedule I drugs and drugs regulated by Controlled Drugs and Substances Act</li> <li>• All patient records stored on premises in a secure manner for a period of not less than three years</li> </ul> </li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ This activity relates to bulk drugs or stock drugs, not to prescriptions</li> <li>■ This would include any additional storage area needed for storing documents</li> </ul>
<b>Exclusions:</b>	
<b>Cost Drivers:</b>	<ul style="list-style-type: none"> <li>■ Number of SKUs</li> <li>■ Volume of prescriptions or turnover of bulk drugs and frequency of ordering bulk drugs</li> <li>■ Sq. Ft. for the pharmacy and stocking area                             <ul style="list-style-type: none"> <li>• Layout of the stocking area</li> </ul> </li> <li>■ Prevalence of special drug types, controlled substances</li> </ul>

# The Activity Dictionary describes each of the major activities

## Dispensing Activities



## Professional Pharmacy Activities



## Administrative Activities



# Professional Pharmacy Activities – Ongoing Patient Counsel

<b>Activity Type:</b>	<b>Professional Pharmacy Activities</b>
<b>Activity:</b>	<b>Ongoing Patient Counsel</b>

<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Follow up with a patient beyond legal requirements             <ul style="list-style-type: none"> <li>• Provide direction and advice to patients regarding general health inquiries</li> <li>• Contact patients to determine if prescribe medications are having the desired impact</li> <li>• Suggest alternate or complimentary action plans to address medical issues</li> </ul> </li> <li>■ Follow up with a prescriber beyond legal requirements</li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ Pharmacy or pharmacist initiated contact e.g. courtesy follow-up, value-add follow-up</li> </ul>
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ Anything required by the bylaws would be considered a dispensing activity</li> <li>■ Anything related to a previously dispensed prescription would be considered a dispensing activity</li> </ul>

# Professional Pharmacy Activities – Complex Disease Mgmt

<b>Activity Type:</b>	<b>Professional Pharmacy Activities</b>
<b>Activity:</b>	<b>Complex Disease Management</b>
<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Activities related to providing patients with non-prescription related treatment for diseases</li> <li>■ Ensure patients understand the full scope of their diseases</li> <li>■ Provide a patient with advice on a holistic approach to treatment             <ul style="list-style-type: none"> <li>• e.g. blood sugar test counsel for a diabetic patient receiving insulin</li> <li>• e.g. nutrition, diet, exercise for a patient taking cholesterol medication</li> </ul> </li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ This may include over the counter devices, drugs or products</li> </ul>
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ Follow-up for a prescription for a given disease is considered a dispensing activity</li> </ul>

# Professional Pharmacy Activities – Implement Care Plans

<b>Activity Type:</b>	<b>Professional Pharmacy Activities</b>
<b>Activity:</b>	<b>Implement Care Plans</b>

<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Activities related to structuring or delivering organized pharmacy care programs either to individuals or groups in a seminar setting</li> <li>■ These plans are not required, and while they provide a benefit to the community and require medical knowledge, they may be considered pharmacy marketing or value-add services</li> <li>■ Work with patients to develop plans for comprehensive health care             <ul style="list-style-type: none"> <li>• e.g. cardiocare - take blood pressure regularly, glucose monitoring, etc</li> </ul> </li> </ul>
<b>Notes:</b>	
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ Plans or activities related to specific complex disease management</li> </ul>

# Professional Pharmacy Activities – Review Patient Med Profiles

<b>Activity Type:</b>	<b>Professional Pharmacy Activities</b>
<b>Activity:</b>	<b>Review Patient Medication Profiles</b>
<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ These activities are around customers who stop in without a prescription to ask a Pharmacist a question, which require the Pharmacist to look up patient information in PharmaNet</li> <li>■ Check the PharmaNet or in-store system to answer medical questions from patients</li> <li>■ Check multiple drug interactions, allergies</li> </ul>
<b>Notes:</b>	
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ Questions related to specific prescription dispensed to the patient</li> </ul>

# Professional Pharmacy Activities – Assist w/ medication Adherence

<b>Activity Type:</b>	<b>Professional Pharmacy Activities</b>
<b>Activity:</b>	<b>Assist Patient with Medication Adherence</b>
<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Ensure patients are complying with stated drug interactions</li> <li>■ Determine whether authorized refills have been requested during expected time frame</li> <li>■ Take medications 3 times per day. 30 day prescription will last 30 days, not 25 or 30 days</li> </ul>
<b>Notes:</b>	
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ Does not include explaining drug interactions or side-effects of a prescription</li> <li>■ Does not include prescription follow-up activities, which is considered Ongoing Patient Counsel</li> </ul>

# Professional Pharmacy Activities – OTC Consultation

<b>Activity Type:</b>	<b>Professional Pharmacy Activities</b>
<b>Activity:</b>	<b>Over the Counter Consultation</b>
<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Includes activities related to answering customer questions and inquiries about non-prescription medicine or devices             <ul style="list-style-type: none"> <li>• Counseling of Over the Counter supplies: breast pumps, glucometers, inhalers, aero chambers, pregnancy tests, etc</li> <li>• Counseling of Over the Counter Drugs</li> </ul> </li> <li>■ Discussing the suggested usages, potential side effects, benefits and or comparisons to other similar medications</li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ Activity can occur in the pharmacy or while a pharmacist is in the OTC pharmacy section</li> </ul>
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ Prescription drug related inquiries or advice</li> </ul>

# Professional Pharmacy Activities – Deliver to Patient

<b>Activity Type:</b>	<b>Dispensing Activity</b>
<b>Activity:</b>	<b>Deliver to Patient</b>

<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Collect delivery directions</li> <li>■ Transfer to delivery service             <ul style="list-style-type: none"> <li>• Cab</li> <li>• Plane</li> <li>• Driver (internal or contract)</li> </ul> </li> <li>■ Verify prescription was delivered</li> </ul>
<b>Notes:</b>	
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ Delivery costs will be captured, but in most situations will be a value-added service provided by the pharmacy.</li> </ul>
<b>Cost Drivers:</b>	<ul style="list-style-type: none"> <li>■ Time involved in confirming delivery</li> <li>■ Delivery method (taxi, plane, etc.)</li> </ul>

# The Activity Dictionary describes each of the major activities

## Dispensing Activities



## Professional Pharmacy Activities



## Administrative Activities



# Administrative Activities

<b>Activity Type:</b>	<b>Administrative</b>
<b>Activity:</b>	<b>Administrative, Lunch/Breaks, Other Activities</b>

<b>Activity Description:</b>	<ul style="list-style-type: none"> <li>■ Hiring, training and supervising pharm techs and pharm staff; scheduling hours for pharmacy shifts</li> <li>■ Appointments with drug reps</li> <li>■ Answering telephone questions, general inquiries</li> <li>■ Fulfill requests from patients needing duplicate receipts, reports for tax purposes, etc</li> <li>■ End of day report processing</li> <li>■ Reconciling payments</li> <li>■ Lunch break</li> <li>■ Personal time</li> <li>■ Breaks</li> <li>■ Any down time in between prescriptions</li> <li>■ May be more common for rural or extended (24) hours pharmacies</li> </ul>
<b>Notes:</b>	<ul style="list-style-type: none"> <li>■ These are shared administrative costs that enable the prescription capability, but are not directly attributable to that activity</li> <li>■ These costs also enable OPSS, and front store operations, but are likewise not directly attributable. Detailed allocations are not available within the data set or report</li> </ul>
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>■ Any professional pharmacy service for patients or customers</li> </ul>
<b>Cost Drivers:</b>	<ul style="list-style-type: none"> <li>■ Hours of operation for the pharmacy</li> </ul>

## **Appendices**

- Partners and Governance
- Terms of Reference
- Methodology
- Activity Dictionary
- Data Collection Tools
- Other Findings

## Four Primary Data Collection Tools were applied

- ABC Cost Data Template (Excel workbook with templates for cost and payroll data)
- ABC Management Interview Guide (Questions that needed to be asked only once per pharmacy)
- ABC Activity Interview Guide (Questions asked of all pharmacy employees)
- Pharmacy Observations Guide (Observations made by consultant while on site)

## Data Collection Tools

- ABC Cost Data Template (Excel workbook with templates for cost and payroll data)
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Thank you for agreeing to participate in this important study sponsored by the Ministry of Health, the British Columbia Pharmacy Association, and the Canadian Association of Chain Drug Stores. The purpose of the study is to investigate the costs to the pharmacy for dispensing medications and providing pharmaceutical services to the residents of British Columbia. This data collection template will be used to associate cost to various pharmacy activities.

As agreed in the non-disclosure agreement, this data will be shared and used only within the A.T. Kearney analysis team for this study. Data will only be shared in aggregated form (across pharmacies) and individual company responses will not be shared with the sponsors or other participants.

**General Instructions:**

1. Save this file to your hard drive and rename it "ABC Cost - <Insert Pharmacy ID>.xls"
2. Open the file and complete the Background Data, Operational Statistics, Pharmacy Payroll and Costs tabs (worksheets)
  - A. Use Fiscal Year 2005 data
  - B. Enter data in yellow-shaded boxes
  - C. Gray-shaded boxes will be calculated and should not be changed
3. The Pharmacy Payroll tab requests a unique employee ID in order to match compensation costs with employee time allocation estimates to be collected in interviews.
4. Space has been provided at the bottom of each section in the Pharmacy Payroll and Cost tabs for any costs your pharmacy may have that are not requested. Please enter the line item name, description and associated cost.
5. In the case that your pharmacy does not have costs associated with one of the line items, please leave it blank or enter the number zero.
6. Send completed templates to Alan Vitek at the following address:  
[alan.vitek@atkearney.com](mailto:alan.vitek@atkearney.com)

We request that you complete and submit this template by **May 12th, 2006**

Please refer all questions about the template or data requested to Alan Vitek at the above email address



### Pharmacy Operational Statistics

1. Please answer the following questions related to the pharmacy building and layout:

Operational Stats	Data	% of Total	Notes
Building Sq. Ft. or Mtrs			
Pharmacy Sq. Ft. or Mtrs		0%	
Amount of space in Sq. Ft. or Mtrs outside of pharmacy area dedicated to pharmacy record retention/storage		0%	
Common area Sq. Ft. or Mtrs in the building (i.e. washrooms, checkout areas, etc.)		0%	
Pharmacy waiting area Sq. Ft. or Mtrs		0%	
<b>Pharmacy Area as a % of Building Area</b>	-	<b>0%</b>	Pharmacies will use this percentage to allocate facilities costs to the pharmacy
Number of pharmacies supported by corporate overhead			
Pharmacy FTEs (pharmacists, techs, etc.)*		0%	
Front-store FTEs (clerks, cleaners, stockroom, etc.)*		0%	

\*In the case that an employee is cross trained (i.e. works as a tech and in the front-store), please split that person into both Pharmacy and Front-store buckets

**Pharmacy Payroll Sheet Instructions:**

1. Enter FY 2005 TOTALS for all employees who provided pharmaceutical services in the yellow shaded cells
2. Please include all employees during FY 2005, including partial year employees
3. For partial year employees, include actual payroll costs for duration of employment (not an annualized amount)
4. Please add any other employee-related costs not included in rows 16-19
5. Note any unusual circumstances or events during this year

		Pharmacy ID									Temp Labor	
Line Items	Description	Example	Pharmacist 1	Pharmacist 2	Tech 1	Tech 2	Clerk 1	Clerk 2	Other 1	Other 2	Total	Total
<b>Enter the Unique Employee ID Number for each employee - will be used to match operational data obtained through interviews</b>		12345										
Avg. hours worked per week in FY 2005		50										
Weeks worked in FY 2005 - excluding vacation and sick leave		47										
Sick days taken in FY 2005		11										
Days of vacation taken in FY 2005		14										
Salary & Wages	Pharmacy employee salaries and wages	\$ 45,000										\$ -
Overtime	Overtime wages	\$ -										\$ -
Bonus	All bonuses paid to pharmacy employees	\$ 2,000										\$ -
Benefits	CPP - Canadian Pension, RRSP - Registered retirement savings plan, medical, dental, vision, sick leave, vacation	\$ 4,500										\$ -
Taxes	Government, provincial, income tax, etc.	\$ 19,000										\$ -
Insurance	EUI - unemployment insurance, life insurance, disability insurance, etc.	\$ 4,500										\$ -
Workers Comp	Amount related to workers comp claims	\$ -										\$ -
Contract/Temp Labor	Amount paid for temporary or contract labor	\$ -										\$ -
Others? (Please add line item name)	Others? (Please add accompanying description)	\$ -										\$ -
Others? (Please add line item name)	Others? (Please add accompanying description)	\$ -										\$ -
Others? (Please add line item name)	Others? (Please add accompanying description)	\$ -										\$ -
Others? (Please add line item name)	Others? (Please add accompanying description)	\$ -										\$ -
<b>Total</b>		\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**Pharmacy Costs Sheet Instructions:**

1. Only enter information into yellow highlighted cells
2. Populate requested total cost information for fiscal year 2005 in **column D**
3. In the case that extraordinary or one-time costs were incurred during FY 2005, enter those amounts into **column E** (also include amounts in column D)
4. Use the "notes" columns in each section to enter any relevant notes about the costs
5. Add line items and descriptions to a section using the last four rows of each section (yellow cells with red font)
6. See specific instructions in rows 61-64
7. Overhead - See specific instructions within the section (rows 84-106)

Total and allocated

Resources	Line Items	Description	Fiscal Year 2005 Total	Amount of one-time or extraordinary costs	Notes
Pharmacy Payroll	Salary & Wages	Pharmacy employee salaries and wages	\$ -	\$ -	This section will automatically populate based on the information entered in the Pharmacy Payroll tab
	Overtime	Overtime wages	\$ -	\$ -	
	Bonus	Bonuses paid to pharmacy employees	\$ -	\$ -	
	Benefits	CPP - Canadian Pension, RRSP - Registered retirement savings plan, medical, dental, vision, sick leave, vacation	\$ -	\$ -	
	Taxes	Government, provincial, income tax, etc.	\$ -	\$ -	
	Insurance	EUI - unemployment insurance, life insurance, disability insurance, etc.	\$ -	\$ -	
	Workers compensation	Amount related to workers comp claims	\$ -	\$ -	
	Contract/temp labor	Amount paid for temporary or contract labor	\$ -	\$ -	
	Others? (Please add line item name)	Others? (Please add accompanying description)	\$ -	\$ -	
	Others? (Please add line item name)	Others? (Please add accompanying description)	\$ -	\$ -	
	Others? (Please add line item name)	Others? (Please add accompanying description)	\$ -	\$ -	
<b>Total Payroll</b>			\$ -	\$ -	

Resources	Line Items	Description	Fiscal Year 2005	Amount of one-time or extraordinary costs	Notes
Inventory	Cost of Capital for average inventory value - <b>Pharmaceuticals</b>	Pharmaceutical related Cost of capital use - WACC, etc.			
	Drug/inventory insurance - <b>Pharmaceuticals</b>	Pharmaceutical insurance premiums to cover inventory value			
	Inventory write-offs - <b>Pharmaceuticals</b>	Pharmaceutical write-offs related to shrinkage, expired drugs, etc.			
	Expired or defective drug disposal cost - <b>Pharmaceutical</b>	Cost to destroy or dispose of pharmaceutical drugs			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
<b>Total Inventory</b>			\$ -	\$ -	

Resources	Line Items	Description	Fiscal Year 2005	Amount of one-time or extraordinary costs	Notes
Pharmacy Equipment and Supplies	Uniform expense	Expenses related to pharmacy uniforms or lab coats			
	Packaging equipment	Expensed packaging equipment			
	Depreciation - packaging equipment	Depreciation of packaging equipment assets			
	Computers and peripheral expenses	Expensed printers, computers, hardware, maintenance, etc			
	Depreciation - computers and peripherals	Depreciation of capitalized printers, computers, hardware, etc			
	Software - pharmacy related	Expensed pharmacy software packages (i.e. dispensing software)			
	Depreciation - software, pharmacy	Depreciation of capitalized pharmacy software			
	Software - shared software with entire store	Expensed shared software packages (i.e. microsoft windows, etc.)			
	Depreciation - software, entire store	Depreciation of capitalized shared store software			
	Furniture and fixtures	Expensed furniture and fixtures or depreciation. Coolers, shelving, point of sale, etc.			
	Depreciation - furniture and fixtures	Depreciation of capitalized furniture and fixtures			
	Other equipment	Other expensed equipment			
	Depreciation - other equipment	Depreciation of other equipment not already specified			
	Cell phone	Company provided cell phones to pharmacy employees			
	Office supplies	Paper, toner, pens, pencils, etc. used in the pharmacy			
	Drug packaging containers	Packaging material costs (i.e. vials, bottles, blister packs, etc.)			
	Library or reference materials	Legally required reference materials			
	Others? (Please add line item name)				
	Others? (Please add line item name)	Others? (Please add accompanying description)			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
Others? (Please add line item name)	Others? (Please add accompanying description)				
<b>Total Pharmacy Equipment and Supplies</b>			\$ -	\$ -	

**Facility Specific Instructions - Do not populate both columns D&E**

1. Populate column D if pharmacy specific cost data is available
2. If it is not available, please populate column E with total facility costs for each line item. Column F will automatically calculate the % of costs allocated to the pharmacy  
Allocation of cost is based on the pharmacy sq. ft. as a % of total building sq. ft. (cell A69)

Resources	Line Items	Description	Complete only one of these columns (D or E)		Allocated Pharmacy Costs (Based on % of facility area)	Amount of one-time or extraordinary costs
			Direct Pharmacy Costs FY 2005	OR Total Facility Costs (To be allocated) FY 2005		
Facilities "Operational Statistics" will be used to allocate total costs to the pharmacy (if Column E is used)  0%	Lease expenses	Annual lease costs			\$ -	
	Common Area Maintenance Costs (CAM)	Costs related to shared spaces such as parking garages, sidewalks, etc.			\$ -	
	Building depreciation	Depreciation associated with capitalized building costs			\$ -	
	Repairs and maintenance	Internal repairs and maintenance (e.g. Janitorial services, maintenance labor and materials)			\$ -	
	External building repairs and maintenance	Lawn care, snow removal, etc.			\$ -	
	Security expenses	Security, alarm service			\$ -	
	HVAC/utilities	Heating, ventilating, air conditioning, water, trash removal, etc.			\$ -	
	Taxes	Real estate, property taxes			\$ -	
	Leasehold improvement expense	Any leasehold improvements that are expensed			\$ -	
	Depreciation - leasehold improvements	Depreciation of leasehold improvements assets			\$ -	
	Others? (Please add line item name)	Others? (Please add accompanying description)			\$ -	
	Others? (Please add line item name)	Others? (Please add accompanying description)			\$ -	
	Others? (Please add line item name)	Others? (Please add accompanying description)			\$ -	
	Others? (Please add line item name)	Others? (Please add accompanying description)			\$ -	
	<b>Total Facilities</b>			\$ -	\$ -	\$ -

Resources	Line Items	Description	Fiscal Year 2005	Amount of one-time or extraordinary costs	Notes
<b>Overhead</b>					
Include 100% of costs for the following items in column D	Pharmacy Professional fees	BCPhA memberships, etc.			
	Malpractice insurance	Cost of malpractice insurance			
	Professional development fees	Conferences, tuition, continuing education for pharmacy employees			
	Pharmacy licensing fees	Pharmacy or Pharmacist licensing fees			
	Company vehicle expenses for pharmacy employees	Lease expense, insurance, fuel, maintenance, licensing, parking, etc. for any company vehicles provided to pharmacy staff			
Resources	Line Items	Description	Fiscal Year 2005	Amount of one-time or extraordinary costs	Notes
Multiply Pharmacy % of Total Store revenue (Pharmacy revenue divided by Total store revenue) by each line item and enter the result in column D. (i.e. Pharmacy accounts for 75% of total revenue, include 75% of telecommunications costs in column D)	Telecommunications	Telephones, fax machines, etc			
	Technology support	Maintenance contracts, on-site services, etc.			
	Credit Card	Credit card usage fees associated with prescription purchases.			
	Internet connectivity	Network and internet connections - monthly service fees (if applicable)			
	Royalties or franchise fees	Expenses associated with franchise or banner membership			
	Business licensing fees	Municipal or government fees to own/operate a business			
	Accounting support	Accounting support or costs			
	Pharmacy management	managers or operations managers (other than acting pharmacists). Support costs such as corporate pharmacy groups, directors, etc.			
	Operations support costs	Centralized purchasing, supply chain, store operations support, etc.			
	Bad debt expense / unsettled claims	Write off of receivables that will not be collected			
Advertising costs	Costs related to television, radio, print, etc. advertising				

Resources	Line Items	Description	Fiscal Year 2005	Amount of one-time or extraordinary costs	Notes
Calculate pharmacy employees as % of total store employees. Multiply this % by each line item and enter the result in <b>column D</b>	Payroll costs	Payroll department or payroll outsourcing costs			
	HR/Admin support/benefits administration	Allocated corporate or administrative overhead - i.e. employee relations, benefits, HR, etc.			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
<b>Total Overhead</b>			\$ -	\$ -	

Resources	Line Items	Description	Fiscal Year 2005	Amount of one-time or extraordinary costs	Notes
Prescription Delivery	Payroll - internal driver	Salary, wages, benefits, etc. (see above items) related to dedicated delivery drivers			
	Lease expense for vehicles	Cost of vehicles used for delivery			
	Fuel expense	Fuel costs for those vehicles			
	Vehicle maintenance & insurance	Repairs, maintenance and insurance for company vehicles used for delivery			
	Contract delivery costs	Actual cost of 3rd party delivery			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
	Others? (Please add line item name)	Others? (Please add accompanying description)			
<b>Total Prescription Delivery</b>			\$ -	\$ -	

## Data Collection Tools

- ABC Cost Data Template (Excel workbook with templates for cost and payroll data)
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- Pharmacy Observations Guide (Observations made by consultant while on site)



## Pharmacy Management Interview Guide

### Management of Pharmacy Labor

Thank you for agreeing to participate in this important study sponsored by the Ministry of Health, the British Columbia Pharmacy Association, and the Canadian Association of Chain Drug Stores. The purpose of the study is to investigate and determine the costs to the pharmacy for dispensing medications and providing pharmaceutical services to the residents of British Columbia. This survey is comprised of several sections that will be used to associate cost to various activities within dispensing. Your responses to the following questions will only be used in aggregate and will not be shared with the Ministry of Health, BCPA or CACDS or other participants.



**I. Background information and Prescription Facts**

A. What is your pharmacy ID? \_\_\_\_\_

B. When did the pharmacy open? \_\_\_\_\_ Month \_\_\_\_\_ Year

C. What hours is your pharmacy open each week?

\_\_\_\_\_ M \_\_\_\_\_ T \_\_\_\_\_ W \_\_\_\_\_ Th \_\_\_\_\_ F \_\_\_\_\_ Sa \_\_\_\_\_ Su  
 \_\_\_\_\_ Total hours per week      Holiday reductions in hours: \_\_\_\_\_

D. What is the mix of patient and prescription types served in this location (FY 2005)?

Prescriptions for Patient. . .	Frequency	Number of Rx's
New to store, included in PharmaNet	%	
Return (or existing) patient, included in PharmaNet	%	
Visitor or patient not covered by PharmaCare	%	

100% Total Prescriptions

E. What is the mix of new prescriptions vs refill prescriptions (FY 2005)?

Prescription Type	Frequency	Number of Rx's
New Prescription for patient	%	
Authorized Refill for a patient	%	
Required Authorization Refill for a patient	%	

100% Total Prescriptions

F. What is the mix of controlled substance prescriptions vs. non-controlled (FY 2005)?

Prescription Type	Frequency	Number of Rx's
Controlled substance prescription	%	

G. How does the activity of processing a prescription order differ for controlled substances and what is the time impact?



- A. What is the typical staffing model during the hours the pharmacy is open (for example, one pharmacist and one technician...)
- B. How (if at all) do holidays impact wages paid?
- C. How much vacation and sick time do employees take in a normal year?

**II. Prescription Processing**

- A. There are various ways that your pharmacy receives a prescription.

	How do you receive prescriptions?	What % of your prescriptions are received this way?
<input type="checkbox"/>	Prescriptions are Phoned in	%
<input type="checkbox"/>	Prescriptions are Faxed in	%
<input type="checkbox"/>	Prescriptions are Dropped Off by the Patient	%
<input type="checkbox"/>		%
<input type="checkbox"/>		%

Must Equal 100%

- A. What percent of prescriptions on average are reversed or not picked up, resulting in a need to restock drugs? \_\_\_\_\_%
- How much time does this typically take? \_\_\_\_\_ minutes per day
- B. What percent of total prescription requests are rejected or denied by pharmacists?
- C. For what percent of rejected prescriptions do you submit a special services claim to PharmaCare?
- D. How often is the prescription filled incorrectly and need to be filled again?
- E. If a 3<sup>rd</sup> party person is picking up the drug, how much longer (if any) does it take to dispense the prescription? \_\_\_\_\_ How frequently does this happen? \_\_\_\_\_
- F. Sometimes in lieu of entering into direct dialogue with a patient regarding Schedule I drugs, a pharmacist can give the patient directions for proper use through written information leaflets, pictogram labels or even video programs. Under what circumstances would you use these alternative methods of relaying information instead of pharmacist-to-patient, in person dialogue?
- G. Does this save or add time, and if so, how much? (*note for each method used*)

**I. Delivery Services**

- A. Does the pharmacy deliver prescriptions? \_\_\_\_ Yes \_\_\_\_ No
- B. How is the delivery decision made?
- C. Who pays for the cost of delivery?
- D. If so, what percent of prescriptions are delivered because it is required? \_\_\_\_\_%
- E. By what method are they delivered?
- F. Does the pharmacy have internal resources to deliver prescriptions?

**III. Process and Technology**

- A. What Vendor and version of local pharmacy system software do you have?  
\_\_\_\_\_ Vendor \_\_\_\_\_ Version
- B. Aside from processing a prescription, what other features or services can you get from your local system? Do you use your local system for other, non-dispensing related purposes?
- Marketing pharmacy health-related programs
  - Relationship building
  - Send refill reminders
  - Track patient compliance patterns
  - Marketing of in-store sales or sending local area flyers
- C. Do system outages have any impact on the time required to dispense prescriptions?  
If so, please describe: System: \_\_\_\_ PharmaNet \_\_\_\_ Local

- A. Does your pharmacy use any special packaging machines, technology or equipment to automate or improve efficiency in the dispensing process?
- B. Does your pharmacy prepackage any drugs or packaging types? If so, please describe process and benefits.
- C. What is the process for submitting a claim to 3<sup>rd</sup> party insurance companies – is this automated or does it require additional time to create reports or reconcile receivables?
- D. How is inventory tracked and reordered – frequency, time required, who is responsible?
- E. How are pharmaceutical orders received, verified and restocked? Who is involved in this process, how frequently does this happen and long does it take?
- F. Has your pharmacy taken actions to improve the efficiency of the dispensing process? If so, please describe:
- G. Are any actions planned to improve efficiency?

#### **IV. Non Dispensing Pharmacy Services**

- A. Are pharmacists used in the Over the Counter area of the store to answer questions? If so, please explain how this is scheduled and how much of their time is made available for this service?
- B. Do you carry OTC drugs behind the pharmacy counter? Aside from giving them to customers, are there any additional services for these OTC drugs that pharmacy employees perform? (*note time required*)

Why are they carried behind the pharmacy counter?

- A. Some pharmacies provide additional pharmaceutical services to benefit their customers. Does your pharmacy provide any of the following – or other such services?

	Description	Overall % Staff Time
<input type="checkbox"/>	Community health programs	
<input type="checkbox"/>	Disease management clinics	
<input type="checkbox"/>	Development of individual care plans	
<input type="checkbox"/>	Review of patient medical profiles	
<input type="checkbox"/>	Assist with patient medical adherence	
<input type="checkbox"/>	Emergency counsel and/or referral	
<input type="checkbox"/>	Other:	
<input type="checkbox"/>	Other:	

- B. For each response above, please describe including who is responsible, how frequently services are provided, and funding arrangements where applicable

- C. Is any of the pharmacy space dedicated to providing these services?  
If so, describe:

**V. Unusual Situations**

- A. During the last fiscal year (2005), were there any unusual situations in the staffing or operation of the pharmacy or in your community that would affect the volume or costs of providing services?

**END**

Thank you very much for your time and support of the British Columbia  
Dispensing Activity Based Costing Survey

## Data Collection Tools

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## Individual Activity Interview Guide

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Thank you for agreeing to participate in this important study sponsored by the Ministry of Health, the British Columbia Pharmacy Association, and the Canadian Association of Chain Drug Stores. The purpose of the study is to investigate and determine the costs to the pharmacy for dispensing medications and providing pharmaceutical services to the residents of British Columbia. This survey is comprised of several sections that will be used to associate cost to various activities within dispensing. Your responses to the following questions will only be used in aggregate and will not be shared with the Ministry of Health, BCPA or CACDS or other participants.



**I. Background information**

Position: \_\_\_\_\_

Average Hours per week: \_\_\_\_\_

- A. Could you please briefly describe your role and the activities you do in a typical day?
  
- B. How long have you been working at this pharmacy? \_\_\_\_\_ Prior pharmacy experience?
  
- C. How would you describe the “philosophy” or strategy of this pharmacy with respect to services provided, other products sold, customer relationships and costs?
  
- D. For a typical day, please allocate how your time is spent across the following activities (Note that there are spaces to describe additional responsibilities or services not provided daily below).

Typical Day	Dispensing	Ongoing Patient Counsel	Complex Disease Mgmt	Implement Care Plans	Review Patient Med Profiles	Assist w/ Patient Med Adherence	OTC Consultation	Administrative	Other (Please Describe)
100% =	%	%	%	%	%	%	%	%	%

Note: Administrative includes claims reconciliation or end-of-day summary reports, staffing or scheduling responsibilities, lunch and breaks, etc.

- E. Are there any of the activities above, or others, that you engage in at less frequent intervals during the year (for example, clinics on special health topics)? If so, please note above or describe here:

Activity: _____	Amount of time (hrs): _____	Number of times per year: _____
Activity: _____	Amount of time (hrs): _____	Number of times per year: _____
Activity: _____	Amount of time (hrs): _____	Number of times per year: _____

A. Now think just about the first major activity, Dispensing. Given the time in a typical day that you spend dispensing prescriptions or assisting in the dispensing of prescriptions, what percent of that time is spent performing the following steps. (*Interviewer will have Activity Dictionary for Reference*)

	Receive Prescription	Interview Patient	Process Prescription Order	Fill Prescription	Validate and Dispense Prescription	Collect Payment	Deliver to Patient	Re-stock Drugs	Manage Inventory & Records
<b>Includes</b>	<ul style="list-style-type: none"> <li>Receive Rx</li> </ul>	<ul style="list-style-type: none"> <li>Collect patient information</li> <li>Patient Info</li> <li>Medical Info</li> <li>Insurance Info</li> </ul>	<ul style="list-style-type: none"> <li>Record in PNet</li> <li>Check for dosage</li> <li>Follow up if reqd</li> <li>Patient Doctor Insurance Other Pharmacy</li> </ul>	<ul style="list-style-type: none"> <li>Fill container or compliance package</li> <li>Apply label</li> </ul>	<ul style="list-style-type: none"> <li>Check drug label and contents</li> <li>Provide counsel on interactions, directions</li> </ul>	<ul style="list-style-type: none"> <li>Collect patient payment</li> <li>Confirm pymt request to 3<sup>rd</sup> party insurance</li> </ul>	<ul style="list-style-type: none"> <li>Collect Delivery directions</li> <li>Transfer to delivery</li> <li>Confirm delivery</li> </ul>	<ul style="list-style-type: none"> <li>Reverse drugs in PharmaNet</li> <li>Return useable drugs to bulk</li> </ul>	<ul style="list-style-type: none"> <li>Place and receive orders</li> <li>Dispose unuseable drugs</li> <li>File and store reqd records</li> </ul>
<b>Excludes</b>	<ul style="list-style-type: none"> <li>Any clarification</li> </ul>	<ul style="list-style-type: none"> <li>Conferring with prescriber or insurance</li> </ul>				<ul style="list-style-type: none"> <li>Reconciliation of payment from PNet or 3<sup>rd</sup> parties</li> </ul>	<ul style="list-style-type: none"> <li>Any cost of celivery</li> </ul>	<ul style="list-style-type: none"> <li>Re-ordering bulk drugs</li> </ul>	<ul style="list-style-type: none"> <li>Disposing of prescriptions</li> </ul>
<b>Total Dispense = 100%</b>	_____ %	_____ %	_____ %	_____ %	_____ %	_____ %	_____ %	_____ %	_____ %
<b>Variation</b>	+/- _____ %	+/- _____ %	+/- _____ %	+/- _____ %	+/- _____ %	+/- _____ %	+/- _____ %	+/- _____ %	+/- _____ %

Note: We will talk through each of these steps to try to understand the variation and what drives this.

- B. For a typical new prescription and new client, how much of your time (in minutes and partial minutes) does this process take? \_\_\_\_\_
- How much less time would it take to fill a new prescription for an existing client? \_\_\_\_\_
  - What steps does this change (in relation to the above chart)? \_\_\_\_\_
  - How much less would it take to fill a refill prescription for an existing client? \_\_\_\_\_
  - What steps does this change? \_\_\_\_\_

Reviewer note: Capture comments on time and step impacts under chart above

**I. Receive prescription**

A. Of the time you spend receiving prescriptions, how much of your time is spent receiving prescriptions is from

All Prescriptions Received	Telephone	Fax	Dropped off	Other
100% (of your time ) =	%	%	%	%

B. Roughly how many prescriptions do you typically receive in a day from all sources? \_\_\_\_\_

C. How much faster is it to receive a Refill Prescription? \_\_\_\_\_ Times faster or \_\_\_\_\_ No difference

**II. Interview Patient**

A. How do you identify a change in the patient’s medical condition? Once identified, what is the interview process? How much longer does it take to interview the patient?]

B. How is the length of time in this step affected if the patient has a 3<sup>rd</sup> party insurer?

What percent of the prescriptions take more time to interview the patient because of a 3<sup>rd</sup> party insurer?

C. What other situations cause variations in how much time is required to interview a patient? (*how often, how much...*)

**Process Prescription Order**

A. We understand that processing a prescription order can vary depending upon issues or clarifications encountered, and would like to understand how frequently various clarifications are required, how these affect the time required, and what drives the need for different actions.

(Time can be indexed, where no calls uses 100 “time units” vs. 200 for a call that doubled the time, or estimated).

	Time Required	% of NEW Prescriptions*	% of REFILL Prescriptions*	Reasons additional contacts made
<b>No Follow-up Calls</b>	100 or ___ in/sec			
<b>Call to Prescriber</b>				1. 2. 3.
<b>Call to Patient</b>				1. 2. 3.
<b>Call to 3<sup>rd</sup> Party Insurance</b>				1. 2. 3.
<b>Call to Other Pharmacy</b>				1. 2. 3.

\* Percentages do not need to add to 100

B. For each of the ‘Reasons additional contact made”, which reason that you listed is most common or most frequent?

**IV. Fill Prescription**

A. If filling solids (pills, capsules, tablets, etc.) in a bottle takes 100 units of time, what ratio would the following packaging types take to fill?

Fill Type	Time Units to Fill Type	% of Prescriptions filled that way
Solids - pills/capsules/tablets	100 Time Units	%
Liquids	Time Units	%
Compliance Packaging	Time Units	%
Manufacturer Packaging (inhaler, creams, shots, etc)	Time Units	%
Compounding	Time Units	%
Methadone	Time Units	%
Other	Time Units	%

Must Equal 100%

B. Are there other conditions or situations that affect how much time is required for the fill prescriptions step? Please explain:

**V. Validate and Dispense Prescription**

A. What is your role in providing counsel to the patient regarding specific prescriptions?

B. What percentage of methadone prescriptions require patient interaction (observation by you as they take treatment)?

C. What are some of the reasons or circumstances that would change how much time is required for counseling with the patient? For each reason, what is the magnitude of time it would take to dispense the prescription, and how often does that occur?

Issue that prolongs dispensing	Magnitude of Time Units	For what % of Prescriptions does this occur?
No issues in dispensing	100 Time Units	%
	Time Units	%
	Time Units	%
	Time Units	%

**VII. Collecting Payment**

A. What issues would prolong the amount of time it takes to collect payment from the patient (e.g., adjudication at cash, can't find Rx...)? How frequently do these occur, and how much time do they add?

**VIII. Are there any other factors that lengthen or shorten dispensing time that we have not discussed?**

## Data Collection Tools

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## Pharmacy Activity Observation Guide

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**I. Background Information**

A. Enter the Pharmacy ID:

--

B. Enter the date and time period of the observation:

Date:                      Beginning Time:                      End Time:

--	--	--

C. Pharmacy Layout: What % of the pharmacy is used for each activity:

Activity:	% of Space:	Notes:
Receive Prescription		
Interview Patient		
Process Prescription Order		
Fill Prescription		
Validate and Dispense Prescription		
Collect Payment		
Deliver to Patient		
Re-Stock Drugs		
Manage Inventory and Records		

D. Describe other space dedicated to the pharmacy within the building:

--

**I. Pharmacy Observations**

A. How many employees were present and what were their roles?

Roles:	Number Present:

B. How many and what types of transactions were performed?

Transaction Type:      # of Transactions:      Notes (i.e. time per trans.)

Transaction Type:	# of Transactions:	Notes (i.e. time per trans.)

C. How are the following resources used by each activity?

- List other services/activities performed during observations

Activity:	Performed by:	Time spent:

D. How are the following resources used by each activity?



Computers and peripheral expenses									=100 %
Depreciation - computers and peripherals									=100 %
Software or depreciation									=100 %
Depreciation - software									=100 %
Office supplies									=100 %
Library or reference materials									=100 %
Telecommunications									=100 %
Technology support									=100 %
Internet connectivity									=100 %

**I. Technology Observations**

A. How many computers were located in the pharmacy? (were they all connected to PharmaNet?)

B How many phones?

C. How many fax machines?

D. List and describe the packaging equipment/technology

Packaging Type:

Description:


E. Other technology observations:

## **Appendices**

- Partners and Governance
- Terms of Reference
- Methodology
- Activity Dictionary
- Data Collection Tools
- Other Findings

## Average costs of select pharmacy resources across the 47 sample pharmacies

Resource	Average Expense Allocated to Dispensing
Pharmacist Annual Salary	\$64,297
Pharmacy Tech Annual Salary	\$28,122
Lease Expense and Facilities	\$33,130
Packaging Equipment	\$3,711
Computers and Peripherals	\$4,844
Drug Packaging Containers	\$10,459
Office Supplies	\$4,455
Inventory Carrying Cost	\$11,067
Credit Card Fees	\$10,433
Telecommunications	\$2,731