

Session Objectives

- 1) Compare work settings & practice activities for pharmacists with PharmD and BS degrees
- 2) Describe pharmacist workload issues and a taxonomy of pharmacy practice patterns
- 3) Compare/contrast rural vs. non-rural pharmacy practices

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National Pharmacist Survey

- Mail survey of random sample of 3,000 pharmacists from 50 states – KM Lists, Inc.
- Study coordinated at U of Minnesota – Followed Dillman’s survey principles
- Data on pharmacy work and respondent characteristics

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National Pharmacist Survey

- Received 1,395 responses of 2,667 surveys presumed to be delivered – 52% response rate
- 1,343 licensed pharmacists – 1,186 in practice

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Session Objective 1

- Compare work settings & practice activities for pharmacists with PharmD and BS Degrees

Learning Objectives

- Describe the employment settings and positions of pharmacists with BS in Pharmacy, PharmD, or both degrees
- Describe how the time spent in practice activities varies across degrees
- Identify factors that are associated with time spent in dispensing and patient care activities

Background

- Effective July 2000, the American Council on Pharmaceutical Education (ACPE) required the PharmD as the sole entry-level professional degree
- Previous research showed that
 - The type of pharmacy degree was associated with practice settings, but there were conflicting data on the amount of time spent on patient care activities
 - Completing a non-traditional PharmD degree was associated with a change in position and involvement in more patient care and clinical activities

Looking at the Future...

- There have been recent discussions regarding residency training as a requirement for pharmacists who will provide direct patient care
- To help with pharmacy workforce planning, it is important to examine whether and how the PharmD degree is associated with pharmacists' practice activities

Cohort Analyzed

- Respondents who were
 - Practicing as a pharmacist or employed in a pharmacy-related field or position
 - First licensed in 1984 or later
 - Reported having a PharmD and/or BS in pharmacy

Variables

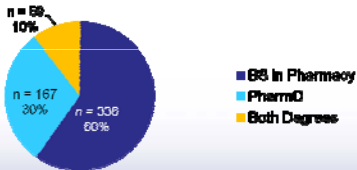
- Dependent Variables
 - Practice activities
 - % of time spent in dispensing
 - % of time spent in patient care services
- Independent Variables
 - Education (degree)
 - Residency
 - Years in practice
 - Practice setting
 - Practice position
 - Urban/rural practice location

Data Analysis

- Descriptive statistics were used to describe respondent characteristics and work-related variables.
- Chi-square and ANOVA were performed to compare groups based on degrees:
 - BSP Pharm, PharmD , and Both Degrees
- OLS regression analysis was used to examine predictors of time spent on dispensing and patient care activities.

Cohort Description

- 562 responses analyzed in this study:



Respondent Characteristics

	BSP Pharm (n=309-336)	PharmD (n=159-167)	Both Degrees (n=56-59)
Age (Mean, yrs) (SD) *	42.7 (6.2)	37.1 (7.2)	40.0 (5.5)
Female (%)	61.3	67.1	66.1
Married (%) *	80.8	71.3	79.7
Ethnicity (%) *			
American Indian	0.3	0.6	0
Asian	12.2	22.8	6.8
Black/African American	1.5	3.6	3.4
Hispanic/Latino	2.1	4.2	1.7
White/Caucasian	81.8	65.9	88.1
Other	2.1	3.0	0

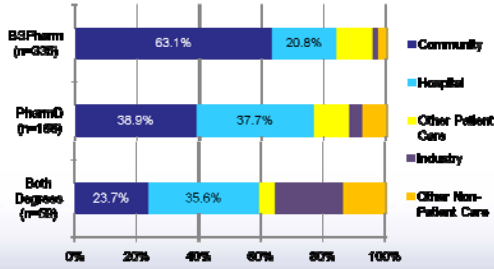
Note: n varies due to missing data. Chi-square or ANOVA conducted.
*p < 0.05

Respondent Characteristics

	BSP Pharm (n=309-336)	PharmD (n=159-167)	Both Degrees (n=56-59)
Urban (%)	82.9	90.7	85.7
Years in Practice (Mean, yrs) (SD) *	17.3 (5.1)	10.7 (5.7)	15.3 (5.1)
Residency (%) *	0.3	33.5	27.1
Fellowship (%) *	0.6	4.2	3.4
FTE (Mean) (SD)	0.87 (0.29)	0.91 (0.27)	0.95 (0.35)
Current Position (%)			
Owner/Partner/Executive	7.4	2.4	10.2
Management	29.2	31.1	37.3
Staff	63.4	66.5	52.5

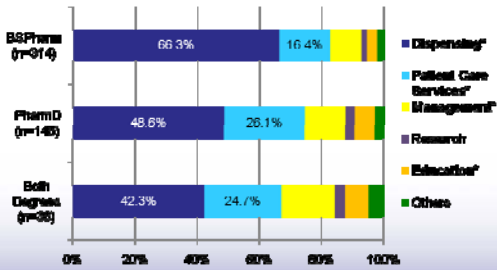
Note: n varies due to missing data. Chi-square or ANOVA conducted.
*p < 0.05

Employment Settings



Chi-square conducted to compare across degrees, p < 0.001

% of Time Spent in Practice Activities (All Practice Settings)



ANOVA conducted for each activity, * denotes p < 0.05

OLS Regressions of % Time on Dispensing and Patient Care (All Pharmacists; N=472)

Table with 3 columns: Unstandardized Coefficients (std. error), % Time on Dispensing (R^2=0.343), and % Time on Patient Care (R^2=0.234). Rows include Constant, PharmD, Years in Practice, Practice Setting (Community, Other Patient Care Practice, Staff, Urban).

*p < 0.05
†Comparator group = Hospital Pharmacy

Horizontal lines for notes.

OLS Regressions of % Time on Dispensing and Patient Care (Pharmacists with PharmD; N=183)

Table with 3 columns: Unstandardized Coefficients (std. error), % Time on Dispensing (R^2=0.485), and % Time on Patient Care (R^2=0.345). Rows include Constant, Practice Setting (Community, Other Patient Care Practice, Staff), and Residency.

*p < 0.05
†Comparator group = Hospital Pharmacy

Horizontal lines for notes.

Conclusions

- Pharmacists with a BS in Pharmacy degree were more often employed in community pharmacies than in hospital pharmacies
Regardless of degree, community pharmacists spent most time in dispensing compared to other activities
Hospital pharmacists with PharmD degrees spent less time in dispensing than those with BS in Pharmacy degrees

Horizontal lines for notes.

Conclusions

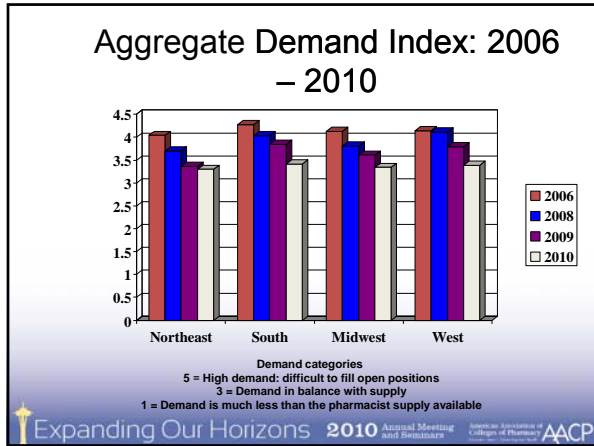
- Among all pharmacists, time spent in dispensing activities and patient care services were influenced mostly by practice setting, degree, and staff position
- Among pharmacists with PharmD degrees, residency training was an additional influence on time spent in dispensing (-) and patient care activities (+).

Session Objective 2

- Describe pharmacist workload issues and a taxonomy of pharmacy practice patterns

Learning Objectives

- Investigate pharmacists' perceived workload and its effects on health and job-related attitudes and behaviors
- Describe a taxonomy of pharmacy practice based on time spent in dispensing and patient care activities
- Discuss the implications of these findings for the future supply and demand



Background

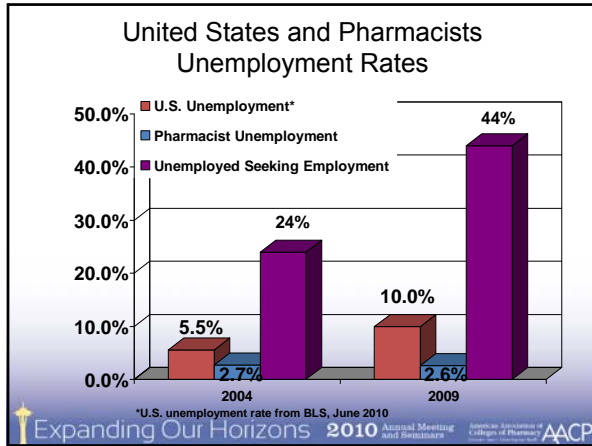
- Along with a decrease in demand, anecdotal evidence suggests that employers have responded to the United States economic recession by cutting hours and staffing
- The purpose of this analysis is to examine these issues in terms of pharmacists' workload and practice patterns

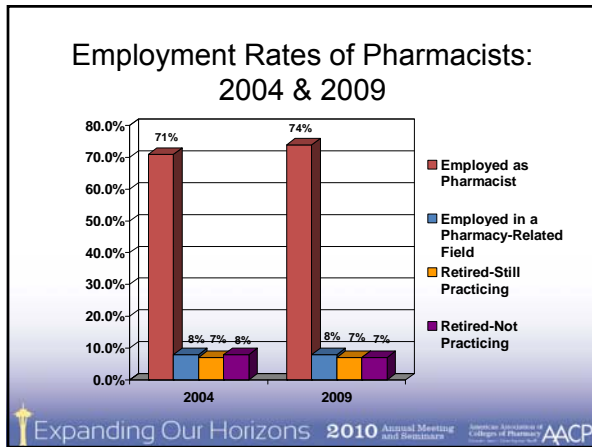
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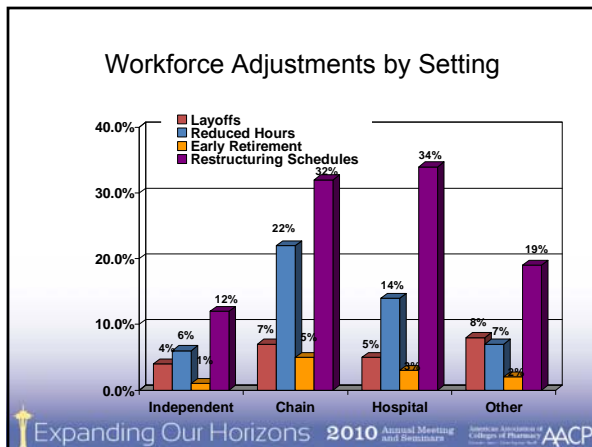
Methods

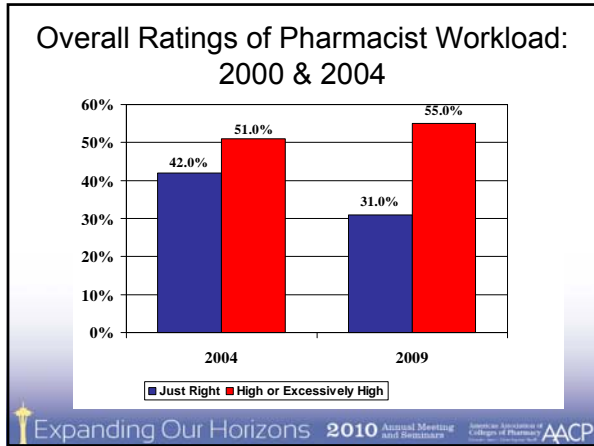
- Data analysis: Descriptive statistics and two-step cluster analysis

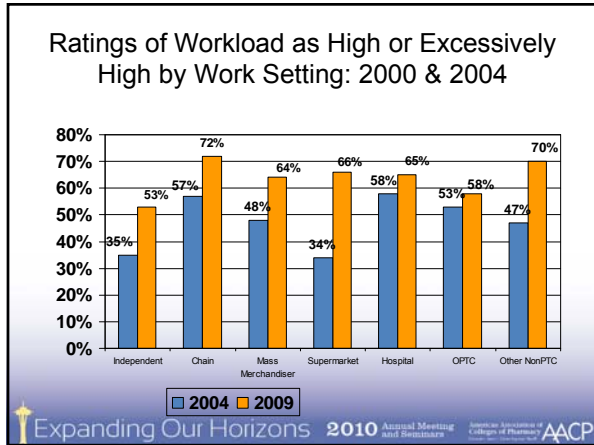
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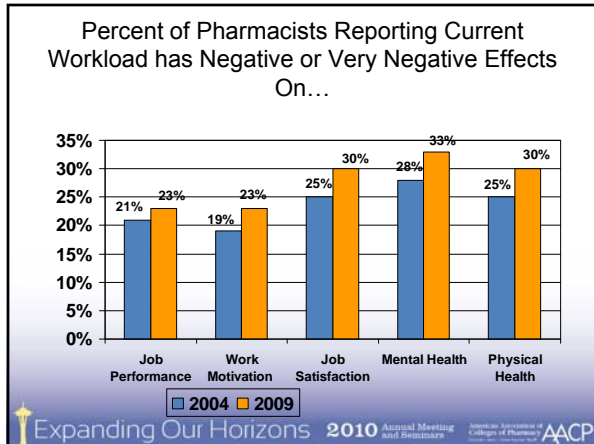




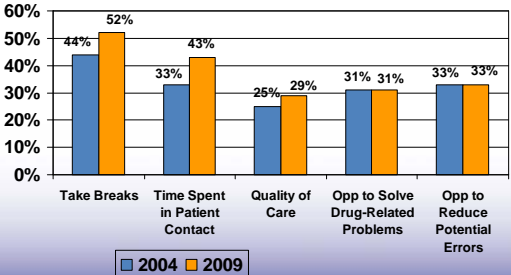








Percent of Pharmacists Reporting Current Workload has Negative or Very Negative Effects On... (Cont'd)

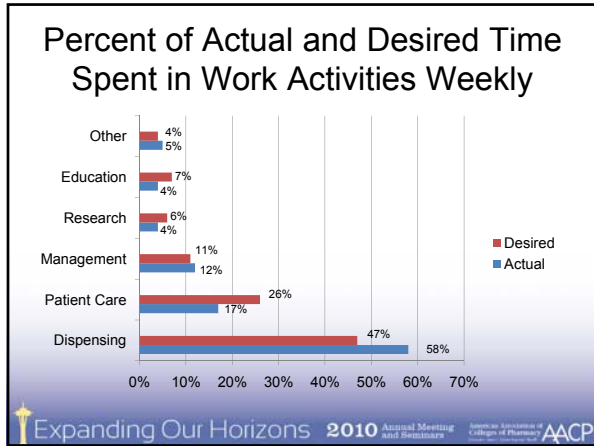


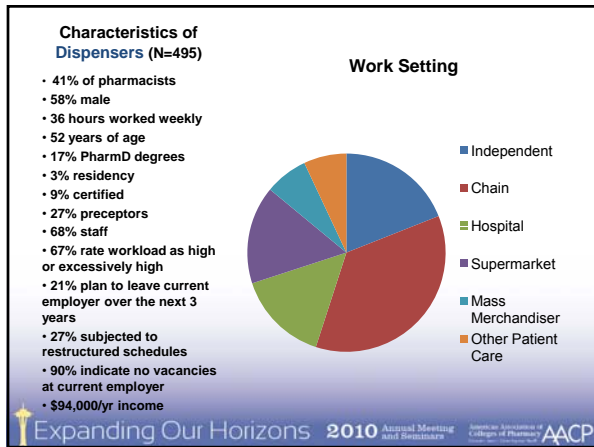
Work Activities

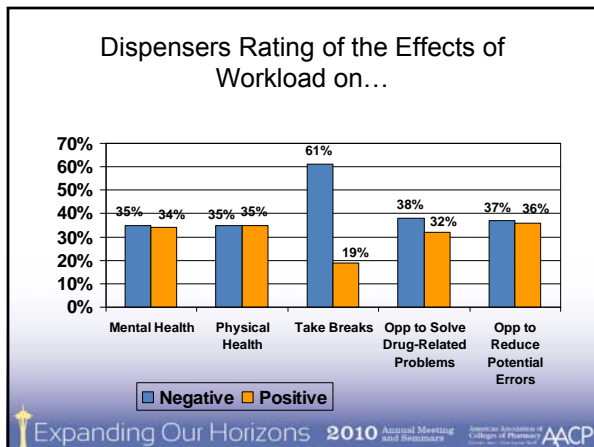
- **Medication Dispensing:** preparing, distributing, and administering medication products, including associated consultation, interacting with patients about selection and use of over-the-counter products, and interactions with other professionals during the medication dispensing process
- **Patient Care Services:** assessing and evaluating patient medication-related needs, monitoring and adjusting patients' treatments to attain desired outcome, and other services designed for patient care management

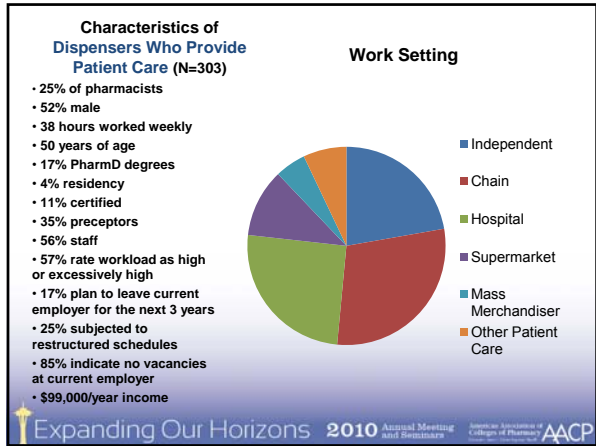
Work Activities (Cont'd)

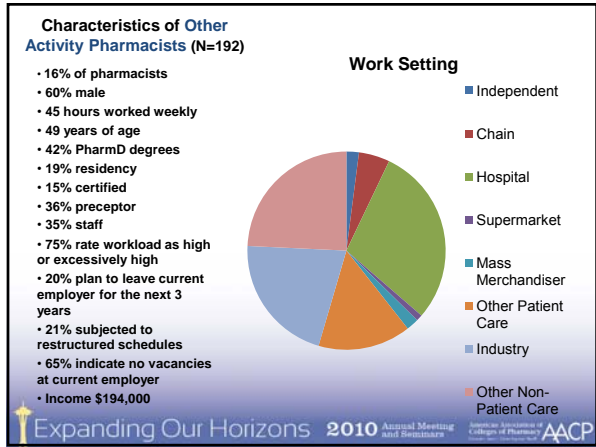
- **Business / Organization Management:** managing personnel, finances, and systems
- **Research:** discovery, development, and evaluation of products, services, and/or ideas
- **Education:** teaching, precepting, and mentoring of students/trainees
- **Other Activities:** activities not described in other categories

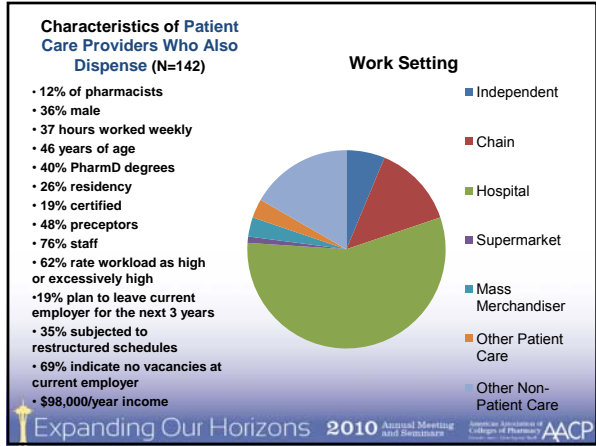


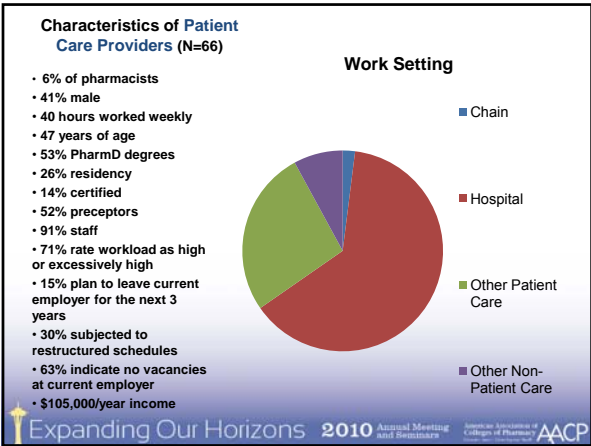












Summary

- Pharmacists perceive their workload has increased and this increase has negative effects on patients and results in missed opportunities for care
- Pharmacists clustered in five distinct segments which reflect the realities of pharmacy practice and the positions available today

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Summary

- Unknown is the how employers will continue to respond to economic pressures and how pharmacists' training will be utilized in the future

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Session Objective 3

- Compare/contrast rural vs. non-rural pharmacy practices

Learning Objectives

Describe:

- (1) rural/urban workforce characteristics
- (2) work activities of rural/urban practitioners
- (3) the association of childhood community size and present work environment
- (4) reported services as student pharmacist preceptor

Pharmacist Inclusion Criteria

- Analysis restricted to actively practicing pharmacists
 - Practicing pharmacist (N = 985)
 - Practicing retired pharmacist (N = 83)
 - Total (N = 1,068)

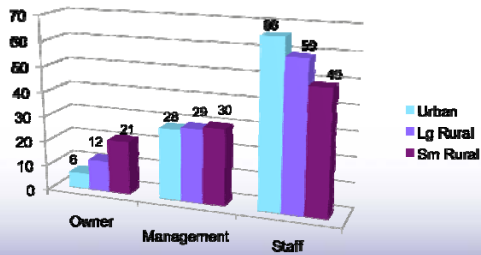
Urban - Rural Comparison

- RUCA (Rural Health Resource Center) codes used to define population centers
 - 10 RUCA categories collapsed into
 - Urban \geq 50,000
N = 846
 - Large Rural 10,000 – 49,999
N = 113
 - Small Rural < 10,000
N = 78
RUCA small rural and isolated rural combined

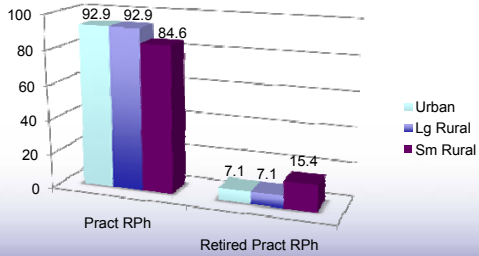
Urban/Rural Analysis

- Position
 - Owner , manager, staff
- Practice type
- Work activities (actual and desired)
- Work load
- Gender
- Childhood community vs. practice community
- Reported service as student pharmacist preceptor

Position (%)

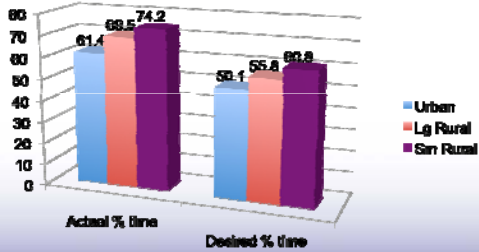


RUCA by Practicing and Retired (%)



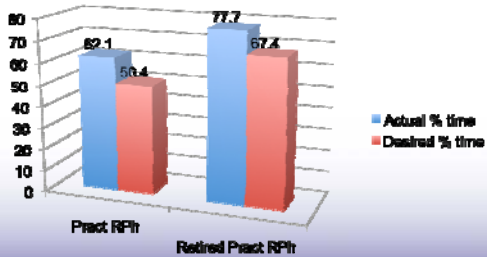
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Dispensing Preference (%)

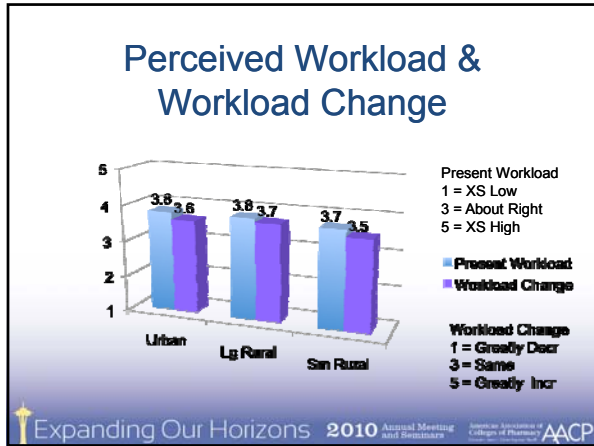


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Dispensing Preference (%)



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Actual Hours Worked

- Urban: 37.2 ± 12.7 hrs
- Large Rural: 38.5 ± 13.7 hrs
- Small Rural: 38.2 ± 15.9 hrs

N.S.

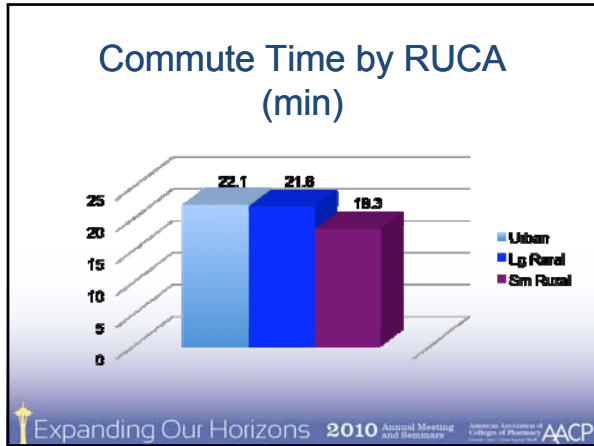
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Gender (% Female)

- Urban: 48.3%
- Large Rural: 39.8%
- Small Rural: 35.9%

$X^2 = 6.7; p < 0.05$

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Childhood Town vs. RUCA Employment

		Childhood Town		
		Urban	Lg Rural	Sm Rural
RUCA Employment	Urban (R)	81.1%	9.2%	9.7%
	Urban (C)	90.3%	57.1%	52.9%
	Large Rural (R)	42.6%	38.0%	19.4%
	Large Rural (C)	6.9%	34.5%	15.4%
	Small Rural (R)	26.4%	13.9%	59.7%
	Small Rural (C)	2.4%	8.4%	31.6%

R = Row
C = Column

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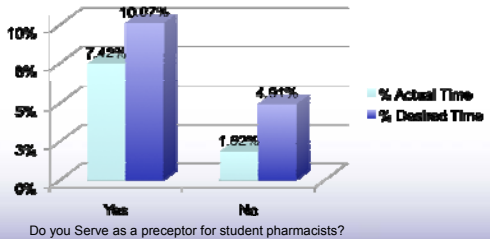
Respondents Serving as Preceptors by Location

Do You Precept Student Pharmacists?	Urban	Large Rural	Small Rural	Total
Yes	302 38.5%	36 34.3%	25 37.9%	371
No	482 61.5%	69 65.7%	41 62.1%	663
Total	874 82.1%	105 11.0%	66 6.9%	955*

* Retired practicing as pharmacist removed

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Respondents Reported Actual vs. Desired Time in Educational Activities



Do you Serve as a preceptor for student pharmacists?

Summary

- Fewer than 50% of pharmacy practitioners in small rural practices report themselves to be staff pharmacists.
- The proportion of “retired but still practicing” pharmacists in rural communities is 2x that of urban or large rural communities.
- Perception of workload and workload changes is about the same regardless of community size.

Summary

- The reported commute time for small rural practitioners is less than either large rural or urban practitioners.
- Nearly 60% of small rural practitioners identified a small rural community as their childhood home.
- Over 50% of practitioners identifying a small rural community as their childhood home were practicing in an urban setting.
- More than 1/3 of respondents reported that they serve as preceptors for students pharmacists regardless of community size

Study Limitations

- Non-coverage bias (all responders were licensed before 2007)
- Non-response bias (late responders were more likely to be: working as a pharmacist, younger, and having a PharmD than early responders)
- Self-reported data (responders may not have known about all work adjustments made by their employers)
