A Pharmacy Pilot or Demonstration Research Project for a

New Practice Model for Community Pharmacy

A Demonstration Project to Study the Effects of Implementing Tech-Check-Tech Programs in Community Practice to Engage Community Pharmacists in Clinical Pharmacy Services in Iowa

PHASE ONE

18 MONTH FINAL REPORT

Iowa Pharmacy Association &
Drake University College of Pharmacy and Health Sciences

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LEADERSHIP TEAM MEMBERS

Megan Myers, PharmD, will serve as Project Coordinator. She will oversee the project, conduct regular on-site visits with each site, coordinate the study activities, chair the regular team meetings, and lead the writing of the study reports to the Board of Pharmacy.

Michael Andreski, RPh, MBA, PhD, Assistant Professor of Social and Administrative Pharmacy, Drake University College of Pharmacy and Health Sciences serves as research consultant and principal investigator, participates in regular team meetings, and participates in the writing of the study report.

T.J. Johnsrud, NuCara Health Management, Inc., provides a pharmacy management perspective for coordinating the community pharmacy clinical services and Tech-Check-Tech programs within the community pharmacy sites. He participates in regular team meetings.

Anthony Pudlo, PharmD, MBA, BCACP, Vice-President of Professional Affairs, and Kate Gainer, PharmD, Executive Vice President/CEO, Iowa Pharmacy Association, will oversee coordination of clinical pharmacy services available to community pharmacy sites in this study.

PHARMACY SITE-SPECIFIC INFORMATION

***Pharmacy Site #1*:**
Towncrest Pharmacy
2306 Muscatine Avenue
Iowa City, IA 52240
319.337.3526
License #838
Mike Deninger, Pharmacist-In-Charge
License #17620
Randy McDonough, On-Site Responsible Pharmacist
License #16918

***Pharmacy Site #2*:**
Mercy Family Pharmacy
1111 3rd Street SW
Dyersville, IA 52040
563.875.7624
License #129
Julie Panosh, Pharmacist-In-Charge
License #19527

***Pharmacy Site #3*:**
Medicap Pharmacy #8003
105 Lincoln Way
Ames, IA 50010
515.232.1653
License #123
Stephanie McCollom, Pharmacist-In-Charge
License #21189

***Pharmacy Site #4*:**
NuCara Pharmacy #11
120 E. Madison Street
Washington, IA 52353
319.653.5404
License #342
Rachel Clemens, Pharmacist-In-Charge
Participated June 2, 2014 – July 31, 2015

***Pharmacy Site #5*:**
NuCara Pharmacy #30
107 N Main Street
Lenox, IA 50851
641.333.2260
License #1454
Alicia Lynn, Pharmacist-In-Charge
License #21963

***Pharmacy Site #6*:**
NuCara Pharmacy #12
500 2nd Street
Traer, IA 50675
319.478.8711
License #467
Phyllis A. McKee, Pharmacist-In-Charge
License #13929

***Pharmacy Site #7*:**
NuCara Pharmacy #10
621 Broad Street
Story City, IA 50248
515.733.2233
License #78
Betty Grinde, Pharmacist-In-Charge
License #15568

IPA'S NPM GOALS:

1) Sites are using Tech-Check-Tech (TCT) at least 75% of business days (M-F).
2) Sites to submit data collected for both research aims within 7 days of the end of the month.
3) Sites to increase time spent counseling patients on both new and refilled prescriptions.
4) Pharmacists are providing expanded patient care services including increasing volume of established services and successful implementation of new services.

Aim 1: Implement and assess the impact of a Tech-Check-Tech program in community pharmacies in Iowa on patient safety measures. "50 refills per month for the remainder of the project will be double checked for errors."

	Baseline (pharmacist-checked)	TCT June-Sept 2014	TCT Oct-Nov 2014	TCT Dec 2014-Jan 2015	TCT Feb - May 2015	TCT June-July 2015	TCT Aug - Nov 2015	**TCT Overall Pilot**
Number of refills checked	**5, 565**	1,029	709	787	1,557	651	1,217	**5,950**
Wrong Drug	**1**	0	0	1	0	0	0	**1**
Wrong Strength	**0**	1	0	1	0	0	0	**2**
Safety Cap Error	**8**	5	2	4	8	0	0	**19**
Wrong Amount	**2**	1	1	1	0	0	0	**3**
Other Errors	**4**	4	2	1	0	1	0	**8**
Patient-Safety Errors	**2**	2	0	2	0	0	0	**4**
Patient-Safety Error Rate	**0.04%**	0.19%	0%	0.26%	0.00%	0.00%	0.00%	**0.07%** (p=0.808)
Administrative Errors	**13**	9	5	6	8	1	0	**29**
Administrative Error Rate	**0.23%**	0.87%	0.82%	0.76%	0.51%	0.15%	0.00%	**0.49%** (p=0.443)
Total Errors	**15**	11	5	8	8	1	0	**33**
Overall Error Rate	**0.27%**	1.07% (p=0.832)	0.82% (p=0.443)	1.02% (p=0.303)	0.51% (p=0.601)	0.15% (p=0.452)	0% **(p=0.02)***	**0.56%** (p=0.484)

*Technician checked error rate lower than pharmacist-checked error rate

Discussion:

Patient-safety has most likely not been compromised with technician-verification of refill prescriptions. The overall error rate (p=0.484), patient-safety error rate (p=0.808), and administrative error rate (p=0.443) showed no statistically significant differences compared to baseline. The majority of errors occurred at one site which was resolved within the first 6 months of the project. This site was an outlier that struggled to adopt the model. If taken out of the analysis, the technician error rate was 0.22% compared to pharmacist baseline of 0.27%. Many sites reported no or very low errors for the duration of the 18 month pilot. Safety-cap errors accounted for 58% of the errors noted. The results of the study suggest that with proper training, along with continuous quality improvement efforts, technicians can safely verify refill prescriptions in small chain/independent pharmacies.

*Please see appendix A for individual site data.

Aim 2: Implement and assess the impact of a Tech-Check-Tech program in community pharmacies in Iowa and in facilitating the provision of community pharmacist-provided medication therapy management.

"The primary data sources will be self-reported pharmacist daily activity logs and numbers of both compensated and identified opportunities for MTM and other patient care services. Once the Tech-Check-Tech procedures have been initiated and are performing adequately as defined above, the pharmacist(s) at the participating pharmacies will begin to focus on increasing the amount of MTM services provided."

Aggregate data: Composition of Pharmacist Day

Pharmacist Time Spent in:	**Baseline (pharmacist-checked)**	TCT June-Sept 2014	TCT Oct-Nov 2014	TCT Dec 2014-Jan 2015	TCT Feb - May 2015	TCT June-July 2015	TCT Aug - Nov 2015	**TCT Overall Pilot**
Dispensing	**67.30%**	58.3% (p=0.261)	55.2% (p=0.103)	50.26% (p=0.074)	46.6% **(p=0.04)**	44.4% **(p=0.035)**	45.7% **(p=0.029)**	**48.58% (p=0.004)**
Patient Care	**15.90%**	22.9% (p=0.068)	27.4% **(p=0.002)**	31.59% **(p=0.015)**	38.3% **(p=0.004)**	40.1% **(p=0.017)**	38.54% **(p=0.001)**	**35.08% (p=0.002)**
Practice Development	**3.50%**	5.1% (p=0.511)	4.6% (p=0.661)	6.4% (p=0.375)	4.7% (p=0.23)	4.62% (p=0.630)	6.6% (p=0.303)	**5.13%** (p=0.101)
Management	**9.20%**	9.2% (p=0.995)	8.6% (p=0.706)	10.35% (p=0.608)	8.1% (p=0.51)	9.2% (p=0.987)	7.2% (p=0.221)	**8.43%** (p=0.138)
Other Activities*	**4.10%**	4.5% (p=0.900)	4.2% (p=0.972)	1.38% (p=0.283)	2.3% (p=0.47)	1.76% (p=0.344)	1.9% (p=0.364)	**2.78%** (p=0.213)
Percent of Time Utilizing TCT		60%**	52.50%	58%	61%	58%	61%	**58%**

*Other Activities included precepting pharmacy students, specialty compounding, setting up medication planners and providing in-services to other providers. Sites were re-instructed to classify medication planners and compounding into dispensing when this occurred.
**Began tracking Percent of Time Utilizing TCT in September 2014

Discussion:

The amount of time pharmacists spend in dispensing has decreased with a corresponding increase in patient care activities and no significant change in other categories. There was a statistically significant increase in the amount of pharmacist time spent in patient care, increasing from 15.9% to 35.08% (p=0.002). There also was a statistically significant decrease in the amount of pharmacist time spent in dispensing, decreasing from 67.3% to 48.58% (p=0.004). When comparing percentage of time spent in activities, the ratio of dispensing to patient care at baseline was 3.70:1, and at the end of the pilot the ratio shifted to 1.14:1. This is a noteworthy change in the composition of the pharmacist work day.

Also, 95% of the time gained from the decrease in dispensing activities moved to patient care activities with the other 5% being spent on practice development. No time was shifted to management activities. Tech-check-tech for refill prescriptions effectively allowed pharmacists in these pharmacies to transition from primarily dispensing to a balance between dispensing and patient care activities.

*Please see appendix A for individual site data.

Aggregate data: Number of Services Provided

Number of Patient Care Services Per Pharmacist Per Hour	**Baseline (pharmacist-checked)**	TCT June-Sept 2014	TCT Oct-Nov 2014	TCT Dec 2014-Jan 2015	TCT Feb - May 2015	TCT June-July 2015	TCT Aug - Nov 2015	**TCT Overall Pilot**
Reimbursed Services	**0.11**	0.49 (p=0.267)	0.55 (p=0.124)	0.14 (p=0.743)	0.12 (p=0.880)	0.12 (p=0.882)	0.60 **(p=0.028)**	**0.35** (p=0.130)
Non-reimbursed Services	**2.77**	3.10 (p=0.833)	3.47 (p=0.671)	5.87 (p=0.209)	5.99 (p=0.134)	5.23 (p=0.203)	5.37 (p=0.167)	**4.8 (p=0.043)**
Total Patient Care Services	**2.88**	3.59 (p=0.677)	4.02 9p=0.521)	6.01 (p=0.217)	6.11 (p=0.146)	5.36 (p=0.216)	5.97 (p=0.127)	**5.15 (p=0.044)**

Discussion:

There was a statistically significant increase in the amount of overall (p=0.044) and non-reimbursed patient care services per pharmacist hour (p=0.043). The amount of reimbursed patient care services per pharmacist hour have increased, but the increase is not statistically significant. The lower growth in number of reimbursed services may be due to lack of available reimbursement for pharmacist services.

In other words, over an average 8-hour shift, the pharmacist at baseline performed approximately 1 reimbursed service and 22 non-reimbursed services. With TCT, over an average 8-hour shift, the pharmacist performed approximately 3 reimbursed services and 38 non-reimbursed services. This is potentially clinically important based on previous studies of the impact of pharmacist services on patient care outcomes.

*Please see appendix A for individual site data.

Aggregate Data: Number of services per pharmacist hour:

Service Type	Baseline	TCT (6/2/14 – 12/2/15)	p-value compared to baseline*
Prescription Counseling Reimbursed	Avg. = 0.0735 2/7 Pharmacies Provided	Avg. = 0 0/7 pharmacies provided	p=0.350
Prescription Counseling Non-Reimbursed	Avg. = 2.3780 7/7 Pharmacies Provided	Avg. = 3.96 7/7 pharmacies provided	*p=0.06*
Drug Therapy Problems Identified Through Dispensing DUR Reimbursed	Avg. = 0.0014 1/7 Pharmacies Provided	Avg. = 0.002 2/7 pharmacies provided	p=0.680
Drug Therapy Problems Identified Through Dispensing DUR Non-Reimbursed	Avg. = 0.1333 7/7 Pharmacies Provided	Avg. = 0.38 7/7 pharmacies provided	p=0.360
Drug Information Request Reimbursed	Avg. = 0.0003 1/7 Pharmacies Provided	Avg. = 0 0/7 pharmacies provided	p=0.356
Drug Information Request Non-Reimbursed	Avg. = 0.06995 7/7 Pharmacies Provided	Avg. = 0.134 7/7 pharmacies provided	**p=0.028**
Patient Education Reimbursed	Avg. = 0.0031 1/7 Pharmacies Provided	Avg. = 0.003 4/7 pharmacies provided	p=0.873
Patient Education Non-Reimbursed	Avg. = 0.083 7/7 Pharmacies Provided	Avg. = 0.081 7/7 pharmacies provided	p=0.936
Immunizations Reimbursed	Avg. = 0.005 1/7 Pharmacies Provided	Avg. = 0.270 7/7 pharmacies provided	*p=0.054*
Immunizations Non-Reimbursed	Avg. = 0.0034 2/7 Pharmacies Provided	Avg. = 0.01 2/7 pharmacies provided	p=0.459
Injection Administration Reimbursed	Avg. = 0.0032 4/7 Pharmacies Provided	Avg. = 0.029 4/7 pharmacies Provided	p=0.327
Injection Administration Non-Reimbursed	Avg. = 0.00 0/7 Pharmacies Provided	Avg. = 0.013 2/7 pharmacies Provided	p=0.175

*Bold indicates statistically significant, and italicized indicates trending towards statistical significance.

Aggregate Data: Number of services per pharmacist hour (continued):

Service Type	Baseline	TCT (6/2/14 – 12/2/15)	p-value compared to baseline
Patient Screening/Testing Reimbursed	Avg. = 0.0018 1/7 Pharmacies Provided	Avg. = 0.005 1/7 pharmacies provided	p=0.356
Patient Screening/Testing Non-Reimbursed	Avg. = 0.018 5/7 Pharmacies Provided	Avg. = 0.025 7/7 pharmacies provided	p=0.601
MTM Current Medication List/History Reimbursed	Avg. = 0.0047 2/7 Pharmacies Provided	Avg. = 0.012 6/7 pharmacies provided	p=0.275
MTM Current Medication List/History Non-Reimbursed	Avg. = 0.0066 3/7 Pharmacies Provided	Avg. = 0. 63 5/7 pharmacies provided	p=0.247
MTM Medication Reconciliation Reimbursed	Avg. = 0.0078 2/7 Pharmacies Provided	Avg. = 0.01 4/7 pharmacies provided	p=0.845
MTM Medication Reconciliation Non-Reimbursed	Avg. = 0.0226 3/7 Pharmacies Provided	Avg. = 0.051 4/7 pharmacies provided	p=0.368
MTM Patient Follow-up Reimbursed	Avg. = 0.0025 1/7 Pharmacies Provided	Avg. = 0.01 3/7 pharmacies provided	p=0.197
MTM Patient Follow-up Non-Reimbursed	Avg. = 0.0133 2/7 Pharmacies Provided	Avg. = 0.031 5/7 pharmacies provided	*p=0.083*
MTM Patient Interview Reimbursed	Avg. = 0.0012 1/7 Pharmacies Provided	Avg. = 0.01 4/7 pharmacies provided	*p=0.068*
MTM Patient Interview Non-Reimbursed	Avg. = 0.0061 2/7 Pharmacies Provided	Avg. = 0.001 5/7 pharmacies provided	p=0.760
MTM Provider Consult Reimbursed	Avg. = 0.0003 1/7 Pharmacies Provided	Avg. = 0.002 3/7 pharmacies provided	p=0.274
MTM Provider Consult Non-Reimbursed	Avg. = 0.0190 1/7 Pharmacies Provided	Avg. = 0.031 6/7 pharmacies provided	p=0.635
MTM Other Services Reimbursed	Avg. = 0.0051 1/7 Pharmacies Provided	Avg. = 0.001 2/7 pharmacies provided	p=0.434
MTM Other Services Non-Reimbursed	Avg. = 0.0172 2/7 Pharmacies Provided	Avg. = 0 4/7 pharmacies provided	p=0.224

*Bold indicates statistically significant, and italicized indicates trending towards statistical significance.

Discussion:

There appears to be an increase in patient counseling, answering drug information requests, immunizations, medication reconciliation and MTM services. Anecdotally, pharmacists have reported having more time with each patient, providing a better quality service than prior to TCT. It appears that the increase in patient care services has encompassed a variety of services and not just increased in one category or type of service. It is noteworthy to mention the increase in number of pharmacies that are providing MTM services with TCT compared to baseline has roughly doubled.

*Please see appendix A for individual site data.

Pharmacist and Technician Job Satisfaction

As requested by the Iowa Board of Pharmacy, pharmacist and technician job satisfaction was measured before and one year after implementation of tech-check-tech.

Baseline measures showed a relatively satisfied perception of the workplace for both pharmacists and technicians. As a group there were no statistically significant changes in any of the work place satisfaction measures one year after implementation of TCT. There was a trend towards increased satisfaction of pharmacists in their career choice after implementation of TCT. There was a trend towards decreased satisfaction of technicians in their career choice and an increase in their stress level after implementation of TCT. With TCT, technicians have an increased role and responsibility in the pharmacy which increases their stress level. This could possibly be mitigated by shifting tasks that can be performed by support personnel away from technicians.

SUMMARY

- **Number of pharmacist hours tracked for the pilot was over 8,000 hours which is equivalent to 3.85 FTEs. This is an in-depth examination of the TCT intervention on small chain/independent pharmacy practice in Iowa.**

- Tech-Check-Tech portion of the study in Phase I sites went live on June 2, 2014.
    - On average, Phase I sites used the Tech-Check-Tech model approximately 58**%** of the time, not including weekends and holidays.

- Adequate technician staffing has been the biggest challenge to the TCT model in Phase 1. The sites report that the TCT process is smooth when adequately staffed.

    - There may be a certain level of baseline staffing or volume that would allow for TCT to be implemented without adding staff. Six of the seven sites added either clerk or additional technician help at some point during the project. Many of the sites just need to add one part-time person, varying between 10-20 hours per week. Some sites were able to increase the amount of revenue through MTM claims and immunizations which helped to cover the cost of the additional staff.

- A small group from the NPM task force met on December 22, 2014 to establish guidelines on when to consider discontinuation of the project due to a site's inability to fully participate in the NPM project requirements (see Appendix B). The group recognized the importance of reviewing each site on a case-by-case basis. Action plans were created for two of the seven sites over the course of the pilot and both sites were able to successfully address issues set forth in their plans. One site struggled throughout the pilot but never met the requirements to need a formal action plan. **All sites were able to successfully complete the requirements for this pilot.**

- Creating a new workflow, establishing roles and job redistribution was a challenge initially.

- Any tech-check-tech workflow can increase the amount of pharmacist time spent on patient care compared with the traditional model.

- IPA supported the sites throughout the pilot with multiple live meetings and frequent site visits.
    - The IPA project manager visited each site every 2-3 months for the duration of the 18 month pilot.

CONCLUSION

There has been no statistical difference in error rates on refills for Phase I sites with Tech-Check-Tech as compared to the traditional Pharmacist-Check-Tech model. The Tech-Check-Tech intervention was a successful approach to increasing the amount of time pharmacists spent in patient care and the number of services provided at all sites.

FUTURE DIRECTION/GOALS

We aim to continue studying Tech-Check-Tech for refill prescriptions in these sites through July 2016 to determine if further amount of time in this model will further increase benefits seen. This will align with the expanded Phase II portion of the study, which includes larger retail chains.

While not included in the original proposal, IPA will study any possible relationship between the percentage of time spent doing TCT and changes in pharmacist workday composition and number of services provided.

Based on the results of this pilot, IPA recommends the Board of Pharmacy consider revising the regulations for TCT and expand TCT into community pharmacy settings for refill medications only. Other TCT models should be considered with additional pilot and research demonstration projects.

PHASE ONE PROJECT TIMELINE

Month 1-3	Project start-up; Finalize procedures for MTM service delivery and data collection
Month 2	Submit proposal to Iowa Board of Pharmacy for pilot/demonstration project – *Approved March 12, 2014*
Month 5	Community pharmacies implement Tech-Check-Tech programs; pharmacists engage in collaborative practice agreements for patient care delivery – *Implemented TCT June 2, 2014*
Month 23	Pilot project authority expires for Tech-Check-Tech *Pilot ends December 2, 2015* *Approved September 2, 2015 to renew pilot through Aug 2, 2016*
Month 22-24	Data analyses and report writing

PHASE TWO PROJECT TIMELINE

Month 1-3	Project start-up; Identify sites
Month 2	Submit proposal to Iowa Board of Pharmacy for pilot/demonstration project – *Approved November 19, 2014*
Month 5	Community pharmacies implement Tech-Check-Tech programs; pharmacists engage in collaborative practice agreements for patient care delivery – *Implemented TCT February 2, 2015*
Month 23	Pilot project authority expires for Tech-Check-Tech *Pilot ends August 2, 2016*
Month 22-24	Data analyses and report writing

APPENDIX A

In order to protect the confidentiality of each site, there is no correlation between the order of the individual site reports A-G and the numerical designation on pages 2 - 3 of this report.

Individual Site Data for *Site A*:

Site A Data from Technician checked prescriptions collected (6/2/14 – 12/2/15):		**Site A data from Baseline collection (Pharmacist-checked prescriptions):**	
Total Rx Refills Checked	875	Total Prescription Refills Checked	752
Wrong Drug	0	Wrong Drug	1
Wrong Strength	0	Wrong Strength	0
Safety Cap Error	0	Safety Cap Error	0
Wrong Amount	0	Wrong Amount	0
Other Errors	0	Other Errors	0
Total Errors	0	Total Errors	1
Overall Error Rate	0.0%	Overall Error Rate	0.13%

Composition of Pharmacist Day

	Baseline	**TCT (6/2/14 – 12/2/15)**
Time Spent in Dispensing	71.02%	54.64%
Time Spent in Management	10.25%	9.49%
Time Spent in Patient Care	16.60%	33.46%
Time Spent in Practice Development	0.62%	5.41%
Time Spent in Other Activities	1.50%	0.0%

Number of Services Provided per Pharmacist Hour

	Baseline	**TCT (6/2/14 – 12/2/15)**
Reimbursed Patient Care Services	0.000	0.37
Non-Reimbursed Patient Services Care	1.99	4.32
Total Patient Care Services	1.99	4.69

Individual Site Data for *Site B*:

Site B Data from Technician checked prescriptions collected (6/2/14 – 12/2/15):		**Site B data from Baseline collection (Pharmacist-checked prescriptions):**	
Total Rx Refills Checked	800	Total Prescription Refills Checked	758
Wrong Drug	0	Wrong Drug	0
Wrong Strength	0	Wrong Strength	0
Safety Cap Error	3	Safety Cap Error	3
Wrong Amount	0	Wrong Amount	0
Other Errors	1 (administrative error)	Other Errors	0
Total Errors	4	Total Errors	3
Overall Error Rate	0.50%	Overall Error Rate	0.396%

Composition of Pharmacist Day

	Baseline	**TCT (6/2/14 – 12/2/15)**
Time Spent in Dispensing	69.56%	43.63%
Time Spent in Management	9.17%	7.27%
Time Spent in Patient Care	17.44%	45.87%
Time Spent in Practice Development	0.71%	1.96%
Time Spent in Other Activities	3.11%	1.28%

Number of Services Provided per Pharmacist Hour

	Baseline	**TCT (6/2/14 – 12/2/15)**
Reimbursed Patient Care Services	0.086	1.08
Non-Reimbursed Patient Services Care	1.84	6.68
Total Patient Care Services	1.93	7.76

Individual Site Data for *Site C*:

Site C Data from Technician checked prescriptions collected (6/2/14 – 12/2/15):		**Site C data from Baseline collection (Pharmacist-checked prescriptions):**	
Total Rx Refills Checked	837	Total Prescription Refills Checked	752
Wrong Drug	0	Wrong Drug	0
Wrong Strength	0	Wrong Strength	0
Safety Cap Error	6	Safety Cap Error	0
Wrong Amount	0	Wrong Amount	0
Other Errors	0	Other Errors	1
		Days' Supply =1	
Total Errors	6	Total Errors	1
Overall Error Rate	0.72%	Overall Error Rate	0.13%

Composition of Pharmacist Day

	Baseline	**TCT (6/2/14 – 12/2/15)**
Time Spent in Dispensing	74.47%	59.73%
Time Spent in Management	9.26%	10.01%
Time Spent in Patient Care	14.95%	27.58%
Time Spent in Practice Development	1.32%	1.87%
Time Spent in Other Activities	0.00%	0.82%

Number of Services Provided per Pharmacist Hour

	Baseline	**TCT (6/2/14 – 12/2/15)**
Reimbursed Patient Care Services	0.00	0.024
Non-Reimbursed Patient Services Care	1.99	2.79
Total Patient Care Services	1.99	3.04

Individual Site Data for *Site D*:

Site D Data from Technician checked prescriptions collected (6/2/14 – 12/2/15):		**Site D data from Baseline collection (Pharmacist-checked prescriptions):**	
Total Rx Refills Checked	850	Total Prescription Refills Checked	750
Wrong Drug	0	Wrong Drug	0
Wrong Strength	0	Wrong Strength	0
Safety Cap Error	0	Safety Cap Error	4
Wrong Amount	0	Wrong Amount	0
Other Errors	0	Other Errors	0
Total Errors	0	Total Errors	4
Overall Error Rate	0.0%	Overall Error Rate	0.53%

Composition of Pharmacist Day

	Baseline	**TCT (6/2/14 – 12/2/15)**
Time Spent in Dispensing	80.81%	72.05%
Time Spent in Management	5.81%	4.82%
Time Spent in Patient Care	13.13%	19.58%
Time Spent in Practice Development	0.25%	2.22%
Time Spent in Other Activities	0.00%	1.33%

Number of Services Provided per Pharmacist Hour

	Baseline	**TCT (6/2/14 – 12/2/15)**
Reimbursed Patient Care Services	0.015	0.16
Non-Reimbursed Patient Services Care	0.13	4.15
Total Patient Care Services	0.14	4.31

Individual Site Data for *Site E*:

Site E Data from Technician checked prescriptions collected (6/2/14 – 6/30/15):	
Total Rx Refills Checked	836
Wrong Drug	1
Wrong Strength	2
Safety Cap Error	10
Wrong Amount	3
Other Errors	6 (all administrative)
Total Errors	22
Overall Error Rate	2.63%
Patient Safety Error Rate	0.36%
Administrative Error Rate	2.28%

Site E data from Baseline collection (Pharmacist-checked prescriptions):	
Total Prescription Refills Checked	773
Wrong Drug	0
Wrong Strength	0
Safety Cap Error	1
Wrong Amount	0
Other Errors	0
Total Errors	1
Overall Error Rate	0.13%

Composition of Pharmacist Day

	Baseline	**TCT (6/2/14 – 6/30/15)**
Time Spent in Dispensing	65.09%	50.85%
Time Spent in Management	10.09%	7.76%
Time Spent in Patient Care	11.03%	28.67%
Time Spent in Practice Development	4.54%	6.94%
Time Spent in Other Activities	9.25%	5.77%

Number of Services Provided per Pharmacist Hour

	Baseline	**TCT (6/2/14 – 6/30/15)**
Reimbursed Patient Care Services	0.015	0.01
Non-Reimbursed Patient Services Care	1.36	2.91
Total Patient Care Services	1.38	2.92

Individual Site Data for *Site F*:

Site F Data from Technician checked prescriptions collected (6/2/14 – 12/2/15):	
Total Rx Refills Checked	850
Wrong Drug	0
Wrong Strength	0
Safety Cap Error	0
Wrong Amount	0
Other Errors	1
(broken tablet – classified as a patient safety error)	
Total Errors	1
Overall Error Rate	0.117%

Site F data from Baseline collection (Pharmacist-checked prescriptions):	
Total Prescription Refills Checked	854
Wrong Drug	0
Wrong Strength	0
Safety Cap Error	0
Wrong Amount	2
Other Errors	3
Wrong Data Entry =1 Wrong Place in Cassette=2	
Total Errors	5
Overall Error Rate	0.5854%

Composition of Pharmacist Day

	Baseline	**TCT (6/2/14 – 12/2/15)**
Time Spent in Dispensing	38.73%	30.21%
Time Spent in Management	12.79%	13.44%
Time Spent in Patient Care	19.39%	35.1%
Time Spent in Practice Development	14.43%	11.96%
Time Spent in Other Activities	14.66%	9.29%

Number of Services Provided per Pharmacist Hour

	Baseline	**TCT (6/2/14 – 12/2/15)**
Reimbursed Patient Care Services	0.15	0.19
Non-Reimbursed Patient Services Care	0.85	3.02
Total Patient Care Services	0.99	3.21

Individual Site Data for *Site G*:

Site G Data from Technician checked prescriptions collected (6/2/14 – 12/2/15):		**Site G data from Baseline collection (Pharmacist-checked prescriptions):**	
Total Rx Refills Checked	850		
Wrong Drug	0	Total Prescription Refills Checked	926
Wrong Strength	0	Wrong Drug	0
Safety Cap Error	0	Wrong Strength	0
Wrong Amount	0	Safety Cap Error	0
Other Errors	0	Wrong Amount	0
		Other Errors	0
Total Errors	0	Total Errors	0
Overall Error Rate	0.0%	Overall Error Rate	0.00%

Composition of Pharmacist Day

	Baseline	**TCT (6/2/14 – 12/2/15)**
Time Spent in Dispensing	71.39%	31.96%
Time Spent in Management	6.93%	6.25%
Time Spent in Patient Care	19.20%	55.25%
Time Spent in Practice Development	2.33%	5.57%
Time Spent in Other Activities	0.15%	0.96%

Number of Services Provided per Pharmacist Hour

	Baseline	**TCT (6/2/14 – 12/2/15)**
Reimbursed Patient Care Services	0.51	0.42
Non-Reimbursed Patient Services Care	11.24	9.72
Total Patient Care Services	11.75	10.14

APPENDIX B

Site Requirements for New Practice Model (NPM) Project

The following is a guideline of requirements asked of sites in the NPM project. If a site struggles to meet the requirements, members from the NPM task force will review the site's progress and develop a plan of action to help the site succeed. If the site continues to be unable to meet the requirements, the members from the task force will provide a recommendation to the board of pharmacy to consider withdrawing the site from the study.

Sites that consistently struggle with:

1) Submitting data on time
2) Changing workflow to incorporate Tech-Check-Tech
3) Ongoing staffing issues including low number of hours doing Tech-Check-Tech
4) Using freed up time to reduce pharmacist hours or engage in non-patient care activities