Spencer Hospital, Iowa
Advanced Technician Practice Model
Tech check Tech (TCT)

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Primary Intended Outcome(s):
1. Creating an advanced role for certified pharmacy technicians, who have appropriate additional education and training, where they can be used more extensively to free pharmacists from drug distribution activities.
2. Pharmacists’ time should be redirected to additional clinical and cognitive functions, including drug therapy management activities.

PPMI Recommendation or ASHP Strategic Plan Association:
- Supporting facility wide medication reconciliation including obtaining and documenting patients’ medication information for nursing verification and for pharmacists’ review.
- Including review of medication allergies (that require pharmacist, physician or nurse follow up) during the patient interview for medication reconciliation.
- Checking dispensing by other technicians (i.e., “tech-check-tech”).
- Compounding routine sterile preparations in conformance with well-documented procedures, education and evaluation.
- Compounding sterile oncology preparations in conformance with documented procedures, education, and evaluation.
- Supporting pharmacist clinical monitoring by assisting in gathering and maintaining specific patient data.
- Inspecting and replenishing medication storage devices.
- Contributing to aspects of quality improvement programs regarding the advanced technician functions, including Tech Check Tech and Medication Reconciliation.

ASHP Pharmacy Technician Initiative & Pharmacy Practice Model Initiative:
This case study is a resource that supports the goals of PPMI and the PTI and the critical roles pharmacy technicians have in patient care. Important characteristics of current and evolving advanced technician practice models include training through an ASHP accredited training program, PTCB certification, and licensure with a Board of Pharmacy.
Site Description:

Spencer Hospital is a licensed 99 bed acute care facility in northwest Iowa. Spencer Hospital has over 500 employees. Services include:

- Two - twenty bed Medical/Surgical floors, OB, Same Day Services, Ambulance, ED
- A sixteen bed inpatient Mental Health unit
- A six bed Intensive Care unit with an additional five step down beds
- Two Dialysis units (one on campus, and one off site)
- Radiation Oncology and Medical Oncology units on campus, both offering services 5 days/week
- Emergency Department with over 9,000 visits annually
- Surgery Center
- Two family practice clinics off site

Pharmacy department staffing consists of a Pharmacist Director, 6 staff pharmacists, and 7 certified pharmacy technicians: representing about 11.5 FTE. Two pharmacies are staffed and both have complete USP 797 suites for sterile compounding. The central pharmacy is open from 0700 to 1800 on week days and from 0700 to 1530 weekends and holidays. The oncology pharmacy is open Monday – Friday 0800 to 1700. Remote pharmacy services are used to provide pharmacy services 24 hours/day. There is a staff pharmacist on call during the remote coverage hours.

Pharmacy FTE allocation:

- pharmacist director (1 FTE)
- 6 staff pharmacists (approximately 5 FTE)
- 7 certified pharmacy technicians (approximately 6.5 FTE)

Weekday pharmacist staffing:

- Central Opening pharmacist
- Floor or Clinical pharmacist
- Oncology pharmacist
- Central Closing pharmacist

5 technicians are staffed each weekday, duties include:

- Automated Medication Dispensing System (AMDS) pulling orders, checking orders, filling machines
- Oncology sterile compounding & cleaning
- Central sterile compounding & cleaning
- Medication Reconciliation Support to nursing and pharmacy
- Ordering, inventory management, stocking filling Clinic Orders
- Filling Orders for Anesthesia, Surgery, Same Day Services, Dialysis Units
- Filling cart exchange/pass thru medications process for 2 units

Weekend and Holiday staffing is performed by one pharmacist and two technicians. Overlapped relief coverage is provided for the beginning and end of each day to allow the staff pharmacist time to perform clinical interventions.

Advanced Role Description:

Spencer Hospital advanced technicians are involved in TCT, Medication Reconciliation support and sterile oncology compounding. Spencer Hospital technicians also are gaining expanded roles in documenting clinical monitoring statistics and checking medication storage areas. This case study will focus on the TCT duties and is an extension of technician filling, and should be regarded as the same skill set but with additional responsibility.

Factors to consider when implementing TCT would include:

- A large enough staff (pharmacists and certified technicians) to provide team flexibility.
- An engaged staff, including administration, with a desire to move ahead in the new pharmacy practice models that support advanced roles for certified pharmacy technicians, including TCT implementation and Medication Reconciliation support.
Often the physical layout of the pharmacy can add to the success of a TCT program. A pharmacy with an open layout is conducive to active communication and oversight.

Facilities with Bar Code Med Administration and similar technologies have an extra layer of safety and opportunity.

A facility which offers a wide scope of services provides the opportunity for expanded clinical pharmacy services, supported by expanded technician activities.

How to Start:

The initial approach at this hospital began with discussion among pharmacists regarding their thoughts towards developing an advanced technician program with TCT. Overall technician competencies were discussed (technicians averaged 8 years experience) along with the pharmacists’ commitment to be involved in further training, educating, and supporting the technicians in the hospital. Input and ideas were shared on the potential for pharmacists to increase clinical services. Administration was encouraged by the attitude of the pharmacy staff and supported the potential TCT program. TCT was viewed as a “win/win” for the pharmacists and technicians both!

The next step included visiting with the technicians, sharing the direction national pharmacy groups (Pharmacy Technician Certification Board and American Society of Health-System Pharmacists) (2, 3, 4) were taking on technician services, including TCT, and review of the TCT rules proposed by the state. (5) The entire group of technicians actively embraced the potential of TCT to further their careers by taking on more responsibility and to be more actively involved in serving our patients as members of the hospital pharmacy team. Discussion of a potential career ladder was held– which included conversations about other increased roles such as pharmacy technician supported medication reconciliation and allergy reviews with patient admissions.

After giving an overview of both state and national direction on increased roles for pharmacy technicians, a specific plan for the hospital TCT proposal was shared with administration. The initial reaction was positive, and after further discussion the decision was made to move forward with a site specific TCT proposal to the Iowa Board of Pharmacy. An effective use of payroll dollars that would increase patient, nursing and physician satisfaction via increased pharmacy clinical services was recognized by administration if TCT was implemented.

A checklist of questions can include:

- Are pharmacists ready to share responsibility on checking with the certified technicians?
- Are your current fill rates excellent?
- Are technicians ready to step up to more responsibility?
- Do your technicians support each other and work as a team?
- Does administration understand what impact pharmaceutical care has on patient outcomes?
- Do your physicians support the value in increased clinical pharmacy services?

Regulatory and/or Legal Requirements:

Spencer Hospital was the first TCT program approved in Iowa, a state that allows technicians to check other technicians with site specific approval by the Board of Pharmacy. Pharmacies in other states will need to follow their state rules and regulations, or advocate for implementation of additional levels of technician responsibilities. The Board of Pharmacy required reports be submitted from our project. (See Supporting Documents)

Revenue & Expense Parameters (abbreviated financials):

Staffing levels or hours of operation were not changed, rather work was redistributed. An additional pay scale was implemented for the advanced certified technician job description.
Training and/or education requirements:

Technicians moving to the Advanced Certified Pharmacy Technician position from a Certified Pharmacy Technician position were required to complete extra didactic training and evaluations.

Didactic training started with four lessons and accompanying quizzes that were prepared on site and delivered via a hospital on line training system. Technicians read the lessons and took the quizzes at their own pace. The four lessons consisted of:

- Math Review
- Dosage Forms and Routes of Administration
- Prevention, Identification, and Classification of Med Errors
- TCT Program Rules Review

Technicians read three articles from “Pharmacy Technicians Letter” and took three short quizzes (created on site) via the hospital system on the content of each:

- “Look-Alike, Sound Alike Medications”
- “Medical Errors”
- “How to respond to Medical Errors”

State specific rules required education on the “prevention, identification, and classification of medication errors.” The other lessons were deemed appropriate and necessary by the hospital.

The “Filler Technician Competency Evaluation” consisted of:

- Basic hospital technician orientation
- 7 specialized and advanced lessons for TCT
- Filling evaluations @100% in 7 different areas (2 to 10 batches/area)
- Sign off and date that the technician may fill in the TCT program

The “Checker Technician Competency Evaluation” requires completion of the above, plus an equal number of batches checked @ 100% accuracy.

Outcome Measures:

To monitor quality for TCT, a “Technician QA Daily Monitoring Sheet” was developed. This form only takes a few seconds to record which technician filled and which technician checked in defined areas and if any errors occurred. This document also allows capture of dose counts on medications that are not processed through regular pharmacy software (clinics, etc.).

All the following errors are recorded:

- Wrong drug, dosage form or strength
- Wrong count or paperwork
- Wrong patient, unit or AMDS
- Outdated medications

If any filling or checking error occurs, a pharmacist must re-verify and discuss the error with the technicians involved. This discussion is documented to evaluate and prevent any future occurrence. To monitor TCT, spreadsheets are used to record the data in each bi-weekly period and to summarize over time. Marked improvement in filling rates occurred even during the monitoring period while merely gathering information for the TCT proposal. Improvement in filling rates has continued after implementation of TCT.

Checking rates have been nearly perfect, with very few misses. Only one checking error left pharmacy control (a bar code issue which was immediately resolved). Six errors in nearly two years of the program were documented as checking errors but were actually corrected at an additional checkpoint (bar code while restocking the AMDS) and did not actually leave pharmacy control.
The pharmacy maintained a standard Quality Assurance program (QA) and added specifics for TCT which include:

- records of individual fill rates to evaluate any excessive error rate
- records of individual check rates to evaluate any excessive error rate
- plans for suspension, retraining and reinstatement as needed.

TCT is evaluated on an overall department basis for total filling and checking accuracy, while individual technician data is compared to identify any need for suspension or retraining. The overall fill and check rates are calculated using total doses, it was not practical to determine how many doses each individual technician “touched.” Technicians rotate through daily job assignments equally, therefore individual error rates are compared using an “hours worked” formula to identify any technician needing retraining or suspension from TCT.

**Lessons Learned:**

What are some rewards received from implementing TCT?

- Pharmacist satisfaction – more time to work at the top of their skill level
- Technician satisfaction – expanded skills, responsibilities and pay
- Increased teamwork and respect within the department
- Smoother workflows - less interruptions for pharmacists
- Efficient workflows - less waiting by technicians for pharmacists
- Increased accuracy in filling and increased patient safety

**Future**

- How can individual pharmacies be encouraged to advance the roles of technicians?
- Can states without advanced roles for techs be encouraged?
- How can we build a career ladder for technicians?
- How can incentives be established for additional technician responsibilities?
- What other roles for advanced technicians can we develop?

Technicians can share with the pharmacists the desire to move into new and advanced roles. Being knowledgeable, demonstrating professionalism, working accurately and sharing a desire for more responsibility will help encourage the implementation of advanced roles at your pharmacy.

**Supporting Documents:**

A. Advanced Technician Job Description
B. 2nd quarter 2013 TCT Report to Iowa BOP
C. 4th quarter 2012 TCT Report to Iowa BOP
D. Didactic Training Modules
E. Checker Technician Competency Evaluation
F. Daily Technician QA Form

**References:**

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