



MINISTRY OF HEALTH
SINGAPORE

Pharmacy Technicians Entry-to-Practice Competency Standards

With Implementation Guide for Competency Assessment

Chief Pharmacist's Office

Version 2.0: September 2020

Published by Ministry of Health, Singapore

Available online via MOH Health Professional Portal:

<https://www.moh.gov.sg/hpp/all-healthcare-professionals/guidelines/GuidelineDetails/competency-standards>

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First version: December 2015

This version: September 2020

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USER GUIDE

- Click on  to go back to the main content page (*Page 3*)
- Click on  to go to domain listing of the Competency Standards (*Page 22*)
- Click on underlined text to go to the relevant section



Content

1. Towards a progressive and confident pharmacy workforce
2. Pharmacy Technicians Entry-to-Practice competency standards (2020)
3. Scope of Entry-to-Practice competency assessment framework
4. Implementation guide for Entry-to-Practice competency assessment
5. Frequently asked questions
6. Appendices
7. References
8. Acknowledgement

1. Towards a progressive and confident pharmacy workforce



Preface

The foundation of a strong and sustainable healthcare system is a competent healthcare team that is able to deliver quality services for better health outcomes. Hence, developing a confident pharmacy workforce is one of the five key strategic thrusts of the National Pharmacy Strategy.

The Ministry of Health (MOH) has been working on initiatives to support the development of pharmacy technicians from entry to advanced levels. The pharmacy technicians development journey is driven by the ministry-appointed Pharmacy Technicians Training and Development Committee (Pharm Tech TDC) which consists of practitioners and leaders from healthcare institutions and schools.

The National Competency Standards for Entry-Level Pharmacy Technicians was first introduced in 2015. Since then, the Pharm Tech TDC developed an entry-to-practice assessment framework to ensure graduates who are planning to join the healthcare sector are equipped with the minimum competency requirements at recruitment. To achieve this vision, the curriculum and assessment strategies of schools and healthcare institutions are aligned in terms of the competency standards expected of entry-level pharmacy technicians. A set of assessment tools were co-created by educators and practitioners to facilitate this shift.

This revised edition of the entry level competency standards with implementation guide represents a significant commitment of the pharmacy community to progress. I would like to thank members of the Pharm Tech TDC, Pharmacy Managers and educators for their continuous zeal in making it possible for advancement of the pharmacy workforce.

Dr Camilla Wong

Chief Pharmacist, Ministry of Health

1 September 2020

2. Pharmacy Technicians Entry-to-Practice competency standards



Introduction

The National Competency Standards for Pharmacy Technicians (Entry Level) 2020 is a revision of the 2015 document which describes the entry-level competency requirements for pharmacy technicians across practice settings. The competency standards aim at producing and maintaining a pharmacy technician workforce that is able to manage day-to-day operations of pharmacy in a manner that will ensure optimal patient care and public safety, under the supervision of registered pharmacists.

The competency standards were developed with the following key objectives:

- To provide guidance to local polytechnics/Pharmaceutical Society of Singapore (PSS) on the development of educational outcomes and curriculum design for the Diploma in Pharmaceutical Science/ Certified Pharmacy Technicians Course (CPTC) to develop the work-readiness of graduates;
- To provide guidance to SkillsFuture Singapore (SSG) and its approved training organisations on the development of educational outcomes
- To serve as benchmark standards to public healthcare institutions for developing in-house on-the-job training programmes and competency assessment for existing and newly-recruited pharmacy technicians at entry level.

2. Pharmacy Technicians Entry-to-Practice competency standards



7 competency domains were identified for entry-level pharmacy technicians

Domain 1: Support optimal use of drugs

Domain 2: Dispense medications

Domain 3: Compound pharmaceutical products

Domain 4: Drug distribution and supply

Domain 5: Workplace safety and health

Domain 6: Professionalism, ethics and team work

Domain 7: Communication and education

The first five domains of the competency standards focus on technical and patient care competencies

The last two domains articulate the expected behavioural and professional competencies

See [Appendix 6.1](#) for complete listing of ETP competency standards for pharmacy technicians

2. Pharmacy Technicians Entry-to-Practice competency standards



Roles of Entry-Level Pharmacy Technicians and Application of Competency Standards

An entry-level pharmacy technician focuses on the processing and supplying of medications; the gathering of patient information for the pharmacists to review; product preparation; product distribution and inventory control.

The pharmacist manages the overall pharmacy environment and as a drug therapy expert, provides leadership in drug therapy decision-making and focuses on the clinical aspect of direct patient care. Legally, pharmacists are responsible and accountable to the public and contribute to the overall functioning of the pharmacy to ensure a safe and healthy environment.

Despite having the competencies necessary to perform a task, the entry-level pharmacy technicians will only do so under the supervision of a pharmacist, in accordance to pharmacy laws and regulations, and under institution's guidelines.

When applying the competency standards, the following needs to be noted:

- The competency standards in this document do not authorise the entry-level pharmacy technicians to immediately assume expanded roles beyond their capability;
- The competency standards do not authorise pharmacists to immediately delegate responsibility for work activities to pharmacy technicians beyond their competency level.

2. Pharmacy Technicians Entry-to-Practice competency standards



The developmental journey (2014 – 2020)

led by Pharmacy Technicians Training and Development Committee (Pharm Tech TDC)

Development of Competency Standard for Entry-Level Pharmacy Technicians (2014 - 2015)

- ETP competency standards was developed since 2014 and launched in 2015
- Pharm Tech TDC was formed in 2015 to support the implementation of the ETP Competency Standards

Development of ETP Competency Assessment Framework (2016 – 2018)

- ETP competency assessment framework and assessment blueprint were developed by Pharm Tech TDC with inputs from schools and healthcare institutions
- ETP assessment tools were developed by Pharm Tech TDC

Transitional Implementation Phase of ETP Assessment Framework (2018 – 2020)

- Baseline data on ETP competency level was gathered via the Pharmacy Technicians Survey 2018
- Preceptors at healthcare institutions started trial ETP assessments for students on internships
- ETP assessment tools were refined with inputs from schools and healthcare institutions

3. Scope of Entry-to-Practice competency assessment framework



Objectives

For implementation, the ETP Competency Assessment Framework was developed by the Pharmacy Technicians Training and Development Committee to assess the competencies and ensure minimum practice standards of entry-level pharmacy technicians.

This framework seeks to promote better alignment of school curriculum and assessment strategies with the competency standards of entry-level pharmacy technicians.

For students, this framework aims to help them to be more job-ready for practice as pharmacy technicians upon graduation.

The ETP Competency Assessment Framework will be fully implemented for students of AY2019 cohort onwards. A Letter of Competency Attainment (LCA) will be issued by schools upon completion of structured internships at healthcare institutions.*

* Refer to local polytechnics/ Pharmaceutical Society of Singapore (PSS) for the Diploma in Pharmaceutical Science Programme/ Certified Pharmacy Technician Course (CPTC)



Pharmacy Technicians Development Workshops (2018)

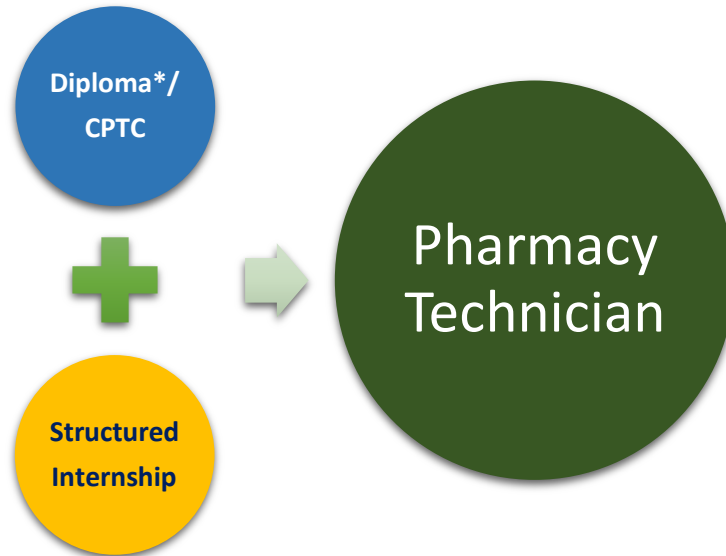
3. Scope of Entry-to-Practice competency assessment framework



Overview

Polytechnics/PSS to assess knowledge and skills components for:

- ✓ All competency domains
- ✓ Elements under the 6 Key Tasks under Domains 1 & 2 can be assessed through mock pharmacy, if not covered during structured internship



Healthcare institutions to strengthen assessment of skills components for:

- ✓ 6 Key Tasks under Domains 1 & 2
- ✓ Multisource feedback (MSF) for Domains 5 to 7

7 COMPETENCY DOMAINS

1. Support optimal use of drugs

2. Dispense medications

3. Compound pharmaceutical products

4. Drug distribution and supply

5. Workplace safety and health

6. Professionalism, ethics and team work

7. Communication and education

* Refer to Diploma in Pharmaceutical Science Programme offered by local polytechnics

3. Scope of Entry-to-Practice competency assessment framework



6 Key Tasks for assessment at Healthcare Institutions

No.	Key Task	Domain 1	Domain 2
1	Process prescriptions/ medication orders	x	x
2	Supply medication under pharmacist's supervision		x
3	Provide patient counselling and education under pharmacist's supervision	x	x
4	Comply to medication safety	x	
5	Perform physical medication reconciliation		x
6	Assist pharmacist in the sale of GSL/pharmacy-only medications	x	x

COMPETENCY DOMAINS

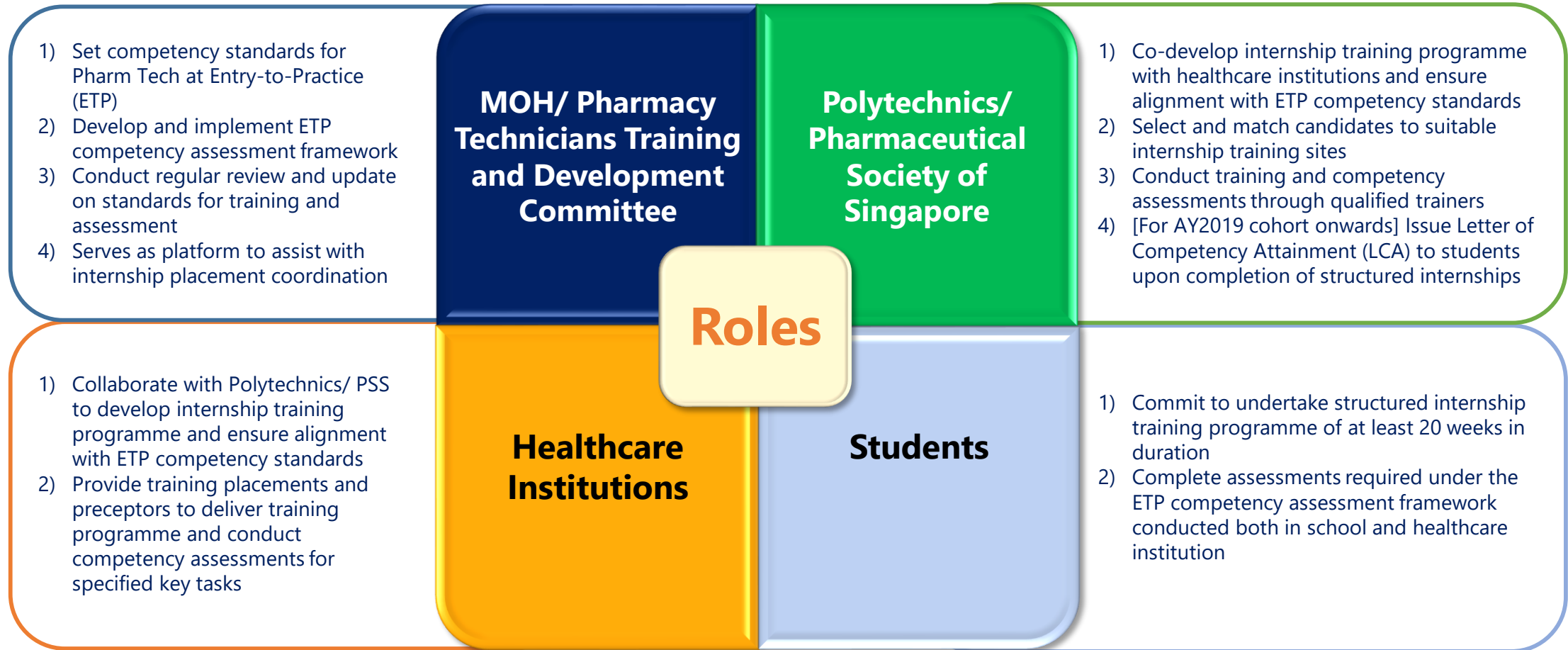
1. Support optimal use of drugs

2. Dispense medications

3. Scope of Entry-to-Practice competency assessment framework



The roles of key stakeholders



Note: A Letter of Competency Attainment (LCA) will be issued upon completion of structured internship to students of AY2019 cohort onwards.



4. Implementation Guide for ETP competency assessment

Since 2016, members of Pharmacy Technicians Training and Development Committee has developed several tools to support the implementation of the Entry-to-Practice (ETP) competency assessment framework.

Pharmacy Technicians Development Workshops were conducted annually since 2018 to gather feedback from preceptors to fine-tune the ETP assessment tools.

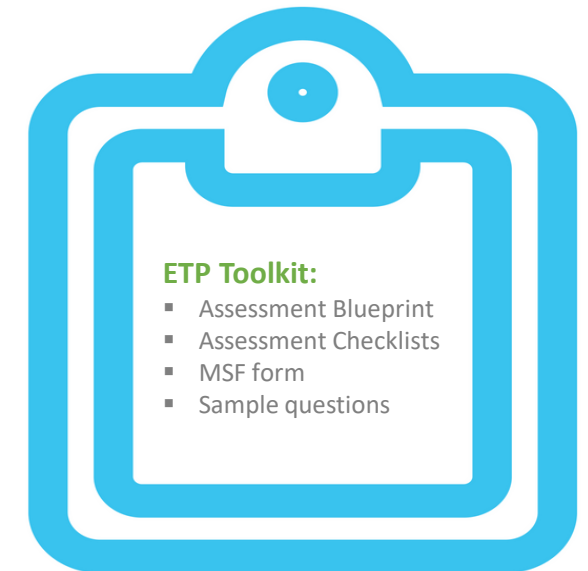
The Pharmacy Technician ETP Competency Assessment Framework will be fully implemented for students of AY2019 cohort. Students will receive the Letter of Competency Attainment (LCA) from schools upon completion of structured internships by May 2022.



Purpose of this guide

This guide is developed to help healthcare training providers to effectively implement the Pharmacy Technician ETP Competency Assessments through:

- Diploma in Pharmaceutical Science programme at Polytechnics or Certified Pharmacy Technician Course (CPTC) by the Pharmaceutical Society of Singapore (PSS)
- Structured internships at healthcare institutions





4. Implementation Guide for ETP competency assessment

Assessment Blueprint

The Pharmacy Technician Entry-to-Practice (ETP) Assessment Blueprint lists the **passing criteria** and **assessment methods** for performance criteria in the Pharmacy Technician ETP Competency Standards.

The ETP performance criteria could be assessed in schools or at healthcare institutions during internships or upon on-boarding.

The selected performance criteria that could be strengthened through internships at healthcare institutions are listed in the [Assessment Checklists](#).

The approved assessment methods are as follows: **Direct Observation (DO), Verbal Response (VR), Written Assessment (WA) OR Multisource Feedback (MSF)**. Assessors could choose to assess candidates through **one OR more** of the approved modes of assessment with necessary customization based on trainee’s learning style.



An extract from the Pharmacy Technician Entry-to-Practice Assessment Blueprint:

Standard 1.1 – Understand and apply basic pharmacotherapy knowledge					
Element 1 – Demonstrate knowledge of the general principles of drug actions					
Performance Criteria	Passing Criteria	Assessment Method			
		DO	VR	WA	MSF
1.1 Understand the general principles in clinical pharmacology and therapeutic use(s) of prescribed medicines	i. Able to understand basic clinical pharmacology of the clinical condition and potential reason for a drug therapy to be selected for a clinical condition		√	√	



4. Implementation Guide for ETP competency assessment

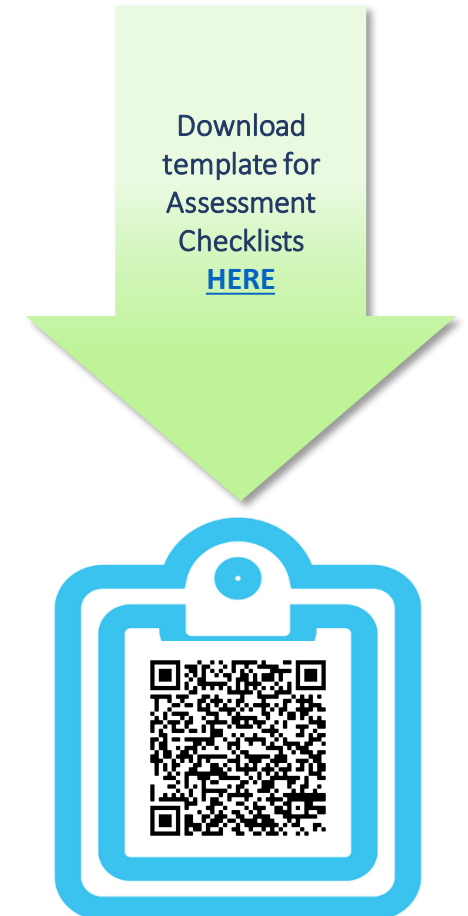
Assessment Checklists

A set of **6 assessment checklists** was developed for assessor to record a candidate's progress during internships at healthcare institutions.

The observation criteria listed in the checklists allow an assessor to check if a candidate is able to meet the passing criteria described in the Pharmacy Technician Entry-to-Practice Assessment Blueprint.

The checklists covered competency assessments for **6 Key Tasks** as follows:

1. Process prescriptions/ medication orders
2. Supply medication under pharmacist's supervision
3. Provide patient counselling and education under pharmacist's supervision
4. Comply to medication safety
5. Perform physical medication reconciliation
6. Assist pharmacist in the sale of GSL/pharmacy-only medications





4. Implementation Guide for ETP competency assessment

Multisource Feedback

The Multisource Feedback (MSF) supports assessment of the expected behavioral and professional competencies across Domains 5 to 7.

Preceptors are to oversee the returns of the MSF forms for candidates under their care. A pharmacy staff who works with a candidate more than 3 days per week or at least 50% of the time for a rotation could be selected as one of the assessors for the MSF. Each candidate would receive 5 MSF at the end of the structured internship period.



Questions for MSF	
1	The pharmacy intern is compliant with medication safety practices.
2	The pharmacy intern can prioritise work based on urgency of need.
3	The pharmacy intern communicates effectively with patients / caregivers and colleagues.
4	The pharmacy intern is someone with integrity and always exhibits professional and ethical behaviour.
5	The pharmacy intern is someone whom I would like to have as a permanent member of my team.



4. Implementation Guide for ETP competency assessment

TIPs for assessors

1. At the start of the internship, share the intent of the assessment, checklists and observation criteria with students and incorporate the assessments into internship schedule/plan
2. Allocate sufficient training hours for interns before conducting the assessments
3. Consider a mid-term review for students to know where they stand in terms of their performance
4. The descriptor of the observation criteria in the assessment checklists could be modified to suit institutional operating procedures
5. The same observations can be used for assessment of more than one relevant key task. For example, there are some overlapping of observation criteria for key tasks 1 and 2 such that students have more opportunities to be assessed. It is not necessary to repeat the assessment.
6. Mock cases should be used only if there are limited opportunities for direct observations

DID YOU
KNOW?





5. Frequently asked questions

1	What is the purpose of the Pharmacy Technician Entry-to-Practice (ETP) competency assessment framework?	The Pharmacy Technician ETP competency assessment framework was developed to ensure minimum practice standards of entry-level pharmacy technicians through better alignment of school curriculum and assessment strategies with the competency standards of entry-level pharmacy technicians. For students, this framework aims to help them to be more job-ready for practice as pharmacy technicians upon graduation.
2	Would the results of ETP assessment have an impact on a student's attainment of diploma?	The results of the ETP assessment would not affect students' attainment of diploma from polytechnics.
3	Is there a minimum passing score for the ETP assessment?	There is no minimum passing score for the ETP assessment. A Letter of Competency Attainment (LCA) will be issued by schools for students of AY2019 cohort onwards. The LCA will indicate candidates' achievements based on ETP Key Tasks and training needs upon onboarding at healthcare institutions.
4	Is the completion of ETP assessment mandatory for employment as a pharmacy technician?	The completion of the ETP assessment is not mandatory for employment as a pharmacy technician. Candidates can join the pharmacy workforce as pharmacy technicians, if there are sufficient evidence to demonstrate the attainment of ETP competencies, subject to assessment by prospective employer.
5	How do I start to implement the Pharmacy Technician ETP assessment framework at healthcare institution?	The ETP assessment at healthcare institution can be incorporated as part of the internship training programme for students. Preceptors could access the ETP assessment tools as follows: <ul style="list-style-type: none">• Assessment blueprint, assessment checklists, multisource feedback form (see Section 4)• Sample questions on drug-related problems (see Appendix 6.2)



5. Frequently asked questions

6	How should we align communication among assessors within healthcare training institution and the schools?	<p>The following suggestions/tools could help to facilitate alignment of communication among assessors:</p> <ul style="list-style-type: none">• Regular meetings between preceptors and students and/or school lecturer• Consider a mid-term review for students to know where they stand in terms of their performance• ETP assessment checklists• Internship log book
7	Is there a minimum number of weeks of internship before a candidate can be assessed?	<p>There is no minimum duration of internship experience required. It is recommended that assessors allocate sufficient training hours for candidates before conducting the assessments.</p>
8	What is the recommended trainee to trainer ratio?	<p>There are no restrictions on trainee to trainer ratio. It is advised that a trainer can take up to a maximum of 3 trainees at the same time.</p>
9	What is the implication of marking 'Not Yet Competent (NYC)' to the candidate?	<p>Candidate with 'NYC' would be able to close the competency gap through further assessment while in school or upon onboarding at healthcare institution.</p>
10	What if the preceptors are unable to assess certain key tasks during the internship period?	<p>Key tasks that are not assessed would be marked as 'NYC'. It is advisable for preceptors at healthcare institutions to discuss with schools on potential gaps prior to structured internships such that candidates can be assessed in schools. Mock cases could be used for assessment in place of direct observation, if there are limited opportunities for direct observations. Alternatively, healthcare institutions could collaborate with one another to conduct training and assessment.</p>



6. Appendices

- 6.1 Entry-to-Practice Competency Standards for Pharmacy Technicians (2020)
- 6.2 Sample questions on drug-related problems
- 6.3 Implementation timeline



6.1 ETP Competency Standards for Pharmacy Technicians

The Structure of the Standards

- The competency standards are housed under different domains of practice scope and behavioural competencies. The order in which the domains are presented is not indicative of the relative importance or relevance of the standards included in the domain.
- Each competency unit is further broken down into competency elements which describe the range of activities, tasks or behaviours within a standard.
- Performance criteria are assigned to the elements to illustrate the performance expected in the workplace. They express what a competent pharmacy technician will do in terms of observable behaviours or results. The list of performance criteria is indicative rather than exhaustive.
- The evidence examples describe the evidence from which competency performance will be inferred. They help assessors with the interpretation and assessment of performance and should be customised for specific roles, services and practice setting of individual technicians.

Domain Titles	Describe the area of professional responsibility
Role Statements	Describe the purpose or goal of the pharmacy technicians
Competency Standards	Describe the major functions for effective performance of technicians in fulfilling their roles
Competency Elements	Describe the identifiable components of each dimension of competency in terms of the performance outcomes
Performance Criteria	Describe an inter-related set of factors that define the level of performance in key areas as observable behaviours or results
Evidence Examples	Assist in understanding and applying performance criteria to actual practice settings Assist in interpretation and assessment of performance criteria



6.1 ETP Competency Standards for Pharmacy Technicians

Click on the tabs below to access the relevant competency domain

[Domain 1: Support optimal use of drugs](#)

[Domain 2: Dispense medications](#)

[Domain 3: Compound pharmaceutical products](#)

[Domain 4: Drug distribution and supply](#)

[Domain 5: Workplace safety and health](#)

[Domain 6: Professionalism, ethics and team work](#)

[Domain 7: Communication and education](#)



Appendix 6.1 ETP Competency Standards for Pharmacy Technicians

Domain 1 - Support Optimal Use of Drugs

Pharmacy technicians demonstrate understanding of basic pharmacotherapy, perform simple interventions and comply with medication safety practices.

Standard 1.1 Understand and apply basic pharmacotherapy knowledge

Standard 1.2 Understand and comply with medication safety practices

Standard 1.1 - Understand and apply basic pharmacotherapy knowledge

Element 1 - Demonstrate knowledge of the general principles of drug actions

Performance Criteria	Evidence Examples
1. Understand the general principles in clinical pharmacology and therapeutic use(s) of prescribed medicines	<ul style="list-style-type: none"> Describe the therapeutic use of drugs for common diseases and conditions (refer to Table 1) Describe the different dosage forms and route of administration of drugs
2. Understand the use of drugs in special population including pregnant women, children and elderly	<ul style="list-style-type: none"> Check appropriate references to identify drugs to avoid for special populations
3. Explain and counsel patients on the indication of the drugs, drug actions, appropriate storage conditions, signs and symptoms of common and serious side effects and when to seek medical attention	<ul style="list-style-type: none"> Counsel patients on medication indications, precautions, appropriate storage conditions (if required), signs and symptoms of common side effects without causing unnecessary alarm or concern Explain to patient the potential serious side effects that may require immediate medical attention (e.g. agranulocytosis, hepatitis, rhabdomyolysis)
4. Identify common/significant drug-related problems in prescriptions and respond in accordance with organisational guidelines	<ul style="list-style-type: none"> Detect common drug-related problems such as drug interactions (using appropriate drug information resources if necessary) and perform necessary interventions Communicate effectively with other healthcare professionals on possible drug-related problems, under the supervision of a pharmacist



Table 1 - List of common diseases and conditions

Therapeutic Area	Common Diseases and Conditions
Cardiovascular Disease	Hypertension, hyperlipidemia, heart failure, ischaemic heart disease
Dermatology	Eczema/dermatitis, acne, hair loss, sun care
Endocrinology	Diabetes, thyroid diseases
Eye & Ear	Glaucoma, eye and ear infections
Gastroenterology	Diarrhoea & constipation, gastric diseases
Infectious Diseases	Urinary tract infection, upper respiratory tract infection, skin infections, scabies, head lice, threadworm infection
Musculo-skeletal	Osteoarthritis, gout, osteoporosis
Neurology	Stroke, parkinsonism, epilepsy, pain management
Nutrition	Vitamin deficiencies and supplementation
Psychiatry	Depression, anxiety, insomnia
Respiratory	Asthma, chronic obstructive pulmonary disease, cough and cold, rhinitis

Element 1 - Demonstrate knowledge of the general principles of drug actions	
Performance Criteria	Evidence Examples
5. Know common medications by generic and proprietary brand names	<ul style="list-style-type: none"> Identify generic equivalent of a brand name drug and vice versa Check appropriate reference (e.g. MIMS) when in doubt
6. Use available sources of information or escalate to the appropriate authorities when in doubt	<ul style="list-style-type: none"> Refer to appropriate reference sources for drug information Seek clarification with pharmacist/ supervisor when in doubt



Element 2 - Providing information related to medications and general health products	
Performance Criteria	Evidence Examples
1. Demonstrate understanding and able to answer simple enquiries from patients regarding basic drug indications, drug dosages, common side effects and drug interactions	<ul style="list-style-type: none"> • Able to accurately tell what the drug is for, dosage range, common side effects and drug interactions and refer to pharmacist when in doubt
2. Provide appropriate advice on simple enquiries from patients	<ul style="list-style-type: none"> • Communicate effectively with patients on medication enquiries by clarifying and confirming their understanding on the use of medications for their disease or condition • Counsel patient on the use of general sales list medications and health products, including correct and safe use, side effects, storage, precautions and contraindications • Counsel patient on non-pharmacological methods (including lifestyle changes) which may help reduce illness or alleviate symptoms • Explain the use and purpose of diagnostic aids (e.g. blood glucose meter, blood pressure meter, pregnancy test kits)
3. Check understanding of patient/caregiver on instructions/ information provided	<ul style="list-style-type: none"> • Check that information provided has been understood (e.g. ask patient/caregiver to demonstrate/repeat back instructions, use questions to confirm understanding, interpret cues that information has not been understood)
4. Use available sources of information or seek clarification from supervisor/ pharmacist when in doubt	<ul style="list-style-type: none"> • Refer to appropriate reference sources for information related to the enquiries • Seek clarification and escalate enquiries to pharmacist when in doubt



Standard 1.2 - Comply with medication safety practices

Element 1 - Demonstrate understanding of medication safety

Performance Criteria	Evidence Examples
1. Demonstrate understanding of medication safety practices	<ul style="list-style-type: none"> Identify drugs which require special handling (e.g. cytotoxics) Identify high-alert drugs and high-risk processes (e.g. look-alike, sound-alike drugs, high alert drugs, multiple strengths)
2. Comply with medication safety practices	<ul style="list-style-type: none"> Demonstrate safe handling of all drugs (e.g. cytotoxic drugs) Incorporate medication safety practices into daily work (e.g. segregation of look-alike, sound-alike drugs)

Element 2 - Maintain a working environment that promotes medication safety

Performance Criteria	Evidence Examples
1. Maintain a working environment that promotes safety	<ul style="list-style-type: none"> Maintain a safe working environment and apply organisation medication safety practices during work activities Minimise and manage distractions in the work environment Seek clarification with supervisor when unsure of best medication safety practices for work activities
2. Report and handle near-miss incident or medication error	<ul style="list-style-type: none"> Define and differentiate between medication error and near-miss incident Identify and report occurrence of medication error or near-miss incident in accordance with organisational guidelines



Appendix 6.1 ETP Competency Standards for Pharmacy Technicians

Domain 2 - Dispense Medications

Pharmacy Technicians assist pharmacists in the processing of prescriptions, dispensing of medications and ensuring the accuracy, quality, integrity and safety of the medications dispensed.

Standard 2.1	Assess prescriptions
Standard 2.2	<u>Prepare prescribed medications</u>
Standard 2.3	<u>Supply medications</u>
Standard 2.4	<u>Assist in medication reconciliation</u>

Standard 2.1 - Assess prescriptions

Element 1 – Validate prescriptions

Performance Criteria	Evidence Examples
1. Check the authenticity of prescriptions and identity of prescribers	<ul style="list-style-type: none"> Perform proper check on validity of prescription in accordance to legal requirements Recognise signs of prescription fraud Recognise/identify/describe drugs/drug products that are known to be subject to abuse or misuse
2. Confirm and verify that the prescriptions comply with all legal requirements and pharmacy practice guidelines	<ul style="list-style-type: none"> Able to explain the key legal requirements of a valid prescriptions as specified by the Health Products Act Perform verification/confirmation for prescriptions received verbally (e.g. via telephone) or electronically in accordance with organisational guidelines Ensure prescription/medication order complies with institutional prescribing guidelines (e.g. use of antibiotics, formulary restrictions)
3. Act to ensure fraudulent or illegal prescriptions are not dispensed	<ul style="list-style-type: none"> Describe and/or perform actions to be taken in the event that fraud is suspected (e.g. tampered, forged prescriptions), under the supervision of a pharmacist Identify courses of action available if an illegal prescription is presented (e.g. expired prescriptions, foreign prescriptions)



Element 2 – Check medication orders and perform simple interventions	
Performance Criteria	Evidence Examples
1. Read prescriptions to ensure they are accurate, complete and clearly communicate the prescriber’s intended treatment	<ul style="list-style-type: none"> Perform proper checks on prescriptions and identify deficiencies in information provided on the prescription
2. Identify required drugs and ingredients by the International Non-proprietary Name (INN), generic or common name or brand name	<ul style="list-style-type: none"> Identify drugs by a variety of names (trade, generic/common name, INN), or to readily access this information from reference sources
3. Compare individual patient medication history and current medication information	<ul style="list-style-type: none"> Able to identify changes to medication order, and/or to clarify discrepancies based on individual patient medication history and current medication information
4. Obtain enough information required to dispense medicines from the patient or caregiver	<ul style="list-style-type: none"> Identify additional information (e.g. age, weight of patient) to be obtained from patient/caregiver or prescriber Perform calculation of dose based on patient’s weight (e.g. dose calculation for paediatric cases)
5. Identify common drug-related problems in prescription/medication orders	<ul style="list-style-type: none"> Check medication orders for optimal dosage form, dose, frequency, route and/or duration of therapy in accordance with organisational guidelines Able to identify the common drug-related problems specific to practice setting, such as: <ol style="list-style-type: none"> Drug allergy Drug interaction Therapeutic duplication Incomplete prescription Wrong patient Contraindication
6. Contact prescriber for intervention in accordance with organisational guidelines	<ul style="list-style-type: none"> Contact prescriber to perform intervention Introduce oneself and explain clearly the purpose of call to prescriber



Element 2 – Check medication orders and perform simple interventions	
Performance Criteria	Evidence Examples
1. Recommend optimal medicine, dosage form, dose, frequency, route and/or duration of therapy for patient and provide justification if needed	<ul style="list-style-type: none"> Use effective communication skills when recommending and justifying for optimal drug therapy based on efficacy, safety and cost considerations, under pharmacist’s supervision
2. Confirm outcome of intervention with prescriber	<ul style="list-style-type: none"> Read-back verbally or communicate with prescriber (through electronic means) to confirm the follow up actions needed for the intervention
3. Record intervention	<ul style="list-style-type: none"> Document drug intervention and outcomes in accordance with professional standards and organisational procedures
4. Refer to supervisor/pharmacist when in doubt	<ul style="list-style-type: none"> Recognise when patients would benefit from consultation with pharmacist, doctor or other healthcare professional Recognise limitations of own ability and/or knowledge and to seek advice from appropriate persons or refer to appropriate information sources when necessary
Element 3 – Confirm availability of medicines	
Performance Criteria	Evidence Examples
1. Aware of the institution’s drug formulary and availability of prescribed medicines, and special arrangement needed to supply certain prescribed medicine not readily available	<ul style="list-style-type: none"> Describe and identify the legal or other requirements applicable for supply of medicines (e.g. controlled drugs, pharmacy-only, emergency supply, formulary)
2. Liaise with prescribers to identify suitable alternative products where supply difficulties are apparent	<ul style="list-style-type: none"> Use appropriate references to clarify required product and its availability Discuss and confirm suitable alternative products with the prescribers
3. Accept responsibility for advising patients/caregiver on any issue likely to cause a delay to medicines being dispensed	<ul style="list-style-type: none"> Maintain professional rapport with the patient/caregiver and prescriber when making enquiries relevant to assessment of the prescription Determine where and when the medicine can be obtained if not available



Standard 2.2 - Prepare prescribed medicines	
Element 1 – Process prescriptions	
Performance Criteria	Evidence Examples
1. Prioritise the order in which prescriptions are processed	<ul style="list-style-type: none"> Decide a priority order for prescriptions, taking account of factors such as the urgency of clinical need, preparation time required and patient safety under the supervision of a pharmacist
2. Ensure that the prescription data are entered accurately into patient’s medication record	<ul style="list-style-type: none"> Operate computerized dispensing and software packages used to record dispensed medicines and patient medication profiles
3. Perform pharmaceutical calculations	<ul style="list-style-type: none"> Apply pharmaceutical knowledge and perform pharmaceutical calculations to ensure accuracy in prescription processing
Element 2 – Pack medications	
Performance Criteria	Evidence Examples
1. Ensure that the medications are packed accurately and appropriately according to the prescriptions	<ul style="list-style-type: none"> Pick the right product, dosage form and quantity accurately as specified by the prescriptions Determine the integrity and stability of products by checking expiry dates, colour, product condition, etc. Select an appropriate container (e.g. amber bottle for light-sensitive drug) for product repackaging based on quantity, stability, safety, legal requirements, and patient’s requirements
Element 3 – Label medications	
Performance Criteria	Evidence Examples
1. Apply legible, comprehensible and complete labels to packed medicines	<ul style="list-style-type: none"> Describe the requirements for a medication label (e.g. essential information and legal requirements) Select a site for the label that does not cover important information provided by the manufacturer such as expiry date, batch number, storage requirements or dosing information Affix correct label onto the medication



Standard 2.3 - Supply medications

Element 1 – Supply medications under pharmacist’s supervision

Performance Criteria	Evidence Examples
1. Check that the medications and the labels are prepared in accordance to the prescriptions	<ul style="list-style-type: none"> Use prescription as the primary source for checking that both the label and supplied medicine exactly correlate to the prescribed medicine(s) Identify discrepancies in packed medicines and/or labels, and carry out the necessary action to minimise dispensing errors in accordance to organisational procedures
2. Ensure medicines are supplied to the correct patient	<ul style="list-style-type: none"> Use of verbal or visual check of two patient identifiers (e.g. name, NRIC or address) with those on the prescription at the time prescription medicines are supplied
3. Check drug allergy status of patients, and identify common drug interactions and contraindications	<ul style="list-style-type: none"> Check and document patient’s drug allergy, identify common drug interactions and contraindications, and perform intervention to prevent supply of inappropriate medications to the patient
4. Take prompt action to minimise the impact of dispensing errors on patients	<ul style="list-style-type: none"> Identify potential risks of medication errors (e.g. look-alike, sound-alike drugs) and take steps to prevent or minimize such errors
5. Communicate with patient to obtain relevant or additional information related to medication compliance and adverse drug reactions	<ul style="list-style-type: none"> Establish rapport with patient and/or caregiver in order to obtain accurate and relevant information on dosing regimen, administration techniques, storage conditions and adverse effects, etc.
6. Know when to refer to pharmacists when problem arises during dispensing process	<ul style="list-style-type: none"> Recognise when patients would benefit from consultation with pharmacist, doctor or other healthcare professional Recognise limitations of own ability and/or knowledge and to seek advice from appropriate persons or refer to appropriate information sources when necessary



Element 2 – Provide basic counselling to patient when supplying medications	
Performance Criteria	Evidence Examples
1. Explain to patient/caregiver the name, strength, dosage form, indication, dose of medicines and any common side effects and precautions to be observed when using the medicines	<ul style="list-style-type: none"> Describe the therapeutic indications, pharmacological actions, side effects and precautions for dispensed medicines, or be able to readily access the information Use appropriate interpersonal and communication skills to provide information on medicines
2. Explain to patient/caregiver how to administer the medications correctly	<ul style="list-style-type: none"> Use written patient information resources (e.g. patient information leaflet) appropriately, as a tool to identify relevant information and tailor information for specific patients or circumstances Demonstrate administration technique for commonly used medicines, including inhalers, eye ointments, and eye/ear/nose drops
3. Inform patient/caregiver of the storage conditions and special handling of medications	<ul style="list-style-type: none"> Describe the storage conditions and special handling of medications and use relevant patient information resources appropriately
4. Check understanding of patient/caregiver on instructions or information provided	<ul style="list-style-type: none"> Check that medicines information provided has been understood (e.g. use questions to confirm understanding, interpret cues that information has not been understood)



Standard 2.4 - Assist in medication reconciliation

Element 1 - Obtain individual patient demographic and medication use record

Performance Criteria	Evidence Examples
1. Assist the pharmacist in obtaining patient's demographic and medication use record in accordance to organisational procedures	<ul style="list-style-type: none">• Collect and document patient's demographic data, social history, drug allergy and medication use record information• Access patient past and current medication records (electronic or hard copy)
2. Perform physical count of medications and match against medication records	<ul style="list-style-type: none">• Count the physical quantities of medications and document the information• Match against the order and bring to attention of pharmacist if there are discrepancies
3. Perform up-to-date documentation of patient's medication information in patient records	<ul style="list-style-type: none">• Comply with professional standards and guidelines in relation to documentation of medication records



Appendix 6.1 ETP Competency Standards for Pharmacy Technicians

Domain 3 - Compound Pharmaceutical Products

Pharmacy Technicians support pharmacists in the small scale compounding of non-sterile extemporaneous pharmaceutical products.

Standard 3.1 Assist in Compounding of Non-Sterile Extemporaneous Pharmaceutical Products

Standard 3.1 - Assist in compounding of non-sterile extemporaneous pharmaceutical products

Element 1 - Understand the controls and work environment required for preparing particular types of pharmaceutical products

Performance Criteria	Evidence Examples
1. Distinguish between sterile and non-sterile extemporaneous products and the corresponding work environment	<ul style="list-style-type: none"> Differentiate between sterile and non-sterile extemporaneous products Know the corresponding work environment required for each preparation, such as open bench top for non-sterile products and cleanroom/laminar flow cabinets/isolators etc. for sterile products
2. Describe principles behind Good Manufacturing Practice, including quality control and quality assurance practices	<ul style="list-style-type: none"> Define what Good Manufacturing Practice is Highlight extemporaneous products that are not prepared in accordance to GMP guidelines or organisational requirements

Element 2 – Prepare for small-scale compounding of non-sterile extemporaneous products

Performance Criteria	Evidence Examples
1. Select formulation corresponding to the non-sterile extemporaneous product to be compounded	<ul style="list-style-type: none"> Access and use most updated formulations/worksheets in workplace
2. Understand the formulation instructions, including preparation methods	<ul style="list-style-type: none"> Interpret common terminology and abbreviations (e.g. dosage forms) Interpret the preparation steps
3. Differentiate active ingredients from excipients	<ul style="list-style-type: none"> Identify the active ingredient(s) based on the formulation/worksheet
4. Prepare work area for compounding activity	<ul style="list-style-type: none"> Clean work area before compounding activities Organise work area such that compounding can proceed in an orderly and unimpeded manner



Element 2 – Prepare for small-scale compounding of non-sterile extemporaneous products	
Performance Criteria	Evidence Examples
5. Calculate the weight/volume/quantity, dilutions and percentages required for each of the raw ingredients in the product	<ul style="list-style-type: none"> Perform calculations for raw ingredients required
6. Prepare raw ingredients for compounding according to formulations/worksheet specifications	<ul style="list-style-type: none"> Gather adequate and correct strength and form of raw ingredients for compounding Check each ingredient to ensure that it is fit for use (e.g. pharmaceutical grade, expiry date, signs of deterioration such as discoloration)
7. Prepare tools and equipment required for compounding	<ul style="list-style-type: none"> Gather appropriate tools and equipment for compounding Check that tools and equipment are maintained, calibrated and in good working conditions Clean tools and equipment for compounding activity
8. Document accurately and completely on the worksheet	<ul style="list-style-type: none"> Capture relevant information on the worksheet
9. Prepare label consistent with labelling requirements and details on the worksheet, including handling and storage instructions	<ul style="list-style-type: none"> Prepare label based on standard requirements for labelling of the non-sterile extemporaneous products
Element 3 – Perform small scale compounding of non-sterile extemporaneous products	
Performance Criteria	Evidence Examples
1. Employ techniques to minimize contamination of non-sterile extemporaneous products	<ul style="list-style-type: none"> Observe personal hygiene and comply with attire requirement Perform hand hygiene
2. Measure quantities of raw ingredients required according to worksheets	<ul style="list-style-type: none"> Measure or weigh required raw ingredients accurately



Element 3 – Perform small scale compounding of non-sterile extemporaneous products	
Performance Criteria	Evidence Examples
3. Adopt a systemic process for combining ingredients that is consistent with sound pharmaceutical compounding practices	<ul style="list-style-type: none"> • Plan and work in a systematic manner to prevent confusion and potential error or mix-ups • Use appropriate compounding techniques (e.g. grinding, mixing, blending) and in appropriate sequence • Use appropriate tools and equipment for compounding
4. Obtain appropriate authorisations/ checks at designated points	<ul style="list-style-type: none"> • Obtain appropriate checks as indicated on the worksheet
5. Compound under supervision, in compliance with worksheet specifications	<ul style="list-style-type: none"> • Report concerns to the supervisor on consumables that are defective
6. Perform visual inspection on finished non-sterile extemporaneous product for particulate contamination and homogeneity	<ul style="list-style-type: none"> • Check finished products for particulate contamination, uniform mixing and any signs of instability (e.g. cracking or discoloration) • Report concerns to the supervisor on compromises to the integrity of products and consumables
7. Report to supervisor when there are doubts/concerns or unforeseen incidents/deviations/exceptions in work activities immediately	<ul style="list-style-type: none"> • Report concerns to the supervisor on any deviation from standard procedures



Element 4 – Perform proper packaging, labelling, storage and documentation of the non-sterile extemporaneous products	
Performance Criteria	Evidence Examples
1. Pack finished non-sterile extemporaneous products using appropriate storage containers and closures in compliance with worksheet specifications	<ul style="list-style-type: none">• Perform proper packing using appropriate storage containers and closures
2. Label finished non-sterile extemporaneous products correctly, including any auxiliary labels	<ul style="list-style-type: none">• Label finished product in accordance to legal requirements
3. Place final non-sterile extemporaneous product in appropriate storage area/conditions	<ul style="list-style-type: none">• Store finished products in accordance with appropriate storage conditions
4. Complete, reconcile and file compounding records	<ul style="list-style-type: none">• Complete all documentation and compounding records• Maintain all record in accordance to legal requirements
5. Reinstate and clean work area	<ul style="list-style-type: none">• Clean tools, equipment and work area
6. Dispose of waste correctly	<ul style="list-style-type: none">• Dispose waste materials properly



Appendix 6.1 ETP Competency Standards for Pharmacy Technicians

Domain 4 - Drug Distribution & Supply

Pharmacy Technicians manage the procurement, inventory control and distribution of pharmaceutical products and ensure accuracy, quality, integrity, safety and timeliness of product supply.

Standard 4.1 Manage inventory and storage of pharmaceutical products

Standard 4.2 Distribute and supply pharmaceutical products

Standard 4.1 - Manage inventory and storage of pharmaceutical products

Element 1 – Assist with receipt and storage of pharmaceutical products

Performance Criteria	Evidence Examples
1. Receive products and report to supervisor when there are deviations or breakages of products	<ul style="list-style-type: none"> • Check the description and quantity of products delivered against the delivery documents • Identify products requiring special handling, e.g. cytotoxics, cold chain products • Report to supervisor when there are deviations or breakages in products • Contact supplier for clarification if necessary
2. Store products in accordance with manufacturers' guidelines	<ul style="list-style-type: none"> • Check conditions of products delivered and store products appropriately • Quarantine stock, where required
3. Monitor and maintain correct storage conditions of products in accordance with manufacturers' guidelines	<ul style="list-style-type: none"> • Check and record temperature of pharmacy store • Check and record temperature of pharmaceutical fridge in pharmacy premise • Explain actions required in the event of breakdown of storage equipment • Report concerns to the supervisor regarding procedures that do not meet the manufacturers' guidelines

Element 2 – Assist with disposal of pharmaceutical products

Performance Criteria	Evidence Examples
1. Understand the conditions in which products have to be disposed of, e.g. expired, deteriorated and obsolete	<ul style="list-style-type: none"> • Identify conditions in which products have to be disposed of



Element 2 – Assist with disposal of pharmaceutical products	
Performance Criteria	Evidence Examples
2. Understand the legal and safety requirements regarding the disposal of different types of products, including controlled drugs, cytotoxics and antibiotics	<ul style="list-style-type: none"> Describe the legal and safety requirements for disposal of different types of products
3. Dispose of expired, deteriorated and obsolete products	<ul style="list-style-type: none"> Dispose of products in accordance with legal and safety requirements

Standard 4.2 – Distribute and supply pharmaceutical products

Element 1 – Assist with distribution of pharmaceutical products	
Performance Criteria	Evidence Examples
1. Interpret and process drug orders in accordance with legal requirement	<ul style="list-style-type: none"> Process drug orders in accordance with legal requirement/ regulation
2. Supply drugs to users in accordance with legal requirement/ regulation	<ul style="list-style-type: none"> Obtain signed orders when required in accordance with legal requirement
3. Identify inappropriate drug handling processes and transportation (e.g. cold chain) that may contribute to medication errors and product deterioration	<ul style="list-style-type: none"> List or describe events or situations that may lead to diversion
4. Recognise and respond to unusual patterns of drug distribution including diversion, drug misuse, and fluctuations in utilization	<ul style="list-style-type: none"> Report concerns to the supervisor regarding unusual patterns of drug distribution and utilisation



Element 2 – Assist with inventory control	
Performance Criteria	Evidence Examples
1. Maintain batch traceability and rotate stock	<ul style="list-style-type: none"> • Perform rotation of stocks/ products according to usage • Perform First-Expiry-First-out (FEFO) for stocks/products
2. Monitor stock levels of all products	<ul style="list-style-type: none"> • Check and report low or excessive stock levels to supervisor
3. Monitor expiry dates of products and check for signs of deterioration of products	<ul style="list-style-type: none"> • Check expiry dates and condition of products at regular intervals and report to supervisor
4. Monitor stock level and identify stock discrepancies	<ul style="list-style-type: none"> • Perform cycle count for pharmacy inventory and report to supervisors when there are stock discrepancies
5. Assist in stock-taking of pharmacy inventory	<ul style="list-style-type: none"> • Prepare stock lists of all products for stock-taking • Perform stock-taking
Element 3 – Assist with product recall	
Performance Criteria	Evidence Examples
1. Understand the different levels and implications of product recall	<ul style="list-style-type: none"> • Able to describe the different levels of product recall
2. Understand the procedures for handling product recall	<ul style="list-style-type: none"> • Assist in handling product recall • Retrieve product distribution data (patient’s name, contact number, date of purchase, quantity purchased)

Appendix 6.1 ETP Competency Standards for Pharmacy Technicians



Domain 5 - Workplace Safety & Health

Pharmacy technicians operate safely and comply with workplace safety practices and health policies and procedure

Standard 5.1	Comply with workplace safety and health policies & procedures
Standard 5.2	<u>Participate in workplace safety and health management activities</u>
Standard 5.3	<u>Comply with workplace emergency response procedures</u>

Standard 5.1 - Understand workplace safety and health policies and procedures

Element 1 - Understand workplace safety and health policies & procedures

Performance Criteria	Evidence Examples
1. Observe personal hygiene at workplace including hand washing technique, 5 moments of hand hygiene	<ul style="list-style-type: none"> Comply with 5 moments of hand hygiene Perform appropriate hand washing technique
2. Understand and use personal protective equipment (PPE) required for the work	<ul style="list-style-type: none"> Use appropriate personal protective equipment for specific job functions within the work area Explain the importance for mask-fitting
3. Use and maintain workplace equipment and safety devices based on manufacturer's instructions	<ul style="list-style-type: none"> List the workplace equipment and safety devices (such as emergency buttons, stepping stools and ladders, fire extinguisher and fire hose), of their function and how they are maintained
4. Comply with safety signs and safe work procedures in work areas	<ul style="list-style-type: none"> Discuss and identify the types of safety signs and safe work procedures in the workplace
5. Understand risk control measures	<ul style="list-style-type: none"> Understand workplace risk control measures such as waste management procedure



Element 1 - Understand workplace safety and health policies & procedures	
Performance Criteria	Evidence Examples
6. Report workplace safety and health issues in accordance with the Workplace Safety and Health Act	<ul style="list-style-type: none"> Identify issues such as signs of infectious disease, unsafe working conditions, biological and chemical hazards without risk control Familiar with escalation process
7. Understand safe handling of drugs (e.g. cytotoxic medications) and sharps (e.g. proper disposal)	<ul style="list-style-type: none"> Demonstrate understanding of safe handling of drugs and proper disposal of hazardous wastes

Standard 5.2 - Participate in workplace safety and health management activities

Element 1 – Participate in workplace safety and health management activities	
Performance Criteria	Evidence Examples
1. Report unsafe working conditions and work practices in accordance with the workplace and safety requirements	<ul style="list-style-type: none"> Report potential hazards and risks associated with the working condition and work practice (e.g. ergonomics, fire safety)
2. Assess hazards and risks identified in the workplace	<ul style="list-style-type: none"> Demonstrate competency in using problem solving tools such as Plan-Do-Check-Action (PDCA) and root cause analysis, to resolve the risk Identify PPE and safety devices required for safe work procedure, safe operations of machinery and/or equipment
3. Participate in workplace safety and health training	<ul style="list-style-type: none"> Attend fire drill briefing, talks and courses related to workplace safety



Standard 5.3 - Comply with workplace emergency response procedures	
Element 1 - Comply with workplace emergency response procedures	
Performance Criteria	Evidence Examples
1. Respond to the types of emergencies at the workplace such as fire, hazardous materials spills, unconscious person and infectious disease outbreak	<ul style="list-style-type: none"> • Participate in workplace emergency response exercise • Describe role of self and others in response to types of emergencies at the workplace • Describe the use of fire-fighting equipment • Use of appropriate personal protective equipment during infectious disease outbreak
2. Understand emergency mechanism in the event of emergency at the workplace	<ul style="list-style-type: none"> • Use appropriate equipment and materials required for workplace emergency response (e.g. to activate a fire alarm)
3. Handle workplace emergencies	<ul style="list-style-type: none"> • Identify the 'authorised personnel' for the emergency at the workplace • Identify emergency and non-emergency incidents • Identify information needed to handle workplace emergencies (e.g. refer to Safety Data Sheet for information on first-aid measures)

Appendix 6.1 ETP Competency Standards for Pharmacy Technicians



Domain 6 - Professionalism, Ethics and Team Work

Pharmacy technicians comply with legal requirements, maintain professionalism and ethics and promote team work.

Standard 6.1	Comply with legal requirements
Standard 6.2	<u>Maintain professionalism and ethics</u>
Standard 6.3	<u>Promote teamwork</u>

Standard 6.1 - Comply with legal requirements

Element 1 - Comply with laws and regulations governing pharmacy practice

Performance Criteria	Evidence Examples
1. Understand the state governance structure and legislations relating to pharmacy practice	<ul style="list-style-type: none"> List appropriate legislations/regulations/guidelines related to pharmacy practice Describe how to access statute laws and legislations related to pharmacy practice Describe legal requirements for prescriptions
2. Observe and comply with the legal requirements relating to pharmacy practice	<ul style="list-style-type: none"> Handle and supply medications according to statute laws and regulations Understand special legal requirements and institutional guidelines for the supply of specific groups of medications (e.g. controlled drugs, benzodiazepines)

Element 2 - Comply with core values and code of conduct

Performance Criteria	Evidence Examples
1. Behave appropriately in accordance to institutional core values and code of conduct	<ul style="list-style-type: none"> Adhere to codes of conduct Exhibit institutional core values in daily work



Standard 6.2 - Maintain professionalism and ethics

Element 1 – Behave in professional and ethical manner

Performance Criteria	Evidence Examples
1. Place patient's health outcome as top priority in the supply of therapeutic products or medical devices	<ul style="list-style-type: none"> • Exercise judgment when dispensing drugs with potential for abuse to patients • Check with prescriber if the medication dosage or duration/quantity is deemed as inappropriate
2. Work within the limitations of own professional knowledge and expertise and access appropriate resources or personnel when deemed to be in the best interest of the patient	<ul style="list-style-type: none"> • Seek assistance from the pharmacy supervisor and/or pharmacist when faced with patient issues that cannot be resolved
3. Provide appropriate professional advice and counselling on medications when deemed in the best interest of the patient	<ul style="list-style-type: none"> • Provide appropriate medication information necessary for the patient to consume their medications safely and improve compliance • Do not over-emphasize on side effects and precautions without stressing on the benefits of treatment
4. Demonstrate appropriate conduct or professional behaviour towards colleagues and other healthcare professionals	<ul style="list-style-type: none"> • Comply with institutional code of conduct and discipline policies
5. Protect patient privacy and maintain the confidentiality of the patient information	<ul style="list-style-type: none"> • Comply with Personal Data Protection Act (PDPA) • Explain the steps taken to protect patient rights and privacy • Do not divulge patient information to a colleague or a third party unnecessarily • Dispose of materials containing patient information appropriately



Element 1 – Behave in professional and ethical manner	
Performance Criteria	Evidence Examples
1. Maintain or reinforce the confidence and trust placed in other healthcare professionals by patients	<ul style="list-style-type: none"> • Dispense a prescription exactly in accordance with prescriber’s wishes and not to substitute any product except with the approval of the prescriber • Do not discuss therapeutic efficacy of prescriptions or outcome of prescription interventions with patients or caregivers in such a manner that will impair their confidence in the prescriber
2. Handle staff or patient complaints and feedback in a professional and receptive manner	<ul style="list-style-type: none"> • Communicate and respond to healthcare professionals and patients in a polite and courteous manner • Treat others with sensitivity, respect and empathy
Element 2 – Demonstrate personal and professional integrity	
Performance Criteria	Evidence Examples
1. Demonstrate personal and professional integrity when dealing with other healthcare professionals and the public.	<ul style="list-style-type: none"> • Maintain honesty and transparency in dealings with other healthcare professionals and the public • Use evidence-based approach when providing data or information to other healthcare professionals and the public
Element 3 – Maintain professional competence through life-long learning	
Performance Criteria	Evidence Examples
1. Keep abreast of progress in pharmaceutical knowledge in order to maintain highest standards of professional competence	<ul style="list-style-type: none"> • Attend in-house continuing education talks provided by fellow pharmacy technicians and pharmacists or healthcare professionals (e.g. doctors, nurses) • Pass in-house competency assessment • Support mutual learning through sharing of information with fellow colleagues



Standard 6.3 - Promote teamwork	
Element 1 - Participate in teamwork and partnerships of care with other health professionals.	
Performance Criteria	Evidence Examples
1. Demonstrate awareness of the duties and responsibilities of other health professionals	<ul style="list-style-type: none"> Describe the duties and responsibilities of other health professionals (e.g. doctors, nurses, allied health professionals)
2. Maintain respectful and cooperative relationship with co-workers or other health professionals involved in the care of patients	<ul style="list-style-type: none"> Participate in collaborative work with others, either within the own department or other health professionals Maintain rapport and work in partnership with other health professionals to achieve therapeutic goals for the patient
3. Promote and demonstrate teamwork with others in the workplace	<ul style="list-style-type: none"> Communicate effectively in the workplace Model the attributes and behaviours required of a service team to provide an efficient and safe dispensing service Actively participate in team activities Assist colleagues when called upon for help (e.g. provide advice or offer professional assistance) Coordinate with/assist management and colleagues on service issues



Appendix 6.1 ETP Competency Standards for Pharmacy Technicians

Domain 7 - Communication and Education

Pharmacy technicians support optimal patient care through effective communication and education.

Standard 7.1 Communicate effectively

Standard 7.2 Provide education

Standard 7.1 - Communicate effectively

Element 1 - Good communication skills

Performance Criteria	Evidence Examples
1. Demonstrate proficiency in verbal and written English	<ul style="list-style-type: none"> Demonstrate comprehension in verbal and written English by giving the appropriate response or action when receiving enquiries from general public, or communicating with fellow colleagues
2. Communicate clearly when writing or speaking	<ul style="list-style-type: none"> Express opinions and ideas clearly and concisely in verbal and written form (e.g. proper documentation on prescription, communicating with fellow colleagues or patients) Speak in a tone that does not make the other party feel unwelcome or averse to receiving information
3. Possess basic presentation skills	<ul style="list-style-type: none"> Present work-related information using Microsoft Powerpoint
4. Values the input of others	<ul style="list-style-type: none"> Demonstrate respect for the opinions and feedback from others
5. Establish rapport with the target audience	<ul style="list-style-type: none"> Maintain open lines of communication (e.g. active listening skills), and actively engage with the patients in order to respond to their needs
6. Understands the importance of non-verbal communication that may have an impact on information transmitted	<ul style="list-style-type: none"> Maintain good posture and positive body language during communication Recognise non-verbal cues of patients and/or caregivers



Element 2 – Communicate effectively with general public, patients and other health care providers	
Performance Criteria	Evidence Examples
1. Communicate effectively by ensuring target audience understand material/ information provided	<ul style="list-style-type: none"> • Use communication technique that is appropriate to respective target audience (e.g. general public, patients and healthcare providers) • Select a vocabulary for both written and verbal communication that is appropriate for the situation, the audience and the material being communicated (e.g. avoids unnecessary jargon, clearly explains medical/pharmaceutical terminology) • Apply systematic process to verify that the intended information has been received and understood
2. Understand institutional guidelines and government healthcare policies related to access of medications to ensure correct information is conveyed to public	<ul style="list-style-type: none"> • Explain the drug financing framework implemented by the government/institution to help patients understand their entitlement • Provide correct information to the general public for enquiries related to the pharmacy (e.g. cost and availability of medicines)
3. Possess basic conflict management skills	<ul style="list-style-type: none"> • Handle difficult individuals in a calm and professional manner and escalate to supervisory level when appropriate
4. Communicate with empathy, sensitivity and respect	<ul style="list-style-type: none"> • Show empathy and be tactful and polite when speaking to patients • Show respect and professionalism when communicating with other healthcare professionals
Element 3 – Adopt appropriate communication in response to social differences and diversity	
Performance Criteria	Evidence Examples
1. Recognize and address barriers to communication (e.g. deafness, blindness, mental incapacity, emotional status)	<ul style="list-style-type: none"> • Recognize barriers to communication and use appropriate tools to overcome such barriers • Apply active listening skills to enhance professional rapport with general public, patients and other healthcare providers.
2. Recognize the impact of different racial, cultural, linguistic background on the effectiveness of communication	<ul style="list-style-type: none"> • Use communication skills that will allow the audience to understand the information given (e.g. when speaking to foreign patients on their medications)



Standard 7.2 - Provide education

Element 1 - Provide patient education

Performance Criteria	Evidence Examples
1. Provide necessary information to assist patients in understanding and management of their conditions	<ul style="list-style-type: none"> Communicate basic indication, dosing information and adverse drug reaction to patient Explain specific dosing requirement, storage conditions, general healthcare advice that would enhance the efficacy of drug use Assess patient or caregiver's understanding on the information given Provide relevant materials (e.g. patient information leaflets) to aid patient's understanding
2. Communicate relevant information to questions raised by patient or caregivers	<ul style="list-style-type: none"> Elicit needed information and identify the information needs of a particular patient or caregiver Understand the questions raised by patients or caregivers and respond with relevant information and appropriate terminology Seek advice from pharmacists when in doubt
3. Handle basic enquiries from public	<ul style="list-style-type: none"> Use appropriate reference sources to obtain information Seek advice from pharmacists when in doubt Record enquiry information given in a consistent manner
4. Provide non-pharmacological advice to assist management of symptoms	<ul style="list-style-type: none"> Provide non-pharmacological advice such as dietary or lifestyle modification to patients and/or caregivers
5. Promote public awareness on relevant healthcare issues through participation of health campaigns organised in-house or through healthcare organizations	<ul style="list-style-type: none"> Actively promote ongoing public health campaigns to patients Participate in relevant training in order to be equipped with the information and skills to engage the public



6.2 Sample questions on drug-related problems

This section is a compilation of suggested questions and answers for assessment on ability to identify DRPs under Key Task 1 (Process Prescription):

“Assess a minimum of TEN unique problematic prescriptions or simple enquiries by patient and is able to identify drug-related problem in prescription and able to demonstrate the use of drug references or made reference to hospital policies and the escalation procedure when in doubt.”

Drug-Related Problems (DRPs) for assessment under Key Task 1 are listed as follows:

Category of DRP	Drug-Related Problems (DRPs)
Indication	Therapeutic duplication
Drug selection	Contraindication
	More affordable drug available
	Inappropriate drug formulation/dosage form
Dosing regimen	Dosage too low
	Dosage too high
	Inappropriate frequency/ route/site (without change in daily dose)
	Duration too short
	Duration too long
Drug interactions	Drug-drug

Note: For ETP assessment, questions are based on simple prescriptions with no more than 6 items



Appendix 6.2 Sample questions on drug-related problems

Example 1: Therapeutic Duplication

Name: TAK (67/C/F)	Patient Id: SXXXX105C	Rx number: 175616	Date	22_Feb-2020
Drug Allergy: NIL				
Item Name	Instructions	Duration	Prescriber	Remarks
Hyzaar Tablet [Losartan 50mg Hydrochlorothiazide 12.5mg]	1 tablet - OM	24 weeks	LTC	
Simvastatin Tablet	20 mg – ON	24 weeks	LTC	
Lovastatin Tablet	40 mg - ON	24 weeks	LTC	
Calcium Carb 450mg, Vitamin D 200 unit Tablet	1 tablet – BD	24 weeks	LTC	<i>Do not supply. Still have.</i>
Hypromellose 0.3% Eye Drop	Ophthalmic 1 drop to BOTH – Q4H <i>PRN: Dry eyes</i>	4 bottles	LTC	

Question: Mdm TAK was prescribed with the list of medications. Identify the potential DRP.

- A. Inappropriate dosage
- B. Inappropriate frequency
- C. Duration is too long
- D. Therapeutic duplication

Answer: D



Appendix 6.2 Sample questions on drug-related problems

Example 2: Contraindication

Name: XYZ (1/C/F)	Patient ID: TXXXX318A	Rx number: XX	Date: 19 July 2020	
Drug Allergy: NIL				
Item Name	Instructions	Duration	Prescriber	Remarks
SMECTA (DIOCTAHEDRAL)	3X A DAY – AS NEEDED	3 days	AAT	
PROMETHAZINE HCL 100ML	3X A DAY – AS NEEDED	3 days	AAT	
SIMETHICONE	3X A DAY – AS NEEDED		AAT	
ORAL REHYDRATION SALTS	3X A DAY – AS NEEDED	3 days	AAT	
LACTOGUARD 1G SAC 6S/BOX	2 TIMES A DAY	3 days	AAT	

Question: Patient XYZ was diagnosed with food poisoning. She is 1 year and 7 months old with no known drug allergy. Her body weight is 12 kg. Identify any potential DRP.

Answer: Promethazine is contraindicated in patients who are less than 2 years old



Appendix 6.2 Sample questions on drug-related problems

Example 3: More affordable drug available

Name: JL (59/C/M)	Patient ID: SXXXX575J	Rx number: XX	Date	26_Feb-2020
Drug Allergy: NIL				
Item Name	Instructions	Duration	Prescriber	Remarks
Esomeprazole tab	PO 20mg OM	3 months	TAN	

Question: Mr Jon Lim received this prescription. At the point of triage, he checked that the medication prescribed was too costly and asked if there are cheaper alternatives.

Answer: Call doctor for consideration to switch to cheaper alternative, omeprazole PO 20mg OM for 3 months.



Appendix 6.2 Sample questions on drug-related problems

Example 4: Inappropriate drug formulation/dosage form

Name: RT (57/C/F)	Patient ID: SXXXX789Y	Rx number: 34	Date: 8 Jun 2020	
Drug Allergy: NIL				
Item Name	Instructions	Duration	Prescriber	Remarks
DIOSMIN 450 MG, HESPERIDIN 50 MG TAB	Take TWO tablet(s) TWO times a day	2 weeks		
LACTULOSE SYRUP 200ML	Shake the bottle and take 10ml THREE time a day	2 weeks		
PARACETAMOL 500 MG TAB	Take TWO tablet(s) THREE times a day when required for pain or fever	2 weeks		
DOXYCYCLINE 100 MG CAP	Take ONE capsule TWO times a day	14 days		
FLAGYL tablet 500 MG BD	(Free Text item)	2 weeks		

Question: Look through the prescription to identify and briefly explain potential DRP and actions to be taken

Answer:

- Doctor prescribed PO Metronidazole 500mg twice a day for 2 weeks
- Inform doctor that oral metronidazole tablets comes in 200mg tablets and seek consideration to revise the formulation and adjust the instructions depending on indication



Appendix 6.2 Sample questions on drug-related problems

Example 5: Dosage too low

Name: ABC (5/M/M)	Patient ID: SXXXX876F	Rx number: XX	Date: 22 May 2020	
Drug Allergy: NIL				
Item Name	Instructions	Duration	Prescriber	Remarks
Oxymetazoline HCl 0.01% Nose Drop	Nasal 1 drop to BOTH – TDS PRN: Blocked Nose **Note – Multiple strengths available	1 bottle	AK	
Chlorphenamine Maleate [Chlorpheniramine] Syrup	PO 1.6 mg –TDS PRN: Runny nose	1 week	AK	

Question: Madam Tan received this prescription for his 5 year-old son. Look through the prescription to identify any potential DRPs.

Answer: For a 5 year-old child, Oxymetazoline HCL 0.025% Nose Drop should be prescribed instead.



Appendix 6.2 Sample questions on drug-related problems

Example 6: Dosage too high

Name: UBD (76/I/F)	Patient ID: SXXXX292K	Rx number: 473	Date	8_Jun-2020
Drug Allergy: NIL				
Item Name	Instructions	Duration	Prescriber	Remarks
Arcoxia Tab	90 mg as needed – 3X A DAY	14 days	AM	For pain and inflammation

Question: Study the prescription and identify potential DRPs.
Answer: The recommended dose of Arcoxia is a maximum of 120mg/day. This is an overdose.



Appendix 6.2 Sample questions on drug-related problems

Example 7: Inappropriate frequency

Name: HK (27/C/F)	Patient ID: SXXXX766A	Rx number: 34	Date: 8 Jun 2020	
Drug Allergy: NIL				
Item Name	Instructions	Duration	Prescriber	Remarks
Metformin HCl Tablet	PO 250 mg - OM	3 months	AT	
	**Note – Multiple strengths available			

Question: Study this prescription and identify any potential DRP.
Answer: The frequency of metformin should be TDS instead.



Appendix 6.2 Sample questions on drug-related problems

Example 8: Duration too short

Name: SM (65/I/M)	Patient ID: SXXXX345J	Rx number: 45	Date: 8 Jun 2020	
Drug Allergy: NIL				
Item Name	Instructions	Duration	Prescriber	Remarks
PO Omeprazole Cap	20 mg EVERY MORNING	6 months	TM	
PO Simvastatin Tab	10mg EVERY NIGHT	6 months	TM	
PO Frusemide Tab	40 mg EVERY MORNING	6 months	TM	Reduced
Atenolol Tab	25 mg EVERY MORNING	6 months	TM	Restarted
Potassium Chloride 500mg/5mL mixture	10ml 3 TIMES a day for 2 days followed by 10ml 2 TIMES a day for 2 days	4 days	TM	

Question: Previous history showed regular intake of potassium for this patient. Upon checking with patient, it was confirmed that he has been taking potassium on daily basis. What would you do?

Answer: Verify with doctor to supply potassium daily for 6 months



Appendix 6.2 Sample questions on drug-related problems

Example 9: Duration too long

Name: TKK (55/C/M)	Patient ID: SXXXX889K	Rx number: 89	Date: 8 Jun 2020	
Drug Allergy: NIL				
Item Name	Instructions	Duration	Prescriber	Remarks
1. PO Amoxicillin	1g BD	1 month	DT	
2. PO Clarithromycin	500mg BD	1 month	DT	
3. PO Omeprazole	40mg BD	1 month	DT	
4. PO Amlodipine	10mg OM	1 month	DT	

Question: Mr. TKK received this prescription. Look through the prescription to identify any potential DRPs.
Answer: The treatment duration is too long for H- Pylori, it should be for 10 to 14 days only.



Appendix 6.2 Sample questions on drug-related problems

Example 10: Drug-Drug Interaction

Name: SK	Patient ID: SXXXX888K	Rx number: 80	Date: 8 Jun 2020	
Drug Allergy: NIL				
Item Name	Instructions	Duration	Prescriber	Remarks
Augmentin 625 mg Tab	625 mg every 8 hours	1 week	DT	
Klacid Tab	500 mg 2 times a day	1 week	DT	
Simvastatin	10mg ON	1 month	DT	

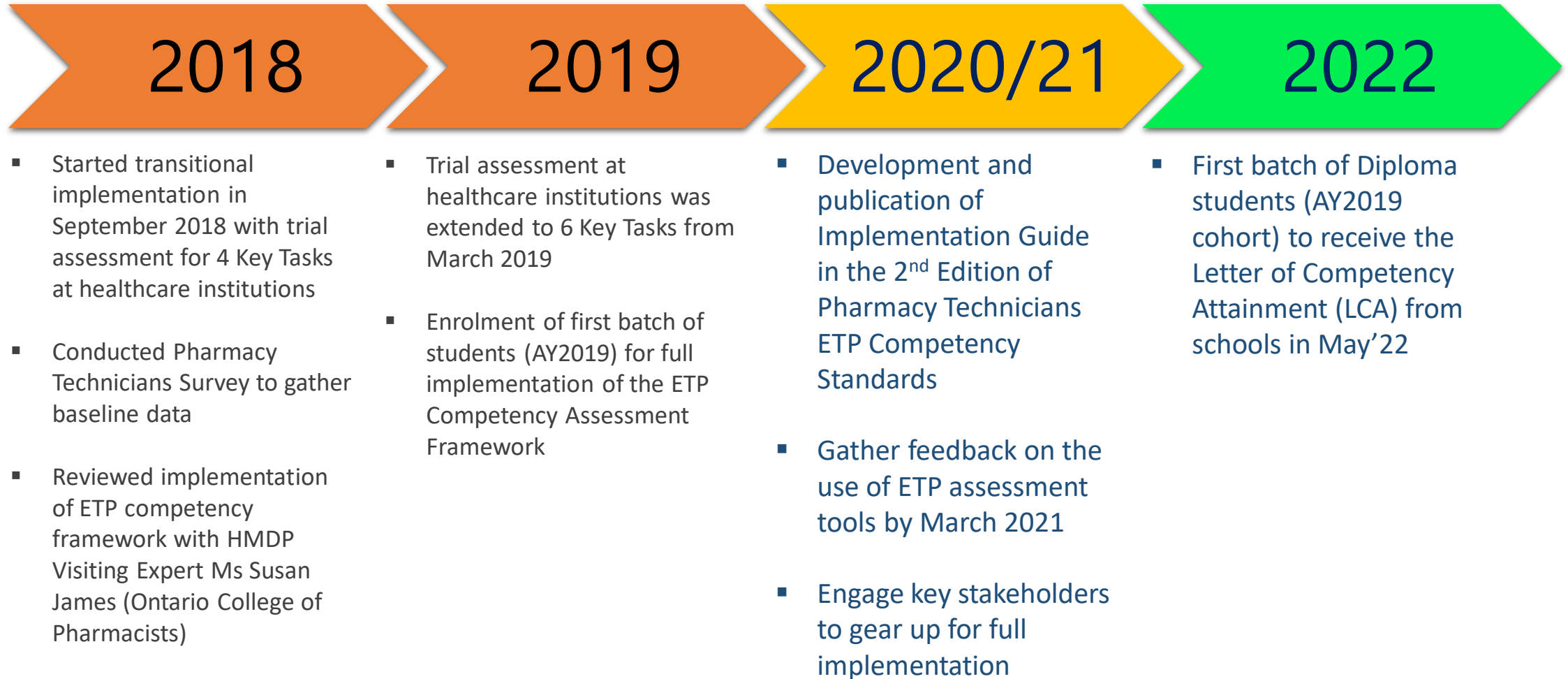
Question: Study the prescription and identify any potential DRPs. What would you do to help this patient?

Answer:

- Noted the drug interaction between simvastatin and clarithromycin
- Confirmed with doctor to stop statin therapy for the one week that the patient is on clarithromycin
- Alternatively, doctor may ask patient to continue on both drugs but to monitor for signs of statin toxicity e.g. rhabdomyolysis



6.3 Implementation timeline





7. References

1. Skills Framework for Healthcare. SkillsFuture Singapore, Workforce Singapore and Ministry of Health Singapore, 2018.
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8. Acknowledgement

We would like to thank:

- Members of Pharmacy Technicians Training and Development Committee for permission to adapt materials from their respective institutions, guidance and valuable inputs
- All Pharmacy Managers, pharmacy staff and participants of Pharmacy Technicians Development Workshops (2018 and 2019) for their support and guidance for the implementation of ETP competency assessment framework

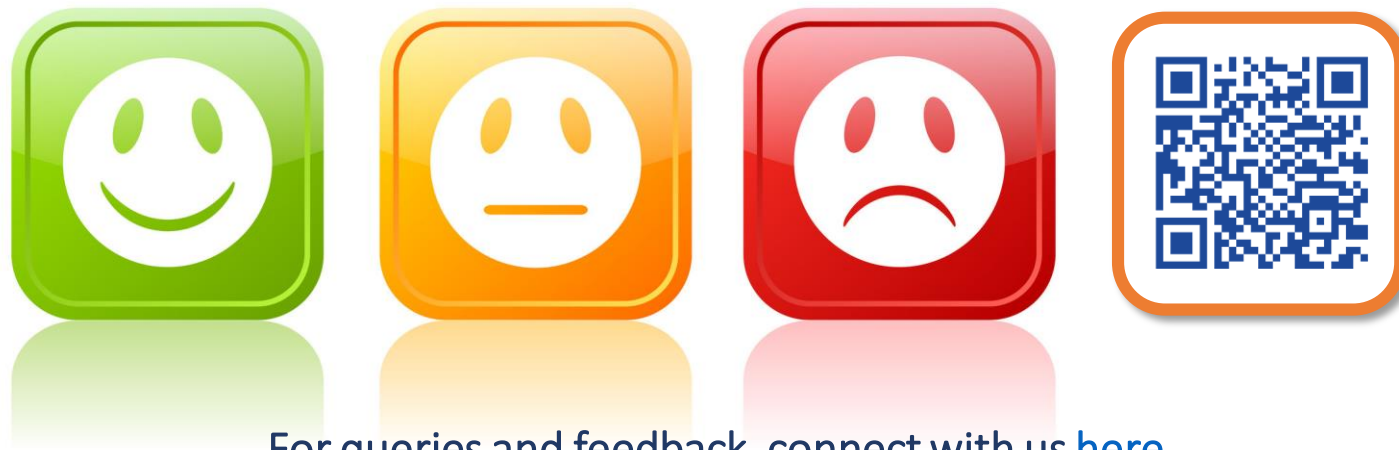
Thank You!



8. Acknowledgement

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