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Ministry of Health Malaysia
Pharmaceutical Services Programme

# NICOTINE DEPENDENCE MANAGEMENT PHARMACY SERVICE PROTOCOL

## THIRD EDITION



2026

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**STATEMENT OF INTENT**

This protocol is an update of the *Garis Panduan Farmakoterapi Berhenti Merokok Edisi Kedua* 2019. In this update, the guideline has been renamed as Nicotine Dependence Management Pharmacy Service Protocol 2026. This update shall serve as a guideline to standardize the delivery of nicotine cessation services, mandating the use of both pharmacological and non-pharmacological interventions to ensure optimum effectiveness and improved client outcomes.

All providers shall adhere to this protocol to ensure that service delivery practices remain in full compliance. Facilities may also adapt the protocol to suit their respective settings, provided that core requirements are maintained.

MINISTRY OF HEALTH MALAYSIA

# NICOTINE DEPENDENCE MANAGEMENT PHARMACY SERVICE PROTOCOL

# 3RD EDITION 2026

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Ministry of Health Malaysia
2026

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# FOREWORD

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Nicotine product use remains one of the leading preventable causes of disease and premature death worldwide. At the same time, the landscape of nicotine consumption has become increasingly complex with the emergence of newer nicotine-containing products such as electronic cigarettes, heated tobacco products, nicotine pouches, and other alternatives - creating new and evolving challenges for public health.

In Malaysia, reducing the health burden associated with nicotine product use continues to be a national priority. As outlined by the National Strategic Plan for the Control of Tobacco and Smoking Products 2021-2030, it is crucial to denormalize smoking culture in order to reduce smoking prevalence to less than 5% in Malaysia by 2040. Therefore, as part of the multidisciplinary healthcare team, pharmacists should strive to ensure that pharmacotherapy offered to patients is cost-effective, safe and suitable.

This protocol is designed for pharmacists within the Ministry of Health (MOH) to offer their expertise in Nicotine Dependence Management Pharmacy Service (NDMaPS). This protocol provides a standardized framework that strengthens consistency of practice and supports pharmacists in contributing fully to multidisciplinary cessation efforts. By standardizing this approach, we aim to empower pharmacists to play a more active and confident role in supporting individuals to move toward a life free from nicotine products.

We extend our appreciation to all contributors and reviewers involved in the development of this protocol. It is our hope that this publication not only strengthens national efforts in nicotine dependence management but also contributes meaningfully to improved health outcomes in Malaysia.

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# A. INTRODUCTION

## 1. OVERVIEW

**Nicotine-Products Use and Associated Health Burden**

Nicotine is a highly addictive substance found in various nicotine-containing products, including cigarettes, heated products, and electronic nicotine delivery systems. Its use is a leading contributor to a wide range of serious health issues—including cardiovascular and respiratory diseases, more than 20 types and subtypes of cancer, and numerous other debilitating medical conditions (World Health Organization, 2025).

The global prevalence of tobacco use among people aged 15 years and older has shown a steady decline from 2000 to 2020 and is projected to continue decreasing to 2030. In 2000, about one-third of adults (32.7%) used tobacco, dropping to 21.7% in 2020, and expected to reach 18.1% by 2030. Tobacco use remains significantly higher among males (49.1% in 2000, 35.5% in 2020, projected 30.6% in 2030) compared to females (16.3% in 2000, 7.9% in 2020, projected 5.7% in 2030). Overall, the trend reflects global progress in controlling nicotine product consumption, though the gender gap in prevalence persists (World Health Organization, 2024).

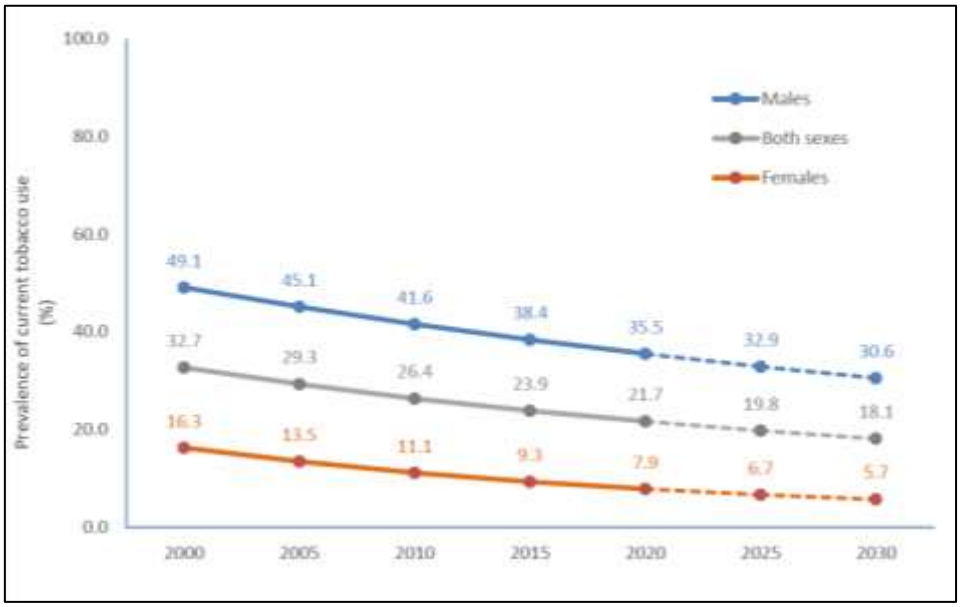
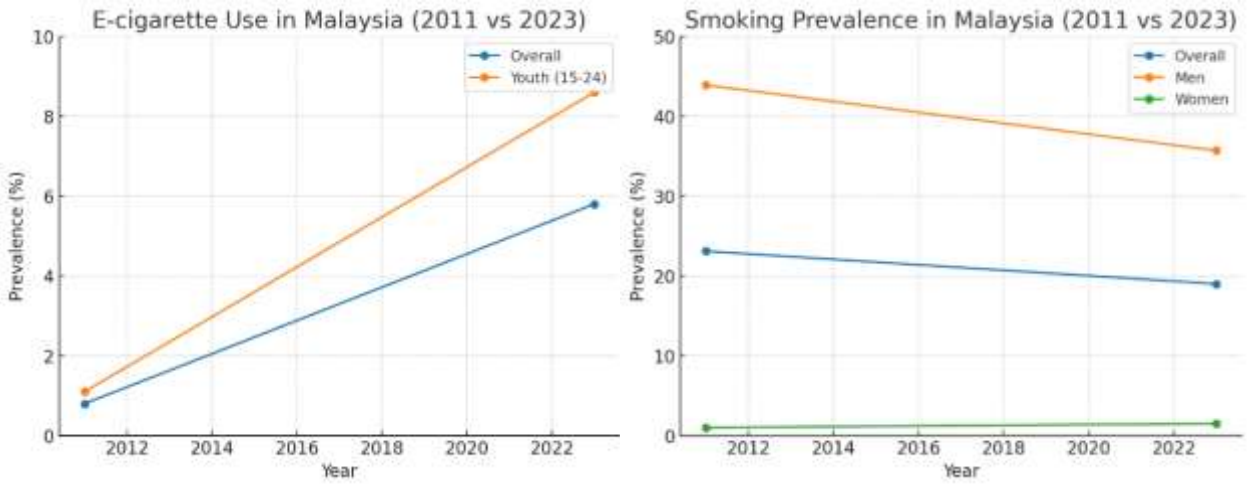



**Figure 1: Global trends in prevalence of tobacco use among people aged 15 years and older, by sex, 2000-2030 (estimates to 2020, projections to 2023)**

Nicotine product use continues to be a major public health issue in Malaysia, contributing significantly to preventable disease and death. In 2021, tobacco use was responsible for an estimated 24,100 deaths (23% of all deaths) and the loss of nearly 700,000 disability-adjusted life years (DALYs), primarily due to heart disease, stroke, lung cancer, and chronic respiratory illness (Global Action to End Smoking, 2022).

According to the National Health and Morbidity Survey 2023 (NHMS), smoking prevalence among Malaysian adults had declined from 22.8% in 2015 to 19.0% in 2023, reflecting a modest improvement in tobacco control efforts. However, the burden remains substantial — smoking-related diseases continue to account for a significant proportion of hospital admissions and deaths, particularly due to cardiovascular and respiratory conditions (Institute for Public Health , 2024).

At the same time, the use of e-cigarettes has risen sharply, from 0.8% in 2011 to 5.8% in 2023, with the highest uptake among young people aged 15–24 years (8.6%) (Institute for Public Health , 2024). Dual use of cigarettes and e-cigarettes is now observed in nearly 4% of adults, posing new challenges to controlling use of nicotine products (Institute for Public Health, 2023).




Encouragingly, exposure to second-hand smoke has declined at home (from 38.4% to 19.4%) and workplaces (from 39.8% to 21.0%), though reports show increased exposure in restaurants, healthcare facilities, and government buildings, highlighting enforcement gaps (Institute for Public Health, 2023).

**Smoking Cessation in Malaysia**

Since 2011, smoking cessation has been a key public health initiative of the Ministry of Health Malaysia, with Quit Smoking Clinics (*Klinik Berhenti Merokok*, KBM) established in health clinics nationwide to provide structured support for smoking cessation. To optimize clinical outcomes, Smoking Cessation Pharmacotherapy (*Farmakoterapi Berhenti Merokok*, FBM) was integrated to provide a synergy between evidence-based pharmacological treatment and behavioral counseling.

Beginning in 2017, teaching centers and trained preceptors were appointed in selected states to further strengthen and standardize FBM delivery. To date, there are eight active training centers across seven states, supporting capacity building and quality implementation of FBM services. Despite these efforts, as of June 2025, only 214 (24.9%) health clinics were providing FBM services out of 857 clinics offering KBM. This disparity highlights a significant gap in the availability of comprehensive, medication-assisted smoking cessation care nationwide.

**The Nicotine Dependence Management Pharmacy Service (NDMaPS)**

Effective this year, the FBM service is rebranded as the Nicotine Dependence Management Pharmacy Service (NDMaPS) to more accurately reflect the clinical scope of the pharmacist's role in treating nicotine dependence. This protocol is produced specifically to support the standardized delivery of NDMaPS, ensuring that pharmaceutical care is administered with clinical consistency and safety across all participating facilities. Under the NDMaPS framework, pharmacists are responsible for clinical assessment, pharmacotherapy optimization, interprofessional collaboration, and patient education. The service utilizes two primary therapeutic modalities:

a) Pharmacological Intervention: The administration of regulated medications, including Nicotine Replacement Therapy (NRT) and non-nicotine agents such as Varenicline, to manage the physiological aspects of nicotine dependence.
b) Non-Pharmacological Intervention: A focused approach on behavioral modifications and psychological strategies to sustain cessation without the use of medication.

**Regulatory Framework and Clinical Reference**

This protocol serves as the latest edition and successor to the *Garis Panduan Farmakoterapi Berhenti Merokok Edisi Kedua 2019*. It has been updated to reflect the evolving scope of pharmacy practice and to provide the operational framework for the newly rebranded Nicotine Dependence Management Pharmacy Service (NDMaPS).

While this protocol provides the standardized operational workflow for pharmacists to deliver the service within pharmacy settings, it is designed to be used in conjunction with established clinical standards. Specifically, for the selection and clinical management of pharmacotherapy, this protocol defers to the latest Clinical Practice Guidelines (CPGs) as the primary reference.

To ensure a high standard of pharmaceutical care, this protocol aligns with the following key national references, including:

i. **Clinical Practice Guideline on Treatment of Nicotine Dependence and Tobacco Use Disorder 2025**: The primary clinical authority for evidence-based pharmacological and behavioral interventions.
ii. **National Strategic Plan for The Control of Tobacco & Smoking Products 2021 – 2030**: Ensuring service delivery is synchronized with national public health objectives and milestones.
iii. **Clinical Practice Guideline on Management of E-Cigarette or Vaping Product Use-Associated Lung Injury (EVALI) 2021**: Addressing the clinical complexities and management of emerging nicotine delivery systems.
iv. ***Garis Panduan Perkhidmatan Berhenti Merokok di Unit Pendidikan Kesihatan* 2022**: Supporting the health promotion and counseling components of the service within hospital setting.
v. ***Garis Panduan Khidmat Berhenti Merokok di Klinik Kesihatan Edisi 2* 2022**: Standardizing the interprofessional workflow within the primary care setting.

By consolidating these references, this protocol provides a unified standard that bridges operational efficiency with robust, evidence-based clinical practice.

**Strategic Outlook and Service Commitment**

Recent data indicates that approximately 60% of nicotine users intend to quit, with nearly two-thirds already having received cessation advice from healthcare providers. This highlights a critical "teachable moment" and a significant opportunity for the Nicotine Dependence Management Pharmacy Service (NDMaPS) to engage and support these individuals through a specialized, pharmacy-led pathway.

The expansion of cessation services and the increasing availability of clinical guidelines underscore Malaysia's steadfast commitment to reducing the national burden of nicotine dependence. With rising public awareness, a strong intention to quit among users, and the evolving professional role of the pharmacist, there is immense potential to enhance cessation outcomes nationwide.

Ultimately, achieving long-term reductions in nicotine use requires the consistent application of evidence-based practices and coordinated service delivery across all levels of the healthcare system. By leveraging the clinical expertise and accessibility of pharmacists, this protocol aims to standardize the quality of care and enhance the accessibility of cessation support for the population.

## 2. OBJECTIVES

I. To enhance the quality of Smoking Cessation Services across all Ministry of Health (MOH) facilities by ensuring the active, dynamic, and professional involvement of pharmacists in service delivery.
II. To provide a standardized reference framework for the implementation of Nicotine Dependence Management Pharmacy Service (NDMaPS), serving as a guideline to support evidence-based and consistent clinical practice.
III. To harmonize and strengthen the delivery of NDMaPS in MOH healthcare facilities to ensure effectiveness, consistency, and equitable access for all clients seeking support to quit smoking.
IV. To recommend cost-effective, safe and appropriate pharmacotherapy options for nicotine cessation.
V. To identify pharmaceutical care issues and implement appropriate interventions - including side effects, adherence, and correct technique, in order to optimize treatment outcomes and minimize adverse events.
VI. To provide tailored counselling that integrates both pharmacotherapy and behavioural interventions.
VII. To educate clients on nicotine addiction and withdrawal symptoms, while developing strategies to cope effectively and prevent relapse.

## B. ROLES

### 1. PHARMACY PRACTICE & DEVELOPMENT DIVISION

This division is responsible for the overall strategic planning and oversight of the NDMaPS program at the national level. Their duties include:

i. Planning and monitoring national NDMaPS implementation.
ii. Developing and updating NDMaPS Protocol as needed.
iii. Collecting and analyzing NDMaPS implementation data and information.
iv. Presenting achievements and proposing improvements to senior management.

### 2. PHARMACY SERVICES DIVISION, STATE HEALTH DEPARTMENT

This division manages the NDMaPS program at the state level, ensuring its smooth operation and resource allocation. Their responsibilities include:

i. Planning and monitoring NDMaPS implementation at the state level.
ii. Ensuring every hospital pharmacy unit and health clinic conducts NDMaPS promotion activities.
iii. Collecting and analyzing NDMaPS implementation data and information at the state level.
iv. Monitoring and resolving issues related to the smooth implementation of NDMaPS at the state level.
v. Presenting achievements and proposing improvements to senior management.
vi. Planning and allocating human resources based on the needs of facilities implementing NDMaPS.

## C. SCOPE OF SERVICE

I. The NDMaPS shall operate in the clinic area during clinic days or outpatient pharmacy when necessary.
II. The service shall be carried out in a designated consultation room or at the pharmacy counselling room.
III. The NDMaPS pharmacists shall perform a multitude of duties during initial and subsequent visits including assessing clients and addressing their needs, carrying out and documenting interventions as well as providing appropriate education to clients/caregivers.
IV. Activities at the clinic/pharmacy should be structured according to the suggested workflow (Appendix 1 and Appendix 2) and documented (Appendix 3).

## D. MANPOWER REQUIREMENT

I. A pharmacist trained in the field approved by the Pharmaceutical Service Programme (either via echo or full training) is required to carry out the service.
II. At least one pharmacist shall be involved during the session with clients. To ensure continuity of the service, there shall be at least two pharmacists who are trained in the facility.

## E. APPOINTMENT & MISSED VISITS

I. All appointments shall be scheduled by the pharmacist which may or may not fall on the clinic appointment day, though clinic appointment day is preferred.
II. If there is any missed appointment, clients shall be contacted to be rescheduled for a new appointment date.
III. Clients shall be followed up in a minimum of three sessions, ideally for six months, or until clients maintain abstinence for at least six months.

# F. OUTCOME MEASURE

All Client/Clinical Outcomes and Service Outcomes shall be assessed, documented and monitored.

## 1. CLIENT/CLINICAL OUTCOMES

The following parameters for each client shall be monitored and assessed during each visit.

| Parameters | Indicators |
|---|---|
| **Physiological Assessments** | • Vital signs<br>• Body weight, height, Body Mass Index (BMI)<br>• Carbon monoxide levels<br>• Peak Flow |
| **History of Nicotine Product Use** | • Daily consumption of nicotine products<br>• Fagerstrom Test for Nicotine Dependence (FTND)/Modified FTND |
| **Withdrawal Symptoms** | • Physical Dependence<br>• Behavioral Dependence |
| **Pharmacotherapy** | • Administration technique<br>• Adherence<br>• Side Effects/ Adverse Drug Reactions |

## 2. SERVICE OUTCOMES

Monitoring of these indicators through proper documentation and data collection tools is essential for the successful implementation of Nicotine Dependence Management Pharmacy Service (NDMaPS). The indicators shall be reported at the local, state, and national levels through biannual reports submitted in January and July each year:

i. Total clients registered for *Klinik Berhenti Merokok (KBM)* per year
ii. Total clients that are given pharmacotherapy treatment with Nicotine Replacement Therapy and/or Varenicline
iii. Percentage of clients that are given pharmacotherapy
iv. Total cost of pharmacotherapy
v. Total monthly new and follow-up counselling done by pharmacists
vi. Total registered clients that have a Quit Date
vii. Total clients that successfully quit smoking for 6 months or more
viii. Quit Rate for Cohort 1 (January-Jun) and Cohort 2 (July-December)

# G. PROCEDURES

## 1. CLIENT SELECTION

Clients who are currently managed under the Smoking Cessation Services of the facility can be enrolled into NDMaPS by referral or walk-in with any of the following criteria:

i. Clients who use nicotine products and are initiated on pharmacotherapy
ii. Clients who use nicotine products and are not initiated on pharmacotherapy but needs behavioral intervention
iii. Clients who quit smoking recently (e.g., within six months of quitting), but are at risk of relapse

## 2. REGISTRATION

A complete registry for enrolled clients shall be maintained either manually or electronically.

The registry shall include;

2.1. Name
2.2. IC/RN number
2.3. Quit Date (Actual Quit Date/Target Quit Date)
2.4. Successfully Quit Date (Date of declaring abstinence for 6 months)
2.5. Status of Client (E.g. default, discharge, relapse, success, active)
2.6. Date of Counselling Session
2.7. Any other relevant data as per facility requirement
    2.7.1. Date of Initiating Pharmacotherapy

## 3. INITIAL ASSESSMENT (PRE-VISIT & INITIAL VISIT)

3.1. Recruit the client into NDMaPS through referral or identification at the facility.

3.2. Conduct screening to identify smoking or vaping status and determine eligibility for enrolment. Screening shall be performed by a doctor, pharmacist, or appointed staff.

3.3. Assess the client's willingness to quit smoking or vaping (Appendix 4).
    3.3.1. If the client is not willing to quit, the healthcare provider shall proceed with motivational intervention. Provide motivational interviewing using the 5R approach for clients who are not willing to quit.
    3.3.2. If the client is willing, the provider shall assess readiness to quit. Conduct pre-visit counselling for clients who are not ready to quit. The provider shall reassess readiness to quit during or after counselling and continue pre-visit counselling until readiness is achieved.

3.4. Assess readiness to quit smoking or vaping or confirm quit status for clients who express willingness to quit. Clients who are ready or have already quit shall proceed to the initial visit.

3.5. Conduct the initial visit once readiness to quit has been confirmed.

3.6. Perform a comprehensive assessment and review which shall include smoking or vaping history, nicotine dependence level, readiness to quit, carbon monoxide (CO) testing, and Peak Expiratory Flow Rate (PEFR), where indicated.

3.7. Select the appropriate treatment modality. The doctor shall determine whether the client requires non-pharmacological treatment, pharmacological treatment, or a combination of both.

3.8. Provide non-pharmacological intervention, where applicable. The pharmacist shall deliver behavioural counselling, lifestyle modification advice, and relapse prevention strategies.

3.9. Dispense and counsel on pharmacological treatment, where applicable. The pharmacist shall provide instructions on medication use, potential side effects, precautions, and adherence requirements.

3.10. Schedule a follow-up visit appointment to monitor progress, assess treatment response, and provide ongoing support.

3.11. Document all assessments, interventions, and plans in the client record. Documentation shall be completed to ensure continuity of care and compliance with NDMaPs requirements.

3.12. The Initial Assessment Workflow is outlined in Appendix 1.

## 4. SUBSEQUENT VISITS

4.1. The subsequent visit shall depend on client's progress but generally with more frequent follow-ups in the beginning. Subsequent visits can also be made via phone or video call.

4.2. The pharmacist's review at every visit shall include:
- 4.2.1. Current nicotine product used and trigger factors
- 4.2.2. Relevant monitoring parameters
- 4.2.3. Medication adherence
- 4.2.4. Medication knowledge and administration technique
- 4.2.5. Treatment side effects and management strategies
- 4.2.6. Withdrawal symptoms
- 4.2.7. Optimization of current treatment plan: non-pharmacological or pharmacological therapy
- 4.2.8. Challenges or barriers in the quitting process
- 4.2.9. (Lapse and) relapse prevention (if client have quit)

4.3. Dispense medications and counsel on pharmacological or non-pharmacological treatment, where applicable. The pharmacist shall provide instructions on medication use, potential side effects, precautions, and adherence requirements, if client was on pharmacotherapy treatment.

4.4. Schedule a follow-up visit appointment to monitor progress, assess treatment response, and provide ongoing support.

4.5. Document all assessments, interventions, and plans in the client record. Documentation shall be completed to ensure continuity of care and compliance with NDMaPs requirements.

4.6. The Subsequent Visit Workflow is outlined in Appendix 2.

## 5. CLIENT EDUCATION/COUNSELLING

5.1. Clients shall be counselled on the use of pharmacotherapy (Appendix 5).
5.2. Clients who require behavioural intervention shall be counselled according to client's need (Appendix 6).
5.3. Counseling aids may be used to assist the counselling session:
  5.3.1. Pharmacotherapy Flipchart
  5.3.2. Non-pharmacotherapy Flipchart
  *5.3.3. Buku Catatan Berhenti Merokok*
5.4. Medication shall be dispensed, and counselling shall be provided to clients at the clinic (where applicable) or at the pharmacy.

## 6. RESPONSIBILITIES OF PHARMACISTS

Pharmacists are responsible for client education on nicotine cessation, treatment plan covering both pharmacotherapy and behavioural intervention. This education shall be provided during the initial consultation and reinforced during follow-up visits.

6.1 Assessing and obtaining all information required to identify any pharmaceutical care issues such as;
  6.1.1 Inappropriate regimen (e.g., drug, dose, frequency, duration, contraindication)
  6.1.2 Potential or actual drug interactions (Appendix 7)
  6.1.3 Side effects or adverse drug reactions
  6.1.4 Withdrawal symptoms
  6.1.5 Incorrect medication administration technique
  6.1.6 Non-adherence and barriers to therapy

6.2 Solving identified pharmaceutical care issues.
  6.2.1 Recommend the most appropriate pharmacotherapy and optimize treatment regimen.
  6.2.2 Provide appropriate recommendations on behavioural intervention to achieve therapeutic outcomes.
  6.2.3 Discuss and formulate an individualised action plan with the client, including identifying specific treatment outcomes.
  6.2.4 Take a holistic approach to client care (i.e., consider client's medical conditions, occupation, social background/ lifestyle) in establishing the action plan.
  6.2.5 Suggest for referral (e.g., counsellor, dietitian, physiotherapist) to overcome any barriers.
  6.2.6 Discuss about the client's progress and provide feedback to the prescriber.

6.3 Evaluating pharmaceutical care plan.
  6.3.1 Monitor client's understanding and adherence to the agreed care plan.
  6.3.2 Follow up on the client's progress to ensure the achievement of desired outcomes.
  6.3.3 Do modifications to the existing plan if necessary.

## 7. DISCHARGE CRITERIA

NDMaPS pharmacists can discharge clients who fulfill any one of the following criteria:

7.1 Maintain abstinence for at least 6 months from the quit date.
7.2 Default three months follow-up or three consecutive visits.
7.3 Are deceased or transferred to other facilities.
7.4 Opt-out from the service.

# H. DOCUMENTATION

All relevant data including recommendations and interventions shall be documented in the Nicotine Dependence Management Pharmacy Service Review Form (Appendix 3), either manually or electronically in the Pharmacy Information System (PhIS). Manual recording is only permitted where an IT system is unavailable.

Any referral for continuation of care shall be made using the pharmacist referral form CP4 (Appendix 8).

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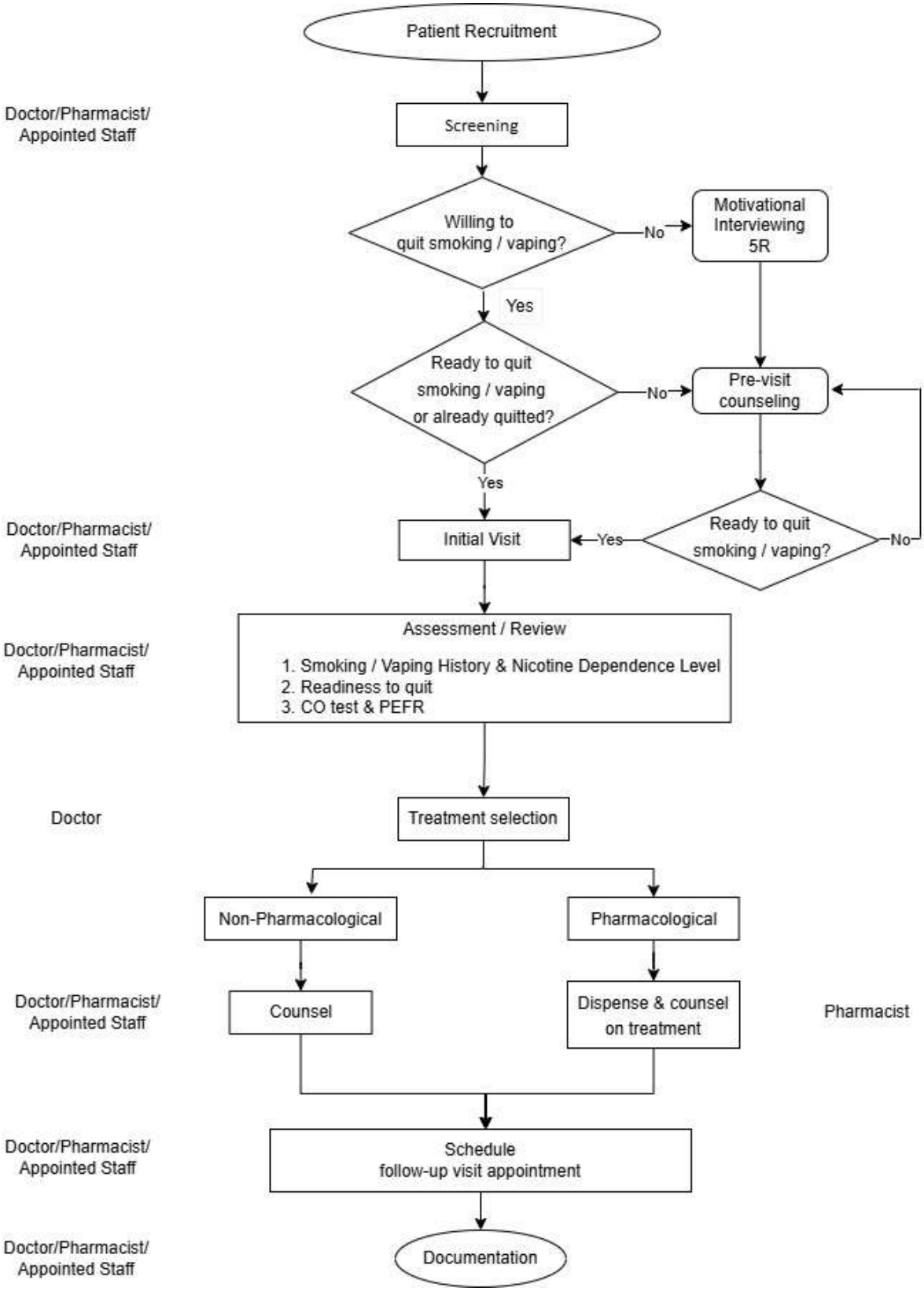
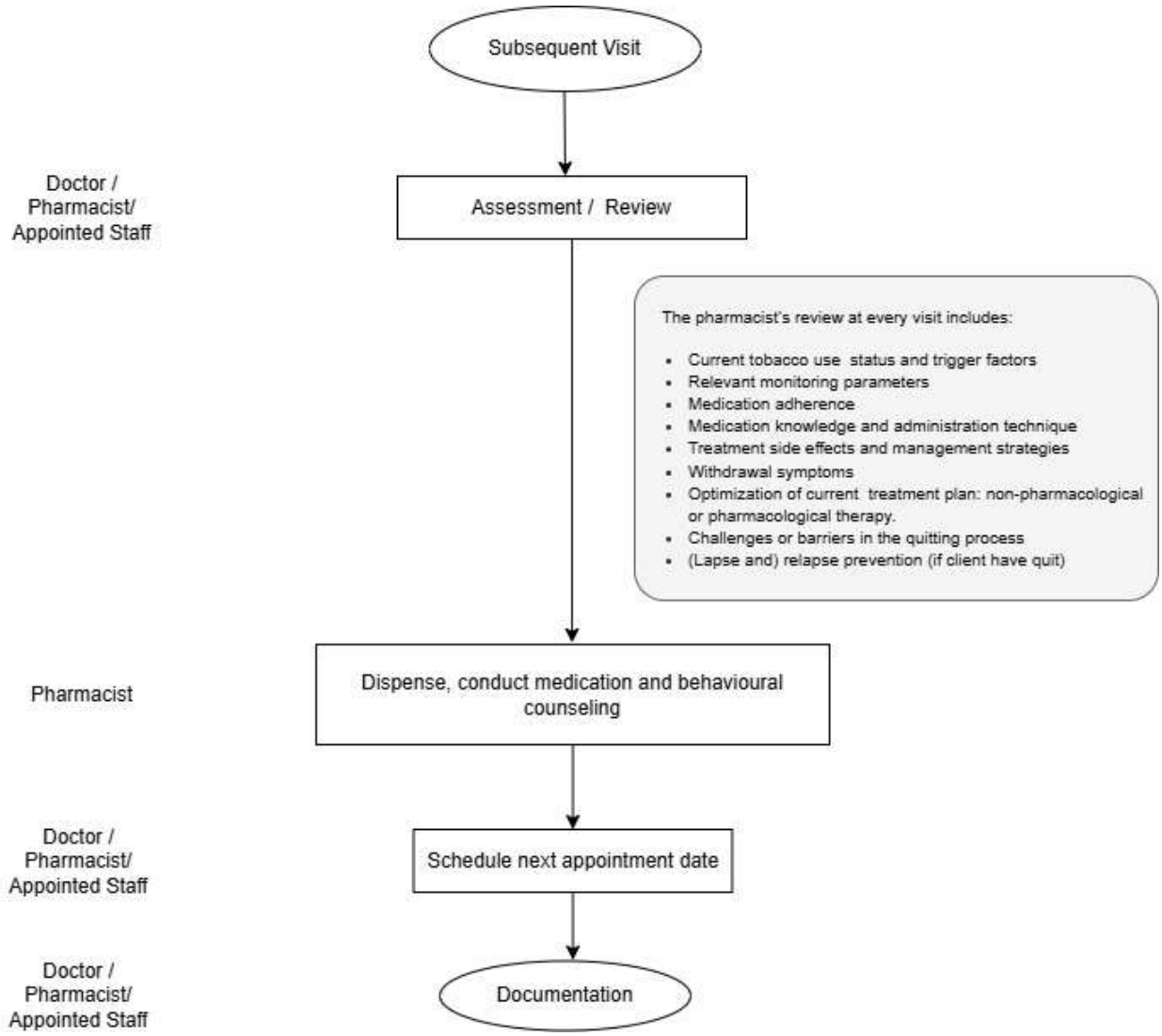
# J. APPENDICES

## APPENDIX 1: NDMaPS WORKFLOW (INITIAL ASSESSMENT)



## APPENDIX 2: NDMaPS WORKFLOW (SUBSEQUENT VISITS)



## APPENDIX 3: NDMaPS REVIEW FORM

**NICOTINE DEPENDENCE MANAGEMENT PHARMACY SERVICE REVIEW FORM**
**PHARMACEUTICAL SERVICES DIVISION**
**MINISTRY OF HEALTH, MALAYSIA**

Code: _____

| | | | | | | |
|---|---|---|---|---|---|---|
| Target Quit Date | | | | | | |
| Actual Quit Date | | | | | | |

**A. Client Details**

| **Name:** | | **IC/RN:** | **Age:** |
|---|---|---|---|
| **Gender:** M / F | **Race:** M / C / I / Others | **Tel: (1)**<br>**(2)** | **Email:** (optional) |

**B. Pharmacotherapy Details**

| **VISIT NUMBER** | **VISIT TYPE** (Physical / Virtual) | **APPOINTMENT DATE** | **ATTENDANCE DATE** | **PHARMACOTHERAPY (Please √)** | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **NRT Patch 25mg** | **NRT Patch 15mg** | **NRT Patch 10mg** | **NRT Gum 4mg** | **NRT Gum 2mg** | **NRT Mouth Spray 1mg** | **Non-NRT: _____** | **Non-NRT: _____** |
| **Pre-visit** | | | | | | | | | | | |
| **1** | | | | | | | | | | | |
| **2** | | | | | | | | | | | |
| **3** | | | | | | | | | | | |
| **4** | | | | | | | | | | | |
| **5** | | | | | | | | | | | |
| **6** | | | | | | | | | | | |
| **7** | | | | | | | | | | | |
| **8** | | | | | | | | | | | |
| **9** | | | | | | | | | | | |
| **10** | | | | | | | | | | | |

**C. Social & Family History**

| | | | |
|---|---|---|---|
| **Education:**<br>None / 1' / 2' / 3' | **Income:** | **Occupation:** | **Diet / Lifestyle:** (optional) |
| **Pregnant:** Y / N | **Alcohol Use:** Y / N | **Illicit Drugs:** Y / N | **Family History of Illness:** |
| **Marital status:**<br>Single / married / divorced / widow(er) | **No. of children:** | **Lives with:** | |

**D. Past Medical & Medication History**

| **Drug Allergy:** Y / N | **Alcohol Use:** Y / N | **Illicit Drugs:** Y / N |
|---|---|---|
| **Medical Problem** | **Medication (Name, dose, frequency)** | |
| Asthma/COPD Y / N | | |
| Diabetes Mellitus Y / N | | |
| Hypertension Y / N | | |
| Dyslipidemia Y / N | | |
| Heart Disease<br>Please specify: Y / N | | |
| Mental Health Disorders<br>Please specify: Y / N | | |
| Others (please state): | | |

**E. History of Nicotine Product Use & Past Quit Attempt**

| | | | |
|---|---|---|---|
| **Types of nicotine product used:** | | **Reason for use of nicotine product:** friend / fun / stress / others<br>Others (please state): | |
| **Daily consumption of nicotine products & brand:** | | **Daily cost spent on nicotine product:** | |
| **Duration of nicotine product-used:** | | | |
| **Trigger factors:** | ( ) After meal | ( ) During festive season) | ( ) When feeling bored/sleepy |
| | ( ) Stress | ( ) Friends/Colleague | ( ) Watching TV |
| | ( ) In the bathroom/ toilet | ( ) Live with smokers | Others (please state): |
| **No. of quit attempt(s):** | **Date of last attempt:**<br>**Longest quit duration:** | **Method:** | |
| **Is it a relapse?** Y / N | **Reason(s):** Craving ( ), Lack of support to stop ( ), Peer pressure ( ), Others (please state): | | |

| | |
|---|---|
| **Readiness to quit** | **Stages of change (The Transtheoretical Model)**<br>( ) Pre-contemplation : No intention to quit within the next six months<br>( ) Contemplation : Intend to quit within the next six months<br>( ) Preparation: Ready to quit within the next one month<br>( ) Action: Has quit but for less than six months<br>( ) Maintenance: Has remained free from using tobacco or nicotine products for six months or longer |
| **Reasons to quit** | Health / Finance / Family / Force / Others (please state): |

**F. Nicotine Dependence Level**

**F(i): Fagerstrom Test for Nicotine Dependence (FTND) - Cigarette / Modified Fagerstrom Test for Nicotine Dependence – Vape**

| No | Questions | 0 | 1 | 2 | 3 | Score |
|---|---|---|---|---|---|---|
| 1 | **How soon after you wake up do you smoke your first cigarette / vape?**<br>*Selepas bangun daripada tidur, bilakah anda mula menghisap rokok / vape pertama anda?* | **>60 min** | **31-60 min** | **6-30 min** | **<5 min** | |
| 2 | **Do you find it difficult to not smoke / vape in places where it is forbidden? E.g. Work, cinema.**<br>*Adakah anda berasa sukar untuk menahan diri daripada merokok/ vaping di kawasan larangan merokok?* | **No**<br>*Tidak* | **Yes**<br>*Ya* | | | |
| 3 | **When do you find it most difficult to refrain from smoking / vaping?**<br>*Waktu merokok / vaping yang mana satu paling sukar untuk dielakkan?* | **Any other**<br>*Waktu lain* | **First in morning**<br>*Awal Pagi* | | | |
| 4 | **How many cigarettes do you smoke per day? / How many times* a day do you vape?**<br>***one-time of e-cigarette session consists of an average puff up to 15***<br>*Berapa batang rokok yang anda hisap dalam sehari? / Berapa kali sehari anda menghisap vape?* | **≤10** | **11-20** | **21-30** | **≥31** | |
| 5 | **Do you smoke / vape more frequently during the first hours after waking than during the rest of the day?**<br>*Adakah anda merokok /vaping lebih kerap beberapa jam pertama selepas bangun daripada tidur berbanding pada waktu lain?* | **No**<br>*Tidak* | **Yes**<br>*Ya* | | | |
| 6 | **Do you smoke / vape if you are so ill that you are in bed most of the day?**<br>*Adakah anda merokok/vaping meskipun ketika anda sakit dan terlantar di katil sepanjang hari?* | **No**<br>*Tidak* | **Yes**<br>*Ya* | | | |

| FTND Score | Dependence Level |
|---|---|
| 0- 3 | Low |
| 4-6 | Moderate |
| 7-10 | High |

**F(ii): Carbon Monoxide (CO) Level Trend Chart**

| CO (ppm) | %COHb | Status | Date | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| **20+** | 3.20+ | **Heavy Smoker** | | | | | | | | |
| **20** | 3.20 | **Smoker** | | | | | | | | |
| **19** | 3.04 | | | | | | | | | |
| **18** | 2.88 | | | | | | | | | |
| **17** | 2.72 | | | | | | | | | |
| **16** | 2.56 | | | | | | | | | |
| **15** | 2.40 | | | | | | | | | |
| **14** | 2.24 | | | | | | | | | |
| **13** | 2.08 | | | | | | | | | |
| **12** | 1.92 | | | | | | | | | |
| **11** | 1.76 | | | | | | | | | |
| **10** | 1.60 | **Light Smoker** | | | | | | | | |
| **9** | 1.44 | | | | | | | | | |
| **8** | 1.28 | | | | | | | | | |
| **7** | 1.12 | | | | | | | | | |
| **6** | 0.96 | **Non-Smoker** | | | | | | | | |
| **5** | 0.80 | | | | | | | | | |
| **4** | 0.64 | | | | | | | | | |
| **3** | 0.48 | | | | | | | | | |
| **2** | 0.32 | | | | | | | | | |
| **1** | 0.16 | | | | | | | | | |

**G. Visit Details**

| G(i): PHYSIOLOGICAL ASSESSMENTS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Visit number** | **Pre-visit** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** |
| **Date** | | | | | | | | | | | | |
| **BP (mmHg)** | | | | | | | | | | | | |
| **HR (bpm)** | | | | | | | | | | | | |
| **Weight (kg)** | | | | | | | | | | | | |
| **Height (m)** | | | | | | | | | | | | |
| **BMI (kg/m$^2$)** | | | | | | | | | | | | |
| **CO level (ppm)** | | | | | | | | | | | | |
| **FTND/ modified FTND score** | | | | | | | | | | | | |
| **Q1** | | | | | | | | | | | | |
| **Q2** | | | | | | | | | | | | |
| **Q3** | | | | | | | | | | | | |
| **Q4** | | | | | | | | | | | | |
| **Q5** | | | | | | | | | | | | |
| **Q6** | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |
| **Peak Flow (L/min)** | | | | | | | | | | | | |

| G(ii): NICOTINE PRODUCTS USE | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Current Use of Nicotine Products** (Yes / No) | | | | | | | | | | | | |
| **Daily Consumption Nicotine Product** | | | | | | | | | | | | |
| **Daily Cost Spent on Nicotine Product (RM)** | | | | | | | | | | | | |
| **Attitude towards Cessation** (Positive/ Negative/ Uncertain) | | | | | | | | | | | | |
| **G(iii): WITHDRAWAL SYMPTOMS (Please √ )** | | | | | | | | | | | | |
| **A. Physical Dependence** | | | | | | | | | | | | |
| **Craving** | | | | | | | | | | | | |
| **Irritability/restlessness** | | | | | | | | | | | | |
| **Impatience** | | | | | | | | | | | | |
| **Poor concentration** | | | | | | | | | | | | |
| **Fatigue** | | | | | | | | | | | | |
| **Change in sleep pattern** | | | | | | | | | | | | |
| **Palpitation** | | | | | | | | | | | | |
| **Anger/frustration** | | | | | | | | | | | | |
| **Headache** | | | | | | | | | | | | |
| **Change in bowel movement** | | | | | | | | | | | | |
| **Change in appetite** | | | | | | | | | | | | |
| **Dizziness** | | | | | | | | | | | | |
| **Tremors** | | | | | | | | | | | | |
| **Tingling of hands and feet** | | | | | | | | | | | | |
| **Coughing** | | | | | | | | | | | | |
| **B. Behavioural Dependence** | | | | | | | | | | | | |
| **Habitual-hand-to-mouth action** | | | | | | | | | | | | |
| **Habitual-situational triggers** (eg. After meal, relax, stress) | | | | | | | | | | | | |
| **Psychological dependence** (eg. Convinced cigarette/ vape as source of comfort) | | | | | | | | | | | | |

| G(iv): SIDE EFFECTS (Please √ ) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Visit number & type** (physical/telephone/virtual) | **Pre-visit** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** |
| **A. Nicotine Gum** | | | | | | | | | | | | |
| **Headache** | | | | | | | | | | | | |
| **Dizziness** | | | | | | | | | | | | |
| **GI discomfort** | | | | | | | | | | | | |
| **Hiccups** | | | | | | | | | | | | |
| **Nausea** | | | | | | | | | | | | |
| **Vomiting** | | | | | | | | | | | | |
| **Throat irritation** | | | | | | | | | | | | |
| **Jaw ache** | | | | | | | | | | | | |
| **Palpitations** | | | | | | | | | | | | |
| **Erythema** | | | | | | | | | | | | |
| **Atrial flutter** | | | | | | | | | | | | |
| **Allergy reaction** | | | | | | | | | | | | |
| **B. Nicotine Patch** | | | | | | | | | | | | |
| **Headache** | | | | | | | | | | | | |
| **Dizziness** | | | | | | | | | | | | |
| **Nausea** | | | | | | | | | | | | |
| **Vomiting** | | | | | | | | | | | | |
| **Irritation at site of patch** | | | | | | | | | | | | |
| **Erythema at site of patch** | | | | | | | | | | | | |
| **Palpitations** | | | | | | | | | | | | |
| **C. Nicotine Mouth Spray** | | | | | | | | | | | | |
| **Hiccups** | | | | | | | | | | | | |
| **Headache** | | | | | | | | | | | | |
| **Nausea/Vomiting** | | | | | | | | | | | | |
| **Throat irritation** | | | | | | | | | | | | |
| **Sore/Dry Mouth** | | | | | | | | | | | | |
| **Taste Disturbance** | | | | | | | | | | | | |
| **Cough** | | | | | | | | | | | | |
| **Pharmacist ‘s signature** | | | | | | | | | | | | |

| G(iv): SIDE EFFECTS (Please √ ) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Visit number & type** (physical/telephone/virtual) | **Pre-visit** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** |
| **D. Varenicline** | | | | | | | | | | | | |
| **Nausea** | | | | | | | | | | | | |
| **Increased appetite** | | | | | | | | | | | | |
| **Abnormal dreams** | | | | | | | | | | | | |
| **Insomnia** | | | | | | | | | | | | |
| **Dizziness** | | | | | | | | | | | | |
| **Vomiting** | | | | | | | | | | | | |
| **Constipation** | | | | | | | | | | | | |
| **Diarrhoea** | | | | | | | | | | | | |
| **Abdominal distension** | | | | | | | | | | | | |
| **Flatulence** | | | | | | | | | | | | |
| **Stomach discomfort** | | | | | | | | | | | | |
| **Dry mouth** | | | | | | | | | | | | |
| **Fatigue** | | | | | | | | | | | | |
| **Suicidal ideation** | | | | | | | | | | | | |
| **Headache** | | | | | | | | | | | | |
| **E. Cytisine** | | | | | | | | | | | | |
| **Nausea** | | | | | | | | | | | | |
| **Vomiting** | | | | | | | | | | | | |
| **Abdominal discomfort** | | | | | | | | | | | | |
| **Dry mouth** | | | | | | | | | | | | |
| **Headache** | | | | | | | | | | | | |
| **Dizziness** | | | | | | | | | | | | |
| **Sleep disturbances** | | | | | | | | | | | | |
| **Palpitations** | | | | | | | | | | | | |
| **F. Antidepressants (Bupropion SR, Nortriptyline)** | | | | | | | | | | | | |
| **Insomnia** | | | | | | | | | | | | |
| **Dry mouth** | | | | | | | | | | | | |
| **Headache** | | | | | | | | | | | | |
| **Nausea** | | | | | | | | | | | | |
| **Dizziness** | | | | | | | | | | | | |
| **Constipation** | | | | | | | | | | | | |
| **Tremor** | | | | | | | | | | | | |
| **Anxiety/Agitation** | | | | | | | | | | | | |
| **Blurred vision** | | | | | | | | | | | | |
| **Drowsiness/Sedation** | | | | | | | | | | | | |
| **Weight gain** | | | | | | | | | | | | |
| **Orthostatic hypotension** | | | | | | | | | | | | |
| **Pharmacist ‘s signature** | | | | | | | | | | | | |

| G(v): PHARMACEUTICAL CARE ISSUES | | | |
|---|---|---|---|
| **Date** | **Pharmaceutical Care Issues** | **Interventions** | **Outcome** |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

APPENDIX 4: READINESS & MOTIVATION TO QUIT

## A) Transtheoretical Model of Stage of Change


*Adapted from Prochaska and DiClemente's cycle of change,1983*

## B) Assessment of Motivation to Stop Smoking

| | |
|---|---|
| Do you want to stop smoking for good? | No / Yes |
| Are you interested in making a serious attempt to stop in the near future? | No / Yes |
| Are you interested in receiving help with your quit attempt? | No / Yes |

Simple qualitative test of motivation to stop smoking. A "yes" response to all questions suggests that behavioral support and/or medication should be offered

## APPENDIX 5: NDMaPS COUNSELLING GUIDE (PHARMACOTHERAPY)

### 1. NICOTINE REPLACEMENT THERAPY: NICOTINE GUM

| **COUNSELLING POINTS** |
|---|
| **Dosing** |
| ➢ For monotherapy: Use at least one piece every 1 to 2 hours for at least 1-3 months<br>➢ For combination therapy: Use 1 piece of gum when needed (referring to urge to smoke) |
| ➢ Use not more than 24 pieces per day |
| **Technique of Administration** |
| ➢ Chewing technique: Gum should be chewed slowly until a peppery or minty taste emerges, then parked between cheek and gum to facilitate nicotine absorption through the oral mucosa. Gum should be slowly and intermittently chewed and parked for about 30 minutes or until the taste dissipates |
| ➢ Absorption: Eating and drinking anything except water should be avoided for 15 minutes before and during chewing as acidic beverages (e.g., coffee, juices, and soft drinks) interfere with the buccal absorption of nicotine. Do not eat or drink while gum is in the mouth |
| **Side effects** |
| ➢ Mouth soreness, hiccups, dyspepsia, and jaw ache - generally mild and transient and often can be alleviated by correcting the client's chewing technique |
| **Precaution** |
| ➢ Cardiac problems such as immediate (within 2 weeks) post myocardial infarction period, those with serious arrhythmias, and those with serious or worsening angina pectoris |
| ➢ Pregnancy: Pregnant smokers should be encouraged to quit first without pharmacologic treatment. Nicotine gum should be used during pregnancy only if the increased likelihood of smoking abstinence, with its potential benefits, outweighs the risk of nicotine replacement and potential concomitant smoking. Similar factors should be considered in lactating women (FDA Class D) |

## 2. NICOTINE REPLACEMENT THERAPY: NICOTINE PATCH

| **COUNSELLING POINTS** |
|---|
| **Dosing** |
| If smoke ≥ 15 cigarettes per day:<br>8 weeks : 25mg/16 hours<br>Then 2 weeks : 15mg/16 hours<br>Then 2 weeks : 10mg/16 hours<br>If smoke < 15 cigarettes per day:<br>8 weeks : 15mg/16 hours<br>Then 4 weeks : 10mg/16 hours |
| **Technique of administration** |
| ➢ Patch should be applied as client wakes up each day to avoid sleep disruption |
| ➢ Apply on relatively hairless location (e.g. hip, upper arm or chest) |
| ➢ Rotate sites (each week) to avoid skin irritation |
| ➢ When the patch is removed, fold patch and place it in its pouch before discarding |
| **Side effects** |
| ➢ Skin reaction – Rotate patch sites or treat with steroidal creams |
| ➢ Headache, dizziness, nausea, vomiting |
| ➢ Insomnia and/or vivid dreams- may be related to |
| **Precaution** |
| ➢ Cardiac problems such as immediate (within 2 weeks) post myocardial infarction period, those with serious arrhythmias, and those with serious or worsening angina pectoris |
| ➢ Pregnancy: Pregnant smokers should be encouraged to quit first without pharmacological treatment. The nicotine patch should be used during pregnancy only if the increased likelihood of smoking abstinence, with its potential benefits, outweighs the risk of nicotine replacement and potential concomitant smoking. Similar factors should be considered in lactating women. (FDA Class D) |

## 3. NICOTINE REPLACEMENT THERAPY: NICOTINE MOUTH SPRAY

| **COUNSELLING POINTS** |
|---|
| **Dosing** |
| ➢ 1-2 spray as per needed. Up to 3 sprays per hour<br>➢ Do not exceed 2 sprays per dosing episode<br>➢ Maximum: 48 sprays/day |
| **Technique of administration** |
| ➢ Priming:<br>• Load the spray pump<br>• Point the spray nozzle safely away from other adults, children and pets nearby<br>• Press the top of the spray with index finger 3 times until a fine spray appears |
| ➢ To open:<br>• Use the thumb to slide down the button until it can be pushed lightly inwards. Do not push too hard<br>• While pushing, slide upwards to unlock the top of the dispenser. Then release the button |
| ➢ To use:<br>• Point the spray nozzle towards the open mouth and hold it as close to the mouth as possible<br>• Press the top of the spray into the mouth, avoiding the lips |
| ➢ To close:<br>• Slide the button down until it can be pushed inwards<br>• While pushing-in, slide the top of the dispenser downwards. Release the button to close the spray |
| ➢ Others:<br>• Do not inhale while spraying to avoid getting spray into respiratory tract<br>• Do not swallow for a few seconds after spraying<br>• Do not eat or drink when during administration |
| **Side effects** |
| ➢ Hiccups, cough, throat irritation, headache, nausea/vomiting, taste disturbance, dry mouth |
| **Precaution** |
| ➢ Cardiac problems such as immediate (within 2 weeks) post myocardial infarction period, those with serious arrhythmias, and those with serious or worsening angina pectoris |
| ➢ Pregnancy: Pregnant smokers should be encouraged to quit first without pharmacological treatment. The nicotine patch should be used during pregnancy only if the increased likelihood of smoking abstinence, with its potential benefits, outweighs the risk of nicotine replacement and potential concomitant smoking. Similar factors should be considered in lactating women. (FDA Class D) |

## 4. NON-NICOTINE BASED: VARENICLINE

| **COUNSELLING POINTS** |
|---|
| **Dosing** |
| Recommended dose:<br>➢ Day 1-3: 0.5mg od<br>➢ Day 4-7: 0.5mg bd<br>➢ Day 8 to end of treatment: 1mg bd |
| Patients with renal impairment:<br>➢ For patients with **moderate** renal impairment who experience adverse events that are not tolerable: 1 mg once daily.<br>➢ For patients with **severe** renal impairment (estimated creatinine clearance <30 mL/min): Dosing should begin at 0.5 mg once daily for the first 3 days then increased to 1 mg once daily.<br>➢ Based on insufficient clinical experience in patients with end-stage renal disease, treatment is not recommended in this patient population. |
| **Technique of administration** |
| ➢ Take with food (non-oily food) |
| ➢ Take with a full glass of water |
| ➢ Take at the same time everyday |
| **Side effects** |
| ➢ May impair the ability to drive or operate heavy machinery |
| ➢ Nausea- Take on a full stomach |
| ➢ Insomnia- Take second pill at supper time or after dinner |
| ➢ Trouble sleeping, abnormal/ vivid/ strange dreams, abdominal pain, flatulence, headache. |
| **Contraindication/Precaution** |
| ➢ Pregnancy (FDA Category C), kidney disease, history of psychiatric illness, change in mood- Inform doctor or pharmacist |

## 5. NON-NICOTINE BASED: CYTISINE

**COUNSELLING POINTS**

**Dosing**

- 1.5mg per tablet

- Prescribing instruction

| Days of treatment | Recommended dosing | Maximum daily dose |
|---|---|---|
| From the 1st to the 3rd day | 1 tablet every 2 hours | 6 tablets |
| From the 4th to the 12th day | 1 tablet every 2.5 hours | 5 tablets |
| From the 13th to the 16th day | 1 tablet every 3 hours | 4 tablets |
| From the 17th to the 20th day | 1 tablet every 5 hours | 3 tablets |
| From the 21st to the 25th day | 1 – 2 tablets a day | 2 tablets |

**Technique of administration**

- Take after meals to reduce GI upset

- Take with a full glass of water

**Side effects**

- Very common: Dry mouth, diarrhoea, nausea, changes in flavour, heartburn, constipation, vomiting, abdominal pain

- Others: Sleep disorders (insomnia, drowsiness, lethargy, abnormal dreams, nightmares), headaches

- If persistent palpitation, advice patient to report to healthcare provider

- Side effects are usually dose-related and mild

**Contraindication/Precaution**

- A lack of clinical experience or safety data means that cytisine is not recommended for patients:
  - with renal impairment
  - with hepatic impairment
  - over 65 years of age
  - under 18 years of age

- Cytisine should not be used with anti-tuberculosis drugs.

- Hypersensitivity to the active substance or to any of the excipients. Others:
  - Unstable angina,
  - A history of recent myocardial infarction,
  - Clinically significant arrhythmias,
  - A history of recent stroke,
  - Pregnancy and breastfeeding

## 6. NON-NICOTINE BASED: BUPROPION SR

| **COUNSELLING POINTS** |
|---|
| **Dosing** |
| ➢ Bupropion SR 150 mg OM for 3 days<br>➢ Bupropion SR 150 mg BD for 7 - 12 weeks, following the quit date<br>➢ Unlike nicotine replacement products, patients should begin Bupropion SR treatment 1-2 weeks before they quit smoking. |
| ➢ Maintenance therapy<br>• Bupropion SR 150 mg BD for up to 6 months |
| **Technique of administration** |
| ➢ Take a full glass of water |
| ➢ Take at the same time everyday |
| **Side effects** |
| ➢ Insomnia- avoid taking dose close to bedtime (to take 2nd dose in the afternoon, at least 8 hours after the first dose) |
| ➢ Dry mouth is common – encourage fluids |
| **Contraindication/Precaution** |
| ➢ Bupropion SR is contraindicated in individuals with a history of seizure disorder, a history of an eating disorder, who are using another form of bupropion (Wellbutrin SR) or who have used an MAO inhibitor in the past 14 days. |
| ➢ Cardiovascular diseases: Generally well tolerated; infrequent reports of hypertension. |
| ➢ Pregnant smokers should be encouraged to quit first without pharmacologic treatment. Bupropion SR should be used during pregnancy only if the increased likelihood of smoking abstinence, with its potential benefits, outweighs the risk of bupropion SR treatment and potential concomitant smoking (FDA Category C).<br>➢ Similar factors should be considered in lactating women (FDA Class B). |

## 7. NON-NICOTINE BASED: NORTRIPTYLINE

| **COUNSELLING POINTS** |
|---|
| **Dosing** |
| ➢ Starting dose: 25 mg/day<br>➢ Titration: Increase gradually to a target dose of 75mg to 100 mg/day<br>➢ Maximum dose: Not to exceed 150 mg/day |
| ➢ Usually continued for 12 weeks<br>➢ Treatment may be extended up to 6 months to prevent relapse<br>➢ Taper the dose gradually when discontinuing to avoid withdrawal symptoms (e.g. nausea, headache). Do not stop abruptly. |
| **Technique of administration** |
| ➢ Swallow whole with a full glass of water |
| ➢ Take at the same time everyday |
| ➢ Can be taken with or without food. |
| ➢ Recommended to be taken in the evening/at night to manage potential drowsiness. |
| **Side effects** |
| ➢ Sedation/drowsiness is common – advice caution when driving or operating heavy machinery |
| ➢ Orthostatic hypotension- stand up slowly to prevent dizziness |
| ➢ Common tricyclic antidepressant (TCA): dry mouth, blurred vision, constipation, urinary retention, insomnia or vivid dreams, tachycardia, tremors |
| **Contraindication/Precaution** |
| ➢ Contraindicated with concurrent use of MAOIs (Monoamine Oxidase Inhibitors) or use within the last 14 days<br>➢ Extra caution in elderly and cardiac patients (Acute recovery period following a myocardial infarction)<br>➢ Use cautiously in patients with a history of seizures as it can lower the convulsive threshold.<br>➢ For pregnancy and breastfeeding, safe use has not been established. Benefits must clearly outweigh hazards (FDA Class D) |

## APPENDIX 6: NDMaPS COUNSELLING GUIDE (BEHAVIOURAL INTERVENTION)

### 1. ADDRESSING CRAVINGS

| **Using 5Ds strategy to cope with nicotine withdrawal symptoms** | |
|---|---|
| **Delay** | Reaching for cigarettes/vape until urges pass |
| **Distract** | Yourself- call a friend to go for a walk, take after meal walks, fruits after meal, shower, exercise, yoga or take sweets |
| **Drink water** | To fight off cravings |
| **Deep breaths** | Relax- close your eyes and take 10 deep breaths |
| **Discuss your feelings** | With someone close to you or at a support forum |

| **Using DEAD strategy to cope with nicotine withdrawal symptoms** | |
|---|---|
| **Delay** | Delay reaching for cigarettes/vape |
| **Escape** | E.g.: Reject offers for cigarettes/vape, throw away cigarettes / lighters / ashtrays / vape |
| **Avoid** | Triggers factors like smoking zones, food / beverage that will trigger urge to smoke/vape (hot & spicy food, strong caffeinated drinks) |
| **Distract** | After meal walks, take fruits after meal, shower, exercise, yoga, sweets |

## 2. ADDRESSING WITHDRAWAL SYMPTOMS

| **Withdrawal symptoms** | |
|---|---|
| **Symptoms** | **Coping strategies** |
| **Constant cravings** | ➢ Follow 5D or DEAD strategies |
| **Feeling irritable** | ➢ Do relaxation exercises |
| | ➢ Listen to soothing music |
| | ➢ Watch a movie |
| | ➢ Warn family and friends of potential irritability |
| | ➢ Do light exercises e.g. brisk walking to release endorphins in the body |
| **Headaches** | ➢ Get enough sleep |
| | ➢ Stay in quiet, relaxed surroundings |
| | ➢ Don't stress the eyes. Read and watch television with the lights on |
| **Feeling tired** | ➢ Get enough sleep |
| | ➢ Don't tire yourself out |
| | ➢ Do light exercises e.g. brisk walking |
| | ➢ Take small regular meals to regulate your blood sugar level and boost energy level |
| | ➢ Replace coffee with ginger or herbal tea to perk up |
| **Coughing** | ➢ Suck on sugar-free cough drops |
| | ➢ Sip warm water |
| **Tingling hands and feet** | ➢ Distract yourself with a book or a walk |
| | ➢ Go for stretching exercises such as yoga |
| | ➢ Go for foot or hand massages |

## 3. RELAPSE PREVENTION

### MINIMAL PRACTICE

| **Intervening with client who recently quit** | |
|---|---|
| **Refrain from smoking** | Follow DEAD strategies |
| **Congratulate** | On ANY success and strong encouragement to remain abstinent |
| **Use open-ended questions relevant to the topics below to discuss issues related to quitting** | |
| **Benefit** | Potential health benefits derived from cessation |
| **Success** | Success the client has had in quitting (duration of abstinence, reduction in withdrawal) |
| **Anticipated threats or problems encountered** | E.g. Depression, weight gain, alcohol, other tobacco or nicotine product users in the household, significant stressors |
| **Medication check-in** | Effectiveness and side effects if the client is still taking medication |

*Source:* (Fiore, 2008)

| Problems encountered by former smokers/vapers | |
|---|---|
| **Problems** | **Responses** |
| **Lack of support for cessation** | ➢ Schedule follow-up visits or telephone calls with the client. |
| | ➢ Urge the client to call the national quit line network or other local quit line. |
| | ➢ Help the client identify sources of support within his or her environment. |
| | ➢ Refer the client to an appropriate organization or support. |
| **Negative mood or depression **** | ➢ If significant, provide counselling, prescribe appropriate medication, or refer the client to a specialist. |
| **Strong or prolonged withdrawal symptoms** | ➢ Consider extending the use of an approved medication or adding/combining medications to reduce strong withdrawal symptoms. |
| | ➢ Use 5Ds strategy |
| **Weight gain** | ➢ Recommend starting or increasing physical activity- 30 minutes 5 times a week or more |
| | ➢ Emphasize the importance of a healthy diet and active lifestyle |
| | ➢ Reassure the client that some weight gain after quitting is common and usually is self-limiting. |
| | ➢ Emphasize the health benefits of quitting relative to the health risks of modest weight gain. |
| | ➢ Low-calorie substitutes such as sugarless chewing gum, vegetables, mints, fresh fruits or crunchy vegetables. |
| | ➢ Drink at least 8 glasses or water daily. |
| | ➢ Maintain the client on medication known to delay weight gain (e.g., NRTs—particularly 4-mg nicotine gum and lozenge). |

| Problems encountered by former smokers/vapers | |
|---|---|
| **Problems** | **Responses** |
| | ➢ Refer the client to a nutritional counsellor or program. |
| **Smoking lapses** | ➢ Suggest continued use of medications, which can reduce the likelihood that a lapse will lead to a full relapse.<br>➢ Encourage another quit attempt or a recommitment to total abstinence.<br>➢ Reassure that quitting may take multiple attempts, and use the lapse as a learning experience. |
| | ➢ Provide or refer for intensive counselling.<br>➢ Reassure the client that these feelings are common.<br>➢ Recommend rewarding activities.<br>➢ Probe to ensure that the client is engaged in periodic tobacco or nicotine products use.<br>➢ Emphasize that beginning to smoke (even a puff) will increase urges and make quitting more difficult. |

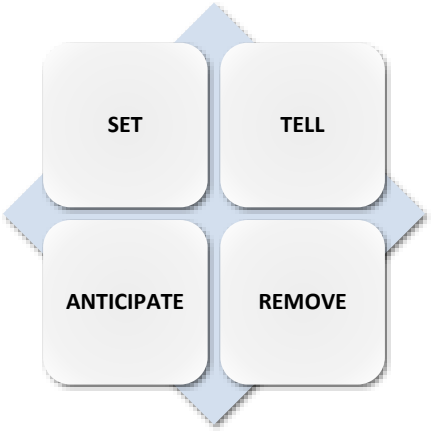
** Recommended to refer / conduct mental health screening

Source: Fiore et al. 2008

## 4. 5A'S – ASSIST IN QUITTING


| | |
|---|---|
| **Ask** | Identify and document tobacco or nicotine product use status for every client at every visit, including the adolescents. Where appropriate, ask the caretaker of the client about products used or exposure to tobacco smoke. |
| **Advice** | Advise in a clear, strong and personalized manner to urge every nicotine user to quit. |
| **Assess** | Is the nicotine product user willing to make a quit attempt at this time? If the client clearly states he or she is unwilling to make a quit attempt at this time, provide a motivational intervention built around the "5 R's": Relevance, Risks, Rewards, Roadblocks, and Repetition. |
| **Assist** | Assist in quit attempt for clients who are willing to make a quit attempt, use counselling with pharmacotherapy (when indicated) to help him or her quit. Apply STAR method in preparations for quitting (see below). |
| **Arrange** | Follow-up should occur soon after the quit date, preferably during the first week. Subsequent follow-ups are recommended weekly within the first month, and then every two weeks for the 2nd and 3rd month, and monthly after that up to 6 months. |

## 5. STAR – FOR CLIENT PREPARING TO QUIT




| | | |
|---|---|---|
| **Set** | : | Set a quit date. Ideally, the quit date should be within 2 weeks. |
| **Tell** | : | Tell family, friends, and co-workers about quitting request understanding and support. Also, help client obtain extra-treatment social support from self-help groups, if available. |
| **Anticipate** | : | Anticipate challenges to planned quit attempt, particularly during the critical first few weeks, including nicotine withdrawal symptoms. Discuss challenges/triggers and how to overcome them. |
| **Remove** | : | Remove tobacco or nicotine products from the environment. Prior to quitting, avoid smoking in places where most of the time is spent (e.g., work, home, car). |

## 6. 5R - FOR CLIENT UNWILLING TO QUIT

| | |
|---|---|
| **Relevance** | Encourage the client to indicate why quitting is personally relevant, being as specific as possible. |
| **Risks** | Ask the client to identify potential negative consequences of tobacco or nicotine products use. |
| **Rewards** | Ask the client to identify potential benefits of stopping nicotine products or tobacco use. |
| **Roadblocks** | Ask the client to identify barriers or impediments to quitting and provide treatment that could address barriers. |
| **Repetition** | Repeat motivational intervention every time an unmotivated client visits the clinic setting. |

## 7. MOTIVATIONAL INTERVIEWING STRATEGIES

### Express Empathy

- Use open-ended questions to explore the importance of addressing nicotine products use, concerns and benefits of quitting.
- Use reflective listening to seek shared understanding
- Normalize feelings and concerns
- Support the client's autonomy and right to choose or reject change.

### Roll with Resistance

- Back off and use reflection when the client expresses resistance.
- Express empathy.
- Ask permission to provide information.

### Develop Discrepancy

- Highlight the discrepancy between the client's present behaviour and expressed priorities, values, and goals.
- Reinforce and support "change talk" and "commitment" language.
- Build and deepen commitment to change.

### Support Self-efficacy

- Help the client to identify and build on past successes.
- Offer options for achievable small steps toward change.

## APPENDIX 7 : MEDICATION INTERACTIONS WITH NICOTINE & TOBACCO-USE

Drug interactions in tobacco users occur mainly due **to polycyclic aromatic hydrocarbons (PAHs)** in **tobacco smoke**, which **induce liver enzymes** (CYP1A1, CYP1A2, and possibly CYP2E1), thereby reducing the effectiveness of certain medications. These effects are not caused by nicotine; therefore, nicotine replacement therapy does not produce such interactions. However, nicotine itself may counteract some drugs through its **stimulation** of the **sympathetic nervous system** (Medscape, 2007). Potential drug interactions in tobacco users shall be reviewed and managed as part of routine clinical care.

| Drug/Class | Mechanism of Interaction and Effects |
|---|---|
| **Pharmacokinetic Interactions** | |
| **Alprazolam (Xanax)** | • Conflicting data on significance of a PK interaction. Possible ↓ plasma concentrations (up to 50%); ↓ half-life (35%) |
| **Caffeine** | • ↑ Metabolism (induction of CYP1A2); ↑ clearance (56%)<br>• Likely ↑ caffeine levels after cessation |
| **Chlorpromazine** | • ↓ Area under the curve (AUC) (36%) and serum concentrations (24%)<br>• ↓ Sedation and hypotension possible in smokers; smokers may need ↑ dosages |
| **Clopidogrel** | • ↑ antiplatelet effect compared to non-smokers |
| **Clozapine** | • ↑ Metabolism (induction of CYP1A2); ↓ plasma concentrations (18%)<br>• Adverse events may occur when smoking is ceased |
| **Erlotinib** | • ↑ clearance; Exposure to erlotinib may be decreased in smokers, which should be considered when dosing |
| **Flecainide** | • ↑ Clearance (61%); ↓ trough serum concentrations (25%)<br>• Smokers may need ↑ dosages |
| **Fluvoxamine** | • ↑ Metabolism (induction of CYP1A2); ↑ clearance (24%); ↓ AUC (31%); ↓ plasma concentrations (32%)<br>• Dosage modifications not routinely recommended but smokers may need ↑ dosages |
| **Haloperidol** | • ↑ Clearance (44%); ↓ serum concentrations (70%) |
| **Heparin** | • Mechanism unknown but ↑ clearance and ↓ half-life is observed. Smoking has prothrombotic effects.<br>• Smokers may need ↑ dosages due to PK and PD interactions |
| **Insulin, subcutaneous** | • Possible ↓ insulin absorption 2° to peripheral vasoconstriction; smoking may cause release of endogenous substances that cause insulin resistance<br>• PK & PK interactions likely not clinically significant; smokers may need ↑ dosages |
| **Irinotecan** | • ↑ clearance; reduced exposure to Irinotecan in smokers may lead to ↓ heamatological toxicity<br>• Dosing should be closely monitored by oncologist |
| **Olanzapine** | • ↑ Metabolism (induction of CYP1A2); ↑ clearance (98%); ↓ serum concentrations (12%)<br>• Dosage modifications not routinely recommended but smokers may require ↑ dosages |

| Drug/Class | Mechanism of Interaction and Effects |
|---|---|
| **Propranolol** | • ↑ Clearance (77%; via side chain oxidation and glucuronidation) |
| **Theophylline** | • ↑ Metabolism (induction of CYP1A2); ↑ clearance (58-100%); ↓ half-life (63%)<br>• Levels should be monitored if smoking is initiated, discontinued, or changed<br>• ↑ Clearance with second-hand smoke exposure<br>• Maintenance doses are considerably higher in smokers |
| **Tricyclic antidepressants (e.g., imipramine, nortriptyline)** | • Possible interaction with tricyclic antidepressants in the direction of ↓ blood levels, but the clinical importance is not established |
| **Warfarin** | • Smokers may require higher doses. INR monitoring should accompany changes in smoking status |
| **Pharmacodynamic Interactions** | |
| **Benzodiazepines (e.g., diazepam)** | • ↓ Sedation and drowsiness, possibly caused by nicotine stimulation of central nervous system.<br>• If smoking is ceased, monitor for signs of sedation |
| **Beta-blockers** | • Less effective antihypertensive and heart rate control effects; might be caused by nicotine-mediated sympathetic activation<br>• Smokers may need ↑ dosages |
| **Corticosteroids, inhaled** | • Asthmatic smokers may have less of a response to inhaled corticosteroids |
| **Hormonal contraceptives** | • ↑ Risk of cardiovascular adverse effects (e.g., stroke, myocardial infarction, thromboembolism) in women who smoke and use oral contraceptives<br>• ↑ Risk with age and with heavy smoking (15 or more cigarettes per day) and is quite marked in women age 35 and older |
| **Opioids (e.g., methadone)** | • ↓ Analgesic effect; smoking may ↑ the metabolism of certain opioids. Mechanism unknown<br>• Smokers may need ↑ opioid dosages for pain relief<br>• Monitor signs of sedation and assess need for dose reduction if smoking is ceased in methadone user |

## APPENDIX 8 : CLIENT REFERRAL FORM (CP4)

**CP4**

**NOTA RUJUKAN PESAKIT**
Jabatan Farmasi, Hospital/ Klinik Kesihatan _____

**Kepada:** Pegawai Perubatan/ Pegawai Farmasi/ Penolong Pegawai Perubatan/ Jururawat Hospital/Klinik Kesihatan _____

**PER: PESAKIT:** _____ (**NAMA**) _____ (**MRN**) _____ (**NO. K/P**)

1. **TUJUAN:** Rujukan Kaunseling/Pemantauan Farmakokinetik/Pemantauan Alahan/ADR/AEFI/Senarai terkini ubat-ubatan atau rawatan/Lain-lain (sila nyatakan): _____

   Pesakit ini **TELAH/BELUM DIBERI KAUNSELING UBAT-UBATAN**. Diharap pihak tuan/puan dapat memberi kaunseling dan penilaian susulan yang diperlukan untuk meningkatkan keberkesanan rawatan.

2. **DIAGNOSIS:** _____

3. **SENARAI UBAT TERKINI:** *(Sila nyatakan atau tandakan jika ada perubahan pada senarai ubat terkini)*

| **NAMA UBAT/DOS DAN FREKUENSI/JANGKAMASA RAWATAN** |
|---|
| |

4. **PENILAIAN KEFAHAMAN & KEPATUHAN TERHADAP TERAPI UBAT** *(Sila tanda (√) di kotak yang disediakan dan tidak berkenaan jika pesakit belum dikaunsel)*

| | | | | |
|---|---|---|---|---|
| a. | Tahap kefahaman pesakit kepada kaunseling ubat/alat bantuan pengubatan yang telah dijalankan | Memuaskan ☐ | Tidak memuaskan ☐ |
| b. | Tahap kepatuhan terhadap ubat-ubatan | Memuaskan ☐ | Tidak memuaskan ☐ |

5. **TINDAKAN SUSULAN YANG DIPERLUKAN** *(Sila tanda (√) di kotak yang disediakan)*
   - ☐ Kaunseling ubat-ubatan dan alat bantuan pengubatan yang dipreskripsikan
   - ☐ Menilai kepatuhan dan kefahaman terhadap terapi ubat yang dipreskripsikan
   - ☐ Pemonitoran terapeutik : *(sila nyatakan)* _____
   - ☐ Lain-lain: *(sila nyatakan)* _____

**ULASAN PEGAWAI FARMASI:** *(jika ada)*

_____
Tandatangan dan Cop Pegawai Farmasi
Tarikh:
No. Tel:

***(Salinan asal**: untuk pesakit dan/atau diserahkan kepada inter-/intra-fasiliti yang dirujuk)*
***(Salinan pendua**: untuk simpanan Jabatan Farmasi)*

**Pin. 1/24**

## APPENDIX 9 : TERMS AND ABBREVIATIONS

### 9.1: Abbreviation

| | |
|---|---|
| FTND | Fagerstrom's Test for Nicotine Dependence |
| NRT | Nicotine Replacement Therapy |
| NDMaPS | Nicotine Dependence Management Pharmacy Service |

### 9.2: Terminology

| Term | Definition |
|---|---|
| Abstinence | The state of having ceased all use of tobacco products with no relapse or return to regular use for 6 months. |
| Behavioural Intervention | Counselling/support, other than medications, aimed at helping people stop their tobacco use. It can include all cessation assistance that imparts knowledge about tobacco use and quitting, provides support, and teaches skills and strategies for changing behaviour. |
| Cigarettes | Tobacco wrapped in a roll of paper. |
| Fagerstrom's Test for Nicotine Dependence | This is a 6-item questionnaire used by healthcare providers to measure the intensity of a person's physical addiction to nicotine from cigarettes. A modified version of FTND is used to assess nicotine dependence specifically in users of electronic cigarettes (e-cigarettes) rather than traditional tobacco cigarettes. |
| Nicotine | Nicotine is a highly addictive chemical compound present in tobacco plants. All tobacco products contain nicotine, such as cigarettes, cigars, smokeless tobacco, and most e-cigarettes. Nicotine is what keeps people using tobacco products. |
| Nicotine dependence | Nicotine dependence is a disorder of regulation of nicotine use arising from repeated or continuous use of nicotine. The characteristic feature is a strong internal drive to use nicotine, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. |
| Nicotine Replacement Therapy (NRT) | Nicotine replacement therapy products are used to deliver nicotine and replace the nicotine the body receives from the use of tobacco or e-cigarettes to reduce the severity of nicotine withdrawal symptoms, while delivering nicotine without the harmful chemicals present in cigarettes or e-cigarettes. |
| Pre-visit | Client appointment sessions before being enrolled in the NDMaPS program. The number of sessions depends on the client's readiness to quit |
| Tobacco Cessation | The process of stopping the use of any tobacco product, with or without assistance. May also be referred to as abstinence or quitting. There are multiple technical definitions that vary from study to study. The strictest definition is "no use of combustible or smokeless tobacco products or any other nicotine and tobacco products for at least 6 months". |
| Tobacco Products | Products entirely or partly made of the leaf tobacco as raw material that are manufactured to be used for smoking, sucking, chewing or snuffing. |
| Nicotine Dependence Management Pharmacy Service | This service provides nicotine cessation interventions through pharmacological treatment, involving the use of approved medications for nicotine dependence, and non-pharmacological treatment, including behavioral therapy. |

# Nicotine Dependence Management Pharmacy Service Protocol 3rd Edition

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