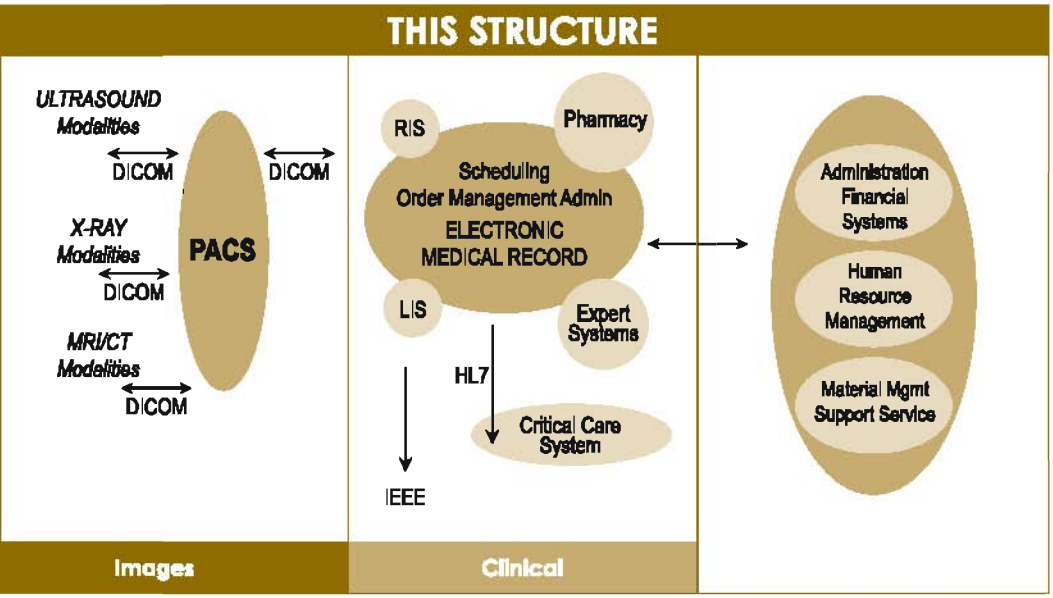

PERSON MANAGEMENT SYSTEM

CLINICAL BASED | **NON CLINICAL**

Functional Requirements Brief Hospital Information System

Health Informatics Standards
Ministry of Health, Malaysia

Ministry of Health, Malaysia
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FOREWORD

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Director General of Health Services, Malaysia

Malaysia being progressive in the adoption of Information communication “Technology in Health Care” has embarked in the creation of ICT enabled facilities .The Telemedicine blueprint “Leading Healthcare into Information Age” has laid the foundation for the planning and implementation of ICT initiatives in the country. Amongst the building blocks that has been recognised as vital for interoperability was the development and adoption of Health Informatics Standards.

The Ministry of Health has played a leading role in the development of Health Informatics Standards. In collaboration with stakeholders in the public and private sector, several standards have been developed for adoption in the country. Amongst them include the “Functional Requirements Brief” that has been prepared to provide functional requirements of the core business of the hospital as an entity. The business functional model including business functions, operational policies, high level work flows and system functionalities are well documented. This document would provide the health care personnel as to how the work processes and procedures are streamlined in a computerised working environment and for the system developers, it provides an in depth understanding of the user needs.

The documents that have been developed includes the

- Person Management System
- Pharmacy Information System
- Laboratory Information system
- Radiology Information System
- Blood Bank Information system
- Oral Health Information system
- Operation Theatre Management System

I wish this document be used as a generic standard in the development and customization of hospital information system being deployed in the hospitals in the country. I take the opportunity to congratulate the expert group that has put in countless number of man hours for the preparation of the document and all members of the consensus meeting for their participation and contribution.

TAN SRI DATUK DR. HAJI MOHD. ISMAIL MERICAN
DIRECTOR-GENERAL OF HEALTH, MALAYSIA

VISION FOR HEALTH

Malaysia is to be a nation of healthy individuals, families and communities, through a health system that is equitable, affordable, efficient, technologically appropriate, environmentally-adaptable and consumer-friendly, with emphasis on quality, innovation, health promotion and respect of human dignity and which promotes individual responsibility and community participation towards an enhanced quality of life.

MISSION OF THE MINISTRY OF HEALTH

The mission of the Ministry of Health is to build partnership for health to facilitate and support the people to :

- Attain fully their potential in health.
- Motivate them to appreciate health as valuable asset.
- Take positive action to improve further and sustain their health status to enjoy a better quality of life.

Contents

1 PERSON MANAGEMENT SYSTEM

1. Introduction:-

1.1. Hospitals have very complex organization and management systems. Besides the core function of managing patients, the hospital is a business entity as well as a facility providing hospitality services. The health system of the future will allow for individuals to be managed within and without the enterprise through an IT enabled information system.

1.2. A person who walks into a clinic for consultation and is referred to a hospital either for specialist consultation or admission will be able to seek care without having to be transfer to the hospital provision care. The person management system will allow for an integrated flow of information facilitating person management across organizations.

1.3. In the primary health care settings, an individual is managed across different settings of care including clinics, outreach services, workplace and at home. Such a system will allow sharing of information from womb to tomb through a provision across a variety of healthcare settings.

2. Purpose:-

2.1. The purpose of this document is to define the functional requirements of the proposed Person Management System (PMS), which is one of the core applications under the Hospital Information System (HIS). The document will be used for communicating the PMS functions to both users as well as the application developers who will use it for defining the requirement specifications of the proposed PMS, which in turn will be used for detail software design.

3. Objective:-

3.1. The main objective of the PMS is to provide the systematic information flow that is required for the management of the person within and across an enterprise.

4. Scope:-

4.1. Person Information System (PMS) will encompass the following functionalities:-

4.1.1. Appointment / Scheduling.
4.1.2. Registration.
4.1.3. Admission.
4.1.4. Discharge.
4.1.5. Transfer.
4.1.6. Referrals.
4.1.7. Management of the deceased.

4.2. System interface is required with the financial module for the following functionalities.

5. Billing:-

5.1. Linkage will be required for access to other health portal such as MCPHIE for purposes of person empowerment.

6. Methodology:-

6.1. An Integrated Health Information Policy was developed to provide the directions for the provision of services through an IT enabled environment.

6.2. Business Function Model was developed through a series of workshops with the experts derived from clinicians and managers of the hospitals and clinics.

7. A consensus workshop was held to derive consensus among related experts in the hospitals and primary health care.

2 BUSINESS FUNCTIONS MODEL – PERSON MANAGEMENT SYSTEM (PMS)

1. Name of the Department:-

    1.1. Reception / Registration.
    1.2. Admission.
    1.3. Ward.
    1.4. Emergency.
    1.5. Day Care.
    1.6. Outreach programmes.

2. Business Function:-

    2.1. Service Product / Scope:-

        2.1.1. Person Management.

    2.2. Range:-

        2.2.1. From home / work place / anywhere.
        2.2.2. Clinic.
        2.2.3. Hospitals.

    2.3. Types of Services:-

        2.3.1. Appointment / Scheduling.
        2.3.2. Registration.
        2.3.3. Admission.
        2.3.4. Discharge.
        2.3.5. Transfer.
        2.3.6. Referrals.
        2.3.7. Deceased Management.
        2.3.8. Outreach services (e.g. school health, home visiting, home care nursing contact tracing).
        2.3.9. Billing.

    2.4. Clients:-

        2.4.1. Persons at home / work place/school/elsewhere.
        2.4.2. Patients in the clinic.
        2.4.3. Patients in the hospital.

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OPERATIONAL POLICIES

3.1. Appointment and Scheduling:-

3.1.1. Individual shall be allowed to make appointment / scheduling from home / workplace or elsewhere on line.

3.1.2. All individuals shall be scheduled.

3.1.3. Emergency referral (internal and external) shall be given priority in scheduling services.

3.1.4. Appointment for new cases shall be made through a central registration scheduler or a clinic scheduler.

3.1.5. Appointment system shall be time sensitive with allowance for forced- in appointments.

3.1.6. Appointment for follow up cases shall be made by the respective clinic.

3.1.7. All individuals shall be given an appointment slip with date, time and where necessary, specific instructions on scheduling.

3.1.8. Referral letters and other documents in hardcopy shall be scanned and stored in EMR. The original copy shall be tagged with label and sent to the Medical Records Office for record purposes and for storage / filing. An efficient retrieval system shall be incorporated into the EMR.

3.1.9. For individuals attending more than one clinic session appointments shall as far as possible be scheduled on the same day.

3.1.10. Scheduling for additional investigations, if appropriate, shall be optimized on the same day or prior to appointment as appropriate.

3.1.11. The majority of diagnostic and therapeutic procedures in the hospital shall be scheduled. For cases attending the general outpatient clinics, the patient shall be seen on case-to-case basis.

3.1.12. Appointments for new cases requesting for a specific doctor shall not be done as a routine. However, under special circumstances this will be done after confirmation from the doctors concerned. The exception to this would be in hospitals designated to treat paying patients where the patients will be allowed to choose their practitioner.

3.1.13. Specific doctors may be requested especially for the follow up appointment of discharged individuals.

3.1.14. Referrals from healthcare facilities within the healthcare sector shall be scheduled through phone, fax or on line.

3.1.15. Each clinic shall have access to the referred clinic's appointment schedule.

3.1.16. Respective departments / clinics may set up rules to control the number and type of individual to be scheduled.

3.1.17. Different time slots shall be incorporated for new and follow up cases on the same day instead of segregating them on different days.

3.1.18. Individuals who do not show up at the clinic on their appointment day shall be sent a reminder.

3.1.19. Certain individuals with specific chronic condition may be reminded of their appointment date, subject to operational policy of the local healthcare facilities.

3.1.20. Individuals may request for cancellation or rescheduling of appointments.
3.1.21. Healthcare providers may reschedule appointments and individuals concerned shall be so informed.

3.2. Registration:-

3.2.1. Episode refers to management of an individual in accordance to care plan for the particular condition, inclusive of wellness and illness.
3.2.2. Encounter shall refer to an entire interaction an individual had at a healthcare facility starting from registration to discharge.
3.2.3. Only authorized persons shall be allowed access to the registration module.
3.2.4. Authentication will be based on user ID and password.
3.2.5. There shall be provision for express registration for A&E cases and temporary registration for persons without appropriate information.
3.2.6. Registration shall be encounter based.
3.2.7. Health sector wide registration shall be done using a unique identifier e.g. NRIC / Passport No.
3.2.8. All facilities shall have unique identification number for reimbursement and data aggregation and analysis.
3.2.9. The individual shall produce NRIC, MyKad or equivalent documents on registration.
3.2.10. Every individual shall be given a system generated encounter number for every outpatient encounter.
3.2.11. Individuals shall be identified through NRIC or MRN or equivalent document which can be entered using the bar code reader whenever feasible.
3.2.12. Individuals shall be allowed to do pre-registration from home / workplace / info kiosks or anywhere else.
3.2.13. VIP individuals shall be identified using MOH protocol.
3.2.14. Registration shall take place at the central outpatient registration / reception counter at the specialist / general outpatient clinic.
3.2.15. Upon completion of registration, an encounter number shall be issued and the individual arrival shall be acknowledged at the respective clinic reception counters. Acknowledgement may be done by the individual or the counter staff.
3.2.16. Individuals attending more than one clinic session on the same day shall require only one registration intake at the central registration counter. However multiple acknowledgement processes will be done at the respective clinic receptions.
3.2.17. Individuals referred to specialist clinic shall be registered only upon producing referral letters either electronic or manual.
3.2.18. Government servants shall produce their guarantee letter or pension card or equivalent document (either electronic or manual) on registration.
3.2.19. For non-government servants, other relevant letter or document such as an exemption letter from social welfare officer or a letter from the company/ company's panel doctor will be required.
3.2.20. Registration personnel shall be responsible for demographic data collection.

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3.3. Admission:-

3.3.1. Only authorized persons shall be allowed to view, update or modify data in the admission module.

3.3.2. All admissions shall be initiated by a medical officer / dental officer in the hospital and M&HO / FMS / occupational health specialist / dental officer in the clinics. For private hospitals, all admissions shall be admitted upon consultation with the specialist concerned.

3.3.3. Maternity cases in labour and neonates shall be sent directly to the labour ward / NICU and admission formalities shall be attended to subsequently at the main admission counter.

3.3.4. Admission protocols shall be made available by the respective department. The relevant specialists shall be consulted on the admission of cases if there is any uncertainty on the admission of cases.

3.3.5. Direct admission to a specific discipline is allowed after prior consultation with the specialist concerned.

3.3.6. Individuals shall be allowed to be pre-registered for admission by the referring unit within the healthcare facility network.

3.3.7. All cases admitted from the clinic shall follow the same protocol for admission as those admitted in the hospital.

3.3.8. Guarantee letter / payment of deposit shall be collected on admission.

3.3.9. Ward bookings shall be limited by availability of beds.

3.3.10. Beds shall be allocated by designated wards and disciplines. However under special circumstances, admission may be done to wards of related discipline after consultation with the specialist.

3.3.11. a) Admission clerk shall assign bed upon admission and should there be a need to change beds, a bed swap will be done at the ward.

b) In private hospitals with paying patients, bed shall not be discipline based but assigned according to the demand and availability.

3.3.12. Elective admissions shall be scheduled and shall have prior booking of beds. Pre-registration prior to arrival is allowed for elective admissions only.

3.3.13. Elective admissions shall be done at the main admission counter after 1300 hours.

3.3.14. Length of hospital stay shall be minimized by ensuring that individuals undergo assessment and work-up as an outpatient.

3.3.15. Unscheduled cases for admission from the specialist clinic shall be allowed to be admitted from the reception counter at the specialist clinic.

3.3.16. All emergency admissions, except maternity cases and neonates shall be admitted from the A&E department.

3.3.17. Emergency cases with prior consultation shall be reviewed immediately at the A&E by the respective department. Immediate resuscitation shall be rendered by the staff in the emergency department while awaiting arrival of the doctor from the discipline concerned.

3.3.18. The hospital staff shall accompany all emergency cases and ill cases to the ward.

3.3.19. For emergency cases, with prior consultation and prior consented care plan, the individual shall be transferred to the appropriate point of care as agreed.

3.3.20. Stable cases from other hospitals can be admitted directly to the ward after consulting the specialist.

3.3.21. Admission of individuals with multiple injuries / conditions shall be determined by the multi disciplinary care team.

3.3.22. Every individual shall be informed of their medical condition and his / her care plan discussed with them prior to or upon admission.

3.3.23. Individuals shall have access to relevant and necessary information in order to provide support in decision making. This will be made available at the point of care.

3.3.24. Individuals shall be presented with the admission package comprising of relevant policies, proposed care plan and other relevant information prior to admission.

3.3.25. All elective cases for admission shall be given an appointment slip. Reconfirmation for admission shall be done by the individual at least 48 hours prior to admission.

3.3.26. Individuals shall inform the hospital via the contact number provided of any change in admission (cancellation and delay to be certified) using e-mail, fax, telephone or walk in. No snail mail is allowed.

3.3.27. Each individual shall have a system generated encounter number for that admission.

3.3.28. The individuals shall present NRIC / MyKad or equivalent documents on admission.

3.3.29. Admission for VIP shall follow the standard protocol. VIPs shall be identified at registration.

3.3.30. Guarantee letter shall be made available at the time of admission for all scheduled and elective cases. For unscheduled and emergency cases, guarantee letter shall be collected at anytime prior to discharge.

3.3.31. Computer coded identification wristband shall be issued to all individuals on admission. This identification tag shall be worn at all times during the individuals stay in the hospital.

3.3.32. Deposit payment shall be made at the admission counter upon admission.

3.3.33. Individuals shall immediately present to the ward upon admission and shall be accompanied by a porter, if necessary.

3.3.34. Ill / needy individuals shall be accompanied to / out of the wards.

3.3.35. On admission the nursing staff in the ward shall give the individuals a ward orientation.

3.3.36. The medical officers / house officers shall attend to the individual as soon as possible but not later than 15 minutes after admission.

3.3.37. The specialist shall see the case at least once before discharge.

3.3.38. Admission of all infectious diseases as defined by CDC Act Schedule One (1988) shall be notified by phone to the nearest health office on suspicion or confirmation of diagnosis of such cases followed online. Notification of such cases subsequently shall follow MOH guidelines.

3.3.39. In emergency cases, valuables belonging to the individual shall be collected, recorded, and counter-signed by the hospital staff and other relevant witnesses and returned to the relatives. In cases where there are no relatives accompanying the individual, the valuables will be kept in temporary storage

in the ward as per standard protocol and documented.

3.3.40. Upon admission into the ward, individuals shall be advised to remove any valuables and shall be required to sign a form to absolve the hospital of any responsibility over loss of any valuable.

3.3.41. The hospital shall not be responsible for any loss / theft / spoilage to individuals' personal belongings.

3.4. Transfer:-

3.4.1. Transfer within the hospital:-

3.4.1.1. Individuals shall be transferred to another ward or discipline when specialized care is required, subject to the availability of beds.

3.4.1.2. Decision for transfer shall be made conjointly between the referring and receiving specialists.

3.4.1.3. All transfers including bed swapping shall be documented in the Hospital Information System.

3.4.1.4. Individuals and their next of kin shall be informed of the reasons for any transfer.

3.4.1.5. Individuals shall be transported on mobile beds, wheel chairs or trolleys. Ambulant individuals shall be escorted on foot. All transportation of individuals shall be done through the porterage system.

3.4.1.6. Individuals shall be accompanied by a nursing staff or other category of staff depending on the individuals' condition.

3.4.1.7. Individuals request for transfer to 1st and 2nd class shall be accommodated, subject to their eligibility and availability of beds.

3.4.2. Transfer to / from other facilities:-

3.4.2.1. Transfer shall occur only after the individual is accepted by the receiving facility.

3.4.2.2. Doctors from the referring facility shall forward the discharge summary on line / manual and shall include the reasons for the transfer using predetermined format.

3.4.2.3. All transfer cases shall be accompanied by a doctor or paramedic depending on the condition of the client and in accordance with the protocol.

3.4.2.4. Referring hospital shall discharge the individual from the facility and the individual shall then be admitted into the admitting facility.

3.4.2.5. The facility receiving the individual shall acknowledge his / her arrival on line / telephone or snail mail.

3.4.2.6. The referring facility shall ensure that appropriate measures have been taken to stabilize the individual prior to the transfer.

3.4.2.7. For individual requiring intensive care and need to be referred to other facility, agreement between the primary unit as well as the

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anaesthetic unit of the referring and the admitting hospital shall be made, subject to bed availability in the ICU.

3.4.2.8. Individuals requesting for transfer to another hospital for personal and other reasons may be transferred upon consultation with specialist/ hospital concerned and subject to bed availability.

3.4.2.9. Such individuals shall be informed of the risk and shall be required to sign the AOR form.

3.5. Referrals:-

3.5.1. Internal (inpatients):-

3.5.1.1. All inpatient interdepartmental referrals shall be seen in the referring ward unless a special procedure is required where the individual will be moved to the point of care.

3.5.1.2. All referrals shall be made by the medical officer or specialist. Where referral made by the medical officer, it should be done after consultation with the specialist.

3.5.1.3. Doctors from the referring ward shall inform, by phone or e-mail, the doctors in the discipline to where the individual is referred to.

3.5.1.4. All referrals shall be seen by the specialist. In circumstances, where the Medical Officer sees the case, the specialist shall be consulted.

3.5.1.5. All emergency referrals shall be seen immediately and time seen by the doctor recorded.

3.5.1.6. Non-emergency referrals shall be seen as soon as possible.

3.5.2. Internal (outpatients):-

3.5.2.1. All outpatient inter departmental referrals shall be seen in the specialist clinic.

3.5.2.2. All referrals shall be made on line.

3.5.2.3. Appointment scheduling shall be done by the referring care provider after consultation with the clinic concerned.

3.5.3. External:-

3.5.3.1. All emergency referrals shall be seen in the Emergency Department. The emergency department shall be informed prior to referral.

3.5.3.2. Emergency cases with prior consultation, approval and consent on the care plan shall be admitted directly to the ward concerned.

3.5.3.3. Pre registration formalities may be done at the referring healthcare facility and such pre-registration shall be acknowledged and up dated by the receiving healthcare facility.

3.5.3.4. All non-emergency referrals shall adhere to the MOH guidelines from on referral.

3.5.3.5. Healthcare facility shall schedule such appointments via telephone / online.

3.6. Discharge:-

3.6.1. All individuals shall be discharged by doctors (medical / dental officers) only. Where specialists are available, the medical/dental officer shall consult the specialist prior to any discharge. For private hospitals consultants in charge discharge cases from ward.

3.6.2. All individuals under the management of a multidisciplinary team shall be discharged only after obtaining consent from all care providers.

3.6.3. All discharges including discharges AOR shall be made known to and acknowledged by the relevant specialist.

3.6.4. All discharge decisions shall be documented in the EMR.

3.6.5. Individuals shall be informed of their discharge at least 24 hours prior to discharge.

3.6.6. The next of kin shall be notified via telephone / e-mail/fax or in person.

3.6.7. All discharges shall have a discharge summary using a pre-determined format.

3.6.8. All individuals discharged shall be provided with a discharge package consisting of discharge summary, bills, medications, follow up appointment date, health information and sick leave (medical) certificate if necessary. Where necessary, the package shall include referral to health clinic for domiciliary care and follow –up.

3.6.9. Individuals requesting for home leave for more than 24 hours shall be considered discharged and shall be readmitted on their return to the hospital.

3.6.10. Psychiatric patients shall be exempted from the above ruling and may be given leave of absence in accordance with Mental Health Act.

3.6.11. All discharges requiring follow-up at the health facilities shall be scheduled on line/ manual.

3.6.12. Certain cases such as high-risk antenatal / postnatal / neonatal AOR discharges shall be notified to the health clinic concerned.

3.7. Absconded Individual:-

3.7.1. The nurse shall attempt to locate the individual within the hospital.

3.7.2. The nurse shall inform the doctor/ the next of kin and the police via telephone and documentation done.

3.7.3. The doctor shall discharge the individual from the ward if the individual fails to show up, well after 24 hours has lapsed since abscondment was noted.

3.7.4. For infectious diseases/ antenatal and postnatal cases/ neonates, the nearest health office shall be notified by phone / on line.

3.7.5. The nurse shall inform the doctor, police and the next of kin if and when the individual returns to the ward.

3.7.6. The doctor shall reassess the individual and re admitted.

3.7.7. The individual shall remain in the ward and continue with the care plan.

3.8. Billing and Payment:-

3.8.1. Individuals shall be identified as paying or non-paying, at the time of registration / admission, in accordance with Medical Fees Act.

3.8.2. For general / specialist outpatient clinics, registration fees as stipulated under Medical fees Act shall be collected upon registration.

3.8.3. For inpatients / day care/ dental care, clients shall be provided with information on fees / deposit / charges for various services prior to the provision of such services.

3.8.4. Payment shall be made by cash, credit card and guarantee letter or in any other form approved by Ministry of Finance. The payment mode shall be determined at the time of registration / admission.

3.8.5. Refund shall be made if the bill is less than the deposit.

3.8.6. Individuals shall be billed in accordance with the MOH policy on the use of prosthesis, temporary appliances, and implants.

3.8.7. The Guarantee letter shall be submitted to the Billing Unit for verification purposes and shall be kept until the settlement of the bill.

3.8.8. Interim bills shall be generated upon request in the wards.

3.8.9. The final bill shall be generated at the payment counter or sent to the employers as provided in the guarantee letter.

3.8.10. Payment shall be made at the payment counter at the various locations including Central Registration counter, Main Admission Counter and Emergency Admission counter.

3.8.11. Paying individuals who have paid a deposit and where the interim bill is more than the deposit collected, the individual shall be allowed to top up payment during their stay and payment shall be monitored by the Billing Unit.

3.8.12. Itemised bills shall be made only upon request.

3.8.13. Auto generated receipts shall be given upon payment.

3.8.14. Exemption shall be allowed as per protocols.

3.8.15. Reminders shall be generated automatically and sent to patients / guarantors who failed to make payments.

3.8.16. Provision for staggered payment / installment basis shall be made available for patients who cannot afford, upon approval by the billing unit.

3.9. Management of the Deceased:-

3.9.1. Transfer of Deceased to Mortuary:-

3.9.1.1. The doctor shall certify that the individual is dead and will document the death.

3.9.1.2. The nurse shall record the date and time of death.

3.9.1.3. The nurse / doctor shall inform the next of kin of the individual's death.

3.9.1.4. The nurse / doctor shall provide information and counsel the grieving relatives.

3.9.1.5. The nurse shall perform last office on the deceased including attaching an ID.

3.9.1.6. The nurse shall inform the mortuary, via phone, of the death.
3.9.1.7. Where the cause of death is a notifiable infectious disease, the nearest health office shall be notified immediately.
3.9.1.8. The doctor shall prepare the burial permit.
3.9.1.9. The porters shall remove the deceased in a cadaver trolley, together with the post mortem request or the burial permit where applicable and transfer to mortuary in a dignified manner.

3.9.2. Receiving dead bodies from units / wards in the hospital:-

3.9.2.1. All bodies shall be released only through mortuary.
3.9.2.2. Burial permit shall only be issued to the next of kin at the mortuary However for foreigners, it can be issued to the embassy staffs.
3.9.2.3. All dead bodies shall only be transferred to the mortuary one hour after the time of death.
3.9.2.4. Body shall be registered in the mortuary with burial permit signed by doctors only except cases requiring post mortem.
3.9.2.5. All hard copies of burial permit shall be stored in the forensic record unit / general record office for a minimum period of 7 years.
3.9.2.6. Data for medico legal cases shall be stored indefinitely and be retrievable.
3.9.2.7. All burial permits shall be signed and chop by the doctors in attendance.
3.9.2.8. Burial permit shall not be issued for foetuses less than 24 weeks aborted in the ward.

3.9.3. Brought in dead (BID) from outside the hospital:-

3.9.3.1. BID refers to cases whereby death have been confirmed either by medical or police personnel.
3.9.3.2. All BID upon arrival to the ED shall be informed to the police.
3.9.3.3. Non medico legal BID cases burial permit shall be issued by police.
3.9.3.4. Medico legal BID cases, hospital shall issue burial permit after post mortem.
3.9.3.5. All BID shall be stored while awaiting clearance by police.
3.9.3.6. All BID shall be received through ED but released through mortuary.

3.9.4. Release of bodies to claimant parties:-

3.9.4.1. Claimant parties refers to criteria as approved by MOH; this includes next of kin, friends, employers, embassy & other authorised personnel.
3.9.4.2. Deceased management shall be processed in accordance with MOH guidelines.

3.9.4.3. Bodies shall only be released after the claimant parties verifies and identifies the deceased.

3.9.4.4. Burial permit shall only be issued upon release of the body in the mortuary.

3.9.4.5. Hard copies of deceased management form shall be stored in the mortuary for a minimum period of 7 years.

3.9.4.6. All body tags shall be discarded after the release of the body.

3.9.5. Releasing of unclaimed bodies for in-house deaths:-

3.9.5.1. For patients with identity not known and happens to die in the ward the nursing staff shall inform the police and make arrangement for press release.

3.9.5.2. A period of 2 weeks shall be given to non-Muslims and 3 days for Muslims from the date of press release for the claimant to claim the body.

3.9.6. Releasing of unclaimed bodies brought in dead:-

3.9.6.1. For unknown BIDs, the ED staff will inform the police.

3.9.6.2. The mortuary shall make arrangement for press release with police.

3.9.6.3. A period of 2 weeks shall be given to non-Muslims and 3 days for Muslims from the date of press release for the claimant to claim the body.

3.9.7. Exporting bodies:-

3.9.7.1. Claimant parties refer to criteria as approved by MOH; this includes next of kin, friends, employers, embassy & other authorised personnel.

3.9.7.2. Deceased management shall be processed in accordance with MOH guidelines.

3.9.7.3. Exportation documents shall be processed by the claimant parties themselves which also include clearance from the respective state government / embassies and Local Health Authorities / health office, and others as required.

3.9.7.4. Bodies shall only be released for exportation after checking and verifying the exportation document is complete.

3.9.7.5. Burial permit shall only be issued upon release of the body.

3.9.8. Body storage:-

3.9.8.1. For death in wards / units within the hospital, the wards shall tag body before sending to mortuary.

3.9.8.2. For BID, the bodies shall be tagged in the ED.

3.9.8.3. All bodies must be registered in the mortuary before storage.

3.9.8.4. All bodies shall be individually tagged with their identity and their respective freezers labelled.

3.9.8.5. Ensure body freezers are functioning before storing the body inside.

3.10. Outreach Services:-

3.10.1. Outreach services refer to those services provided to the community from the health clinic. Such services include the following:-

3.10.1.1. School health service.
3.10.1.2. Home care nursing/ Home visiting.
3.10.1.3. Mobile dental services.
3.10.1.4. Mobile medical and health services.
3.10.1.5. Contact tracing.
3.10.1.6. Health promotion.
3.10.1.7. Services for children special need.

3.10.2. School Health Services:-

3.10.2.1. School health services refer to the school health services provided by static dental health clinic in the school and school health team services.

3.10.2.2. School health team providing health assessment, immunization, treatment, follow-up, referrals and shall be targeted to pupils in standard 1, standard 6, form three and form five. For pre-school children attending government kindergartens shall be provided periodical health assessment and health promotion.

3.10.2.3. Consent shall be obtained from parent/ guardian prior to medical/ dental examination.

3.10.2.4. Preliminary health assessment shall be done by the public health nurses followed by medical examination by doctors.

3.10.2.5. School oral health team provided oral health assessment, treatment, follow-up, referral, health promotion and shall be targeted all school children under incremental care system. Data entry shall be entered into a comprehensive CIS.

3.10.2.6. Health promotion activities in school shall be targeted towards the entire school population including the teachers and pupils.

3.10.2.7. All school shall be will provided with MCPHIE corner with internet access.

3.10.2.8. School health team shall consist of a doctor, public health nurse, attendants, and driver and depending on resources available.

3.10.2.9. School oral health team shall consist of a dental nurse, dental surgery assistant, and attendant in the primary school. For secondary school a dental officers shall be made available as well.

3.10.2.10. Referrals / prescription shall be printed out and pupils will be required to seen in the clinic or hospitals depending upon conditions. For referrals within the health facility network connected online electronic referrals shall be made from the clinic.

3.10.2.11. Appointments / scheduling for pupils requiring referrals to hospital/ clinic shall be made online from school. Appointments slips shall be given to pupils.

3.10.2.12. Appropriate equipments such as lap tops shall be provided to facilitate data entry of individual health records.

3.10.2.13. School shall provide adequate IT infrastructure support such as networking and dedicated lines to download pupils' demographic data. Initially such support shall be provided by smart school only.

3.10.2.14. Common application / templates shall be shared between teachers and school health teams for the purposes of data entry.

3.10.2.15. School teachers and senior pupils shall be allowed to enter basic bio data such as height, weight, vision and others.

3.10.3. Home care nursing/ home visiting:-

3.10.3.1. Home care nursing refers to services provided for patients at home, requiring further nursing care and management.

3.10.3.2. Home visiting refers to follow-up at home for high-risk pregnancy, neonates, defaulter tracing and others.

3.10.3.3. Only authorize personnel shall be allowed to refer cases for home care nursing / home visiting. Such personnel include medical officer/ specialist in hospital and M&HO / FMS in the clinic.

3.10.3.4. Home care nursing / home visiting team shall comprise of Public health nurse, community nurse, medical assistant, public health inspector, public health assistant and driver depending on the cases as well as resources available.

3.10.3.5. Area covered shall include community residing within the operational area of the clinic.

3.10.3.6. Periodical evaluation of the patient should be done by the referring doctor to reassess the case and re-determine the need for further home care nursing/ home visiting.

3.10.3.7. Type of services provided shall be determined by MOH guideline. Payment for such services shall be in accordance with the Fees Act.

3.10.3.8. Progress notes shall be charted by the nurse / MA in the EMR upon return to the clinic.

3.10.3.9. Effectiveness of the home care nursing / home visiting shall be measured by the clinical outcome as determine by the care plan.

3.10.3.10. The service provided by the home care nursing / home visiting team shall be monitored by public health nursing sister / matron and doctor.

3.10.3.11. For client with access to computer and internet services, adequate

support shall be provided for such client to access Telehealth portal for purpose for just in time MCPHIE.

3.10.3.12. Such client shall be encouraged to make appointment / scheduling on line for follow-up in the clinic / hospital.

3.10.3.13. The home care nursing / home visiting team shall work in partnership with related agencies / NGOs to provide holistic care.

3.10.3.14. Client requiring multidisciplinary management, the care plan shall be drawn in consultation with all care providers.

3.10.4. Mobile dental services:-

3.10.4.1. Mobile dental service refers to oral health services provided by mobile dental squad/ clinic to schoolchildren, special institution and in the community as and when required.

3.10.4.2. Type of services include a comprehensive oral health assessment, treatment, health promotion and shall be in accordance with MOH guideline. Payment for such services shall be in accordance with Fees of Ordinance Act.

3.10.4.3. Mobile dental squad shall consist of dental officer, dental nurse, dental surgery assistant and driver. A vehicle equipped with appropriate dental chair/ equipment shall be provided.

3.10.4.4. Mobile dental squad shall be provided with adequate number of laptop and mobile printer to document data and finding.

3.10.4.5. System generated summary of the data and finding using a predetermine format shall be utilized and downloaded into EMR.

3.10.4.6. Where necessary teleconferencing facilities using GPRS (general packet radio system) technology may be provided.

3.10.4.7. In facilities where internet line is available, on line appointment and scheduling may be done for planning the mobile dental session for that particular facility or referral of clients from that facility to the main dental clinic / specialist clinic.

3.10.4.8. In such facilities with internet services, adequate support shall be provided for such client to access Telehealth portal for purpose for just in time MCPHIE.

3.10.4.9. The service provided by the mobile dental service shall be monitored by dental sister / matron and dental officer.

3.10.4.10. Effectiveness of the mobile dental services shall be measured by the clinical outcome as determined by the care plan.

3.10.5. Contact Tracing:-

3.10.5.1. Contact tracing refers to the tracing of close contact of the individuals with communicable diseases at home, work place, institution or elsewhere.

3.10.5.2. The activities involve history taking, specific investigations/ sampling, preventive treatment, documentation, disinfection,

counseling, health promotion and referral to the local clinic/ hospital.

3.10.5.3. The MOH guidelines on communicable diseases shall be adhered to.

3.10.5.4. The contact tracing team shall consist of a medical and health officer, public health inspector, public health assistant, staff nurse, community nurse, general worker and driver as and when necessary depending on the cases.

3.10.5.5. The contact tracing team shall be provided with adequate number of laptop and mobile printer to document data and findings.

3.10.5.6. System generated summary of the data and finding using a predetermined format shall be utilized and downloaded into EMR.

3.10.5.7. Output of the activities shall be measured according to specific indicators and parameters identified and shall form part of GDS functions for monitoring, evaluation and planning.

3.10.5.8. Follow up of investigation results shall be done by the public health inspector.

3.10.6. Health Promotion:-

3.10.6.1. Health promotion activities refer to individual counselling sessions, group sessions, community-based sessions or through mass media and on line sessions.

3.10.6.2. Such activities will include both planned and unplanned programmes including the healthy lifestyle and other related campaigns.

3.10.6.3. Every individual / family shall be empowered to manage his / her own health through support provided by the above-mentioned activities.

3.10.6.4. All health care providers shall be required to provide these activities effectively at the point of care.

3.10.6.5. All health clinic/ community / dental clinics shall be provided with internet facilities to access MCPHIE.

3.10.6.6. Health promotion activities shall be carried out in partnership with related agencies, NGOs and Panel Penasihat Kesihatan.

3.10.6.7. Output of the activities shall be measured according to specific indicators and parameters identified and shall form part of GDS functions.

3.10.6.8. Networking with relevant agencies shall be made to provide information kiosks in public places including schools, LRT stations, airports, shopping malls, public transport terminals, work place and others. Such kiosks shall be provided with pay-up internet connections to access MCPHIE portals.

3.10.7. Mobile Team Services:-

3.10.7.1. Mobile team services refer to medical and health services provided by the mobile health team to the communities in remote and underserved areas.

3.10.7.2. Such services may be provided by road, train, riverine or air.

3.10.7.3. Type of services include basic health assessment, immunization, treatment, health promotion, follow up, referral and emergency care of maternal and child health as well as general outpatient cases.

3.10.7.4. Mobile team shall consist of medical and health officer, public health nurses, medical assistant, community nurse, attendant, pharmacy assistant, lab technologist and driver as an when required depending on the resources available. A transport equipped with appropriate equipment shall be provided.

3.10.7.5. The mobile team shall be provided with laptop powered with batteries to document data and findings.

3.10.7.6. The data shall be downloaded into EMR upon arrival in the clinic.

3.10.7.7. The mobile team shall work in partnership with related agencies/ NGOs to provide holistic care.

3.10.8. Care of Persons with Special Needs:-

3.10.8.1. Care of persons with special needs will include care provided for children with special needs through specific programmes and activities and also services provided to disabled adult and carers.

3.10.8.2. All cases seen and diagnosed to have condition requiring special needs shall be registered in accordance with the criteria for determining such conditions. The criteria shall be jointly developed by MOH, Ministry of Education and Social Welfare Department.

3.10.8.3. All clinics shall maintain a registry for disabled person.

3.10.8.4. Care of children with special needs refers to the comprehensive health services provided to children with special needs through a multidisciplinary approach.

3.10.8.5. The cases include self-referred or cases referred from school, institution and elsewhere. For cases seen for dental problems in dental clinics such patient shall be referred to the M&HO / FMS for registration and further management.

3.10.8.6. Activities shall include registration, identification, diagnosis, treatment, referral, rehabilitation; follow up, counselling, health promotion and documentation.

3.10.8.7. Networking shall be done with the hospitals, MOE, Social Welfare Department for placement of such children in special schools/ institution/Community Rehabilitation Centre.

3.10.8.8. The carers shall be encouraged to participate increasingly in caring the children through discussing the care plan with them and allowing them to access MCPHIE portal.

3.10.8.9. The children shall be followed up and reviewed periodically to reassess their mental and health status and made further recommendation for their placement and follow up.

3.10.8.10. Case documentation, progress notes and placement details shall be documented in the EMR.

3.11. Data Management:-

3.11.1. LHR:-

3.11.1.1. Summary of visits created shall be submitted online to LHR repository.

3.11.2. Notification of events as required by law or directives shall be channeled to relevant agencies / authorities.

3.11.3. Management Report shall be produced as per MOH requirements.

3.12. Health Risk Assessment (HRA):-

3.12.1. HRA is a deliverable of MCPHIE.

3.12.2. It is to be used by the individual at any time.

3.12.3. The individual may enter his / her personal details and the system shall be able to generate a risk for the individual regarding certain disease and support the individual with some health information as well.

3.12.4. Initially only a few criteria or variables would be used to generate the risk. These include age, sex, weight, blood pressure, cholesterol level, smoking and etc. Subsequently, it would be personalized and would require information about past history, medical history, family history, social history and etc.

3.12.5. Currently the risk assessment shall be provided in areas of concern such as cardiovascular, injury, antenatal and cancers. Subsequently it would expand to include other areas.

3.13. Data Security and Confidentiality:-

3.13.1. Data Security and confidentiality is important, as it will affect the public's confidence in going to the hospital.

3.13.2. The whole installation must be designed with ICT Security in mind from end to end to ensure Confidentiality, Integrity and Availability of data.

3.13.3. Authentication for access to person management data shall be based on encrypted user ID and password. This should follow current International Standards.

3.13.4. All passwords must at least have a minimum of 8 and a maximum of 12 characters. User ID must be disabled after 3 failed sign on attempts and there

must be an audit log of access attempts. The password system must be able to enforce periodically (site determined) change of password. The system must be able to implement the above requirements through system defined criteria and mechanisms.

3.13.5. MyKad and Biometrics authentication capabilities shall be built-in as one of the options.

3.13.6. User access to person management data must be based on the rights and privileges of different category of users.

3.13.7. Site-specific ICT Security Policy and Standard Operating Procedures must be part of the deliverables by the vendor.

3.14. Data Repository:-

3.14.1. Definition of Terms:-

3.14.1.1. Electronic Medical Records (EMR):-

3.14.1.1.1. Health data generated at each facility during patient's encounter with health care professionals including diagnostic images in the form of films, electronically stored images, digitized image etc.

3.14.1.2. Lifetime Health Records (LHR):-

3.14.1.2.1. Summarized data derived from EMR generated during visits to health care facilities.

3.14.1.3. Grouped Data Services (GDS):-

3.14.1.3.1. A facility that provides a repository of health records that are stripped off personal identity, used for data analysis.

3.14.2. Policies:-

3.14.2.1. A Person's Lifetime Health Record (LHR) is a consolidation of health data collected over time throughout his/her lifetime that are kept in a common data repository under the care of the Ministry of Health, Malaysia.

3.14.2.2. The LHR is derived from a person's encounter with a health care professional that has access to a health care system that links to the LHR database.

3.14.2.3. Health data kept in the LHR database may be shared across facilities in accordance to data accessibility rules that are approved by the Director General of Health and in conformance with Personal Data Privacy Act and medico-legal.

3.14.2.4. LHR database shall have 24 x 7 accessibility.

3.14.2.5. Health data generated at each facility shall comply with a standard data definition and format, or should be able to map onto the data standard adopted by the Ministry of Health.

3.14.2.6. A person's record is created once during his/her first encounter

with a health care system, and carried on throughout his/her lifetime.

3.14.2.7. EMR data generated at each facility shall be kept locally. Summarized data from each visit shall be used to generate LHR.

3.14.2.8. LHR data shall be archived (?) years after a person's death.

3.14.2.9. GDS database that derives its data from LHR shall be used for data mining and made available to authorized parties for purpose of data analysis to be used in planning.

HIGH LEVEL WORKFLOW / PROCEDURE.

The workflow and procedure describes the way the particular activity is carried out and the person who are involved in carrying out such activities. See 4.1 for high-level workflow and 4.2 for high-level work procedure.

4.1. High Level Workflows:-

4.1.1. Making Appointment / Scheduling – (HIS/PMS/WF1).
4.1.2. Outpatient Care (Hospital) – (HIS/PMS/WF2).
4.1.3. Outpatient Care (Health Clinic) – (HIS/PMS/WF3).
4.1.4. Registration of Outpatient (Hospital) – (HIS/PMS/WF4).
4.1.5. Registration of Outpatient (Health Clinic) – (HIS/PMS/WF5).
4.1.6. Referral for Consultation for Outpatient – (HIS/PMS/WF6).
4.1.7. Referral for Admission from Health Clinic – (HIS/PMS/WF7).
4.1.8. Admission (Hospital) – (HIS/PMS/WF8).
4.1.9. Inpatient Care – (HIS/PMS/WF9).
4.1.10. Person Management in Emergency Department – (HIS/PMS/WF10).
4.1.11. Referral for Consultation (Inpatient) – (HIS/PMS/WF11).
4.1.12. Transfer Out for In-house Clients – (HIS/PMS/WF12).
4.1.13. Transfer In for In-house Clients – (HIS/PMS/WF13)
4.1.14. Discharge – (HIS/PMS/WF14).
4.1.15. Brought In Dead (BID) – (HIS/PMS/WF15).
4.1.16. Transferring Deceased to Mortuary – (HIS/PMS/WF16).
4.1.17. Receiving Dead Bodies from Units / Wards in the Hospital – (HIS/PMS/WF17).
4.1.18. Brought In Dead (BID) from outside the Hospital – (HIS/PMS/WF18).
4.1.19. Release Bodies to Claimant Parties – (HIS/PMS/WF19).
4.1.20. Releasing of Unclaimed Bodies for In-house Deaths – (HIS/PMS/WF20).
4.1.21. Releasing of Unclaimed Bodies Brought in Dead – (HIS/PMS/WF21).
4.1.22. Exporting Bodies – (HIS/PMS/WF22).
4.1.23. Body Storage – (HIS/PMS/WF23).
4.1.24. Billing for Paying Clients (Outpatients) – (HIS/PMS/WF24).
4.1.25. Billing for Paying Clients in Emergency Department – (HIS/PMS/WF25).
4.1.26. Billing for Paying Clients in Ambulatory Care – (HIS/PMS/WF26).

4.2. High Level Work Procedure:-

4.2.1. Making Appointment / Scheduling – (HIS/PMS/WP1).
4.2.2. Outpatient Care (Hospital) – (HIS/PMS/WP2).
4.2.3. Outpatient Care (Health Clinic) – (HIS/PMS/WP3).
4.2.4. Registration of Outpatient (Hospital) – (HIS/PMS/WP4).
4.2.5. Registration of Outpatient (Health Clinic) – (HIS/PMS/WP5).
4.2.6. Referral for Consultation for Outpatient – (HIS/PMS/WP6).
4.2.7. Referral for Admission from Health Clinic – (HIS/PMS/WP7).

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4.2.8. Admission (Hospital) – (HIS/PMS/WP8).
4.2.9. Inpatient Care – (HIS/PMS/WP9).
4.2.10. Person Management in Emergency Department – (HIS/PMS/WP10).
4.2.11. Referral for Consultation (Inpatient) – (HIS/PMS/WP11).
4.2.12. Transfer Out for In-house Clients – (HIS/PMS/WP12).
4.2.13. Transfer In for In-house Clients – (HIS/PMS/WP13).
4.2.14. Discharge – (HIS/PMS/WP14).
4.2.15. Brought In Dead (BID) – (HIS/PMS/WP15).
4.2.16. Transferring Deceased to Mortuary – (HIS/PMS/WP16).
4.2.17. Receiving Dead Bodies from Units / Wards in the Hospital – (HIS/PMS/WP17).
4.2.18. Brought In Dead (BID) from outside the Hospital – (HIS/PMS/WP18).
4.2.19. Release Bodies to Claimant Parties – (HIS/PMS/WP19).
4.2.20. Releasing of Unclaimed Bodies for In-house Deaths – (HIS/PMS/WP20).
4.2.21. Releasing of Unclaimed Bodies Brought in Dead – (HIS/PMS/WP21).
4.2.22. Exporting Bodies – (HIS/PMS/WP22).
4.2.23. Body Storage – (HIS/PMS/WP23).
4.2.24. Billing for Paying Clients (Outpatients) – (HIS/PMS/WP24).
4.2.25. Billing for Paying Clients in Emergency Department – (HIS/PMS/WP25).
4.2.26. Billing for Paying Clients in Ambulatory Care – (HIS/PMS/WP26).

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT

5.1 Registration.
 	
5.1.1 Permanent registration
	• Manual Data Entry or Automatic Data Capture from IC / GMPC / Passport.
	• All identification parameter will be mandatory requirement.
		• Identification parameters.	• Name / IC / Passport No. / DOB / Age / Sex / Address.
			• Ethnic.
			• Citizen.
			• Non citizen:-
			  • Specify country of origin.
			  • Status (legal/ illegal).
			• Contact Person and Tel. number and e-mail address.

	• Generate Unique Identifier for registration into institution / system.	• Unique identification Number:-
		  • Individual.
		  • Facility.
			• Identification parameters.

	• Record each encounter.
	• Data capture as new episode and follow up episode.
	• Link to CIS to capture new / follow up episode by morbidity.
		• Encounter registration number.	• List of possible encounters (e.g.: encounter types / locations / personnel).
			• Doctor in charge.
			• Inpatient/ Outpatient.
			• New case/ Follow up case.
			• Source of referral:-
			  • Primary (list of location).
			  • Secondary (list of discipline).

	• Terminate encounter. • Link to CIS to capture information on termination of encounter.	• Status (active / inactive). • Temporary data entry.	• Date / time / personnel responsible and reason. • Name / IC /

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT

	• Provisions to be provided for exceptions newborns:-
	  • Reject babies data from being merged to mothers record.
	  • Unique PMI for each baby.
			Passport No. / DOB / Sex / Race/ of mother.

5.1.2 Information required for other functionalities.	• Merge the data from temporary to permanent registration. • Generate sequential numbering for unknown. • Alert ward. • Allow for temporary data entry in unknown case where it can be modified later. • Temporary data entry for those without appropriate identification such as the unconscious patient or a foreigner without proper identification documents. • System shall allow the authorized user for this module to capture minimal information for the following:- • Quick registration as in accident and emergency cases. The full data will be	• Identification parameters.	• Sex. • Status unknown.

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	captured at a later stage. For temporary registration, the PMI number will not be generated to avoid any duplication if the patient has been previously registered as in the case of an unconscious patient. This record must be tagged, as temporary at the healthcare facility and the patient will be given a temporary number.		
5.1.3 Information required for other functionalities.	• To capture information required for other function.		
	• Billing category.	• Financial number.	• Financial status. • Financial class. • GL / Pension Card / Name, address and contact number of the employer / Guarantor.
	• Contacts. • Mailing / Reminders. • Phone. • E-mail.	• Reminders.	
	• Identity and contact for Next of kin.		• Name, address and contact number of Next of kin.

PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	• Client category for special privileges or needs.	• Disability status.	• Disability status by types visual / hearing / physical / mental.
	• Shall be able to capture biodata component of LHR.	• Demographic information on client created (e.g. age, sex, ethnic, marital status, occupation).	• Identification parameters.
	• Support search facility to find out whether appointment was scheduled for the day.	• Display related data.	
	• Should be linked to the appointment schedule and enable creation of appointment for another day if necessary.	• Appointment.	• Date/ Time/ by discipline and by care provider.
	• System should be able to support pre - registration by client from home or kiosk. • Link to MCPHIE to capture pre-registration data entry.	• Pre Registration data field.	• Name/ Address / DOB/ Age/ Sex/ Ethnic/ Citizen/ Contact Person and Tel. number and e-mail address.
			Dynamic Info:- • Address. • Telephone no. / E-mail. • Occupation. • Next Of Kin / marital Status / Guarantor /

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
			Employer. • Mode of payment – cash / credit card / guarantee letter / pension card.
	• System should allow merging of records of same patient in case there is two or more MRN of same patient. • System should search and validate patient identity by PMI / IC / IDs before merging.		
	• The system must be able to generate the PMI number as centralized generation upon registration at the first encounter in any of the participating healthcare facilities.		
	• The system must be able to perform the following types of patient registration:- • General outpatient. • Specialist outpatient including Day Care Patient. • Accident and Emergency outpatient. • Inpatient (Admission).		

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	• Registration shall be episode based. The system must generate unique registration number as unique episode identification.		
	• The system must allow the authorized user for this module to capture mandatory fields for all new cases during a registration. While in follow-up cases, the system must allow the authorized user for this module to retrieve previous patient registration details and update dynamic data.	• Display all the mandatory data.	
	• The system must allow the authorized user for this module to priorities the queue list based on priority groups such as emergency cases, the elderly, children and pregnant mothers.	• Display list of priority group.	
	• The system must enable the authorized user for this module to specify cases that are of a medico-legal (police) nature.	• Display list of medico-legal cases.	

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	• The system must be able to generate independent queue for each clinic.		
	• The system must ensure that patient can be automatically assigned to a queue list at the clinic he/she is registered based on priority group or 'First In First Out' algorithm.		
	• The system must allow more than one patient (for example mother and child) to be grouped and assigned to a queue.		
	• The system must enable the authorized user for this module to assign patient to a specific doctor or to the common queue list.		
	• The system must be able to integrate with the appointment module for faster data capturing.		
	• The system must ensure PMI number generation is unique.		
	• System shall be able to schedule registration based		

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	on doctor duty roster and their availability.		
	• Able to retrieve and enter required information and G.L. / pension card holder.		
	• Facilitate in collection of payment from client and print receipt.	• Provide for billing. • Receipt.	Billing:- • Financial type. • Financial number. • Amount (maybe itemized on request). • Authorized personnel. • Location/Date/ Time/ Discipline. • Payment Receipt number.
	• Able to print client MRN labels for purpose of pasting it on client's external documents. • Ability to configure.	• MRN labels.	• Name/ Age/ Sex/ Date and Time of registration/ IC/PMI.
	• System should enable sharing of registration data enterprise wide (e.g. between health clinics and hospitals).		• Name/ IC/ Passport No. / DOB / Age / Sex/ Address. • Ethnic. • Citizen. • Non citizen. • Specify country of origin. • Status (legal / illegal). • Contact Person and Tel. and e-mail Number.

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
5.1.4 Reports.		Hospital based reports Outpatient reports.	
5.2 Discharge. 5.2.1 Planned / Unplanned Discharge Process.	• The system must enable the authorized user for this module to maintain discharge information.	• Discharge summary. • Follow-up date / appointment. • Care plan. • Medical Certificate. • Prescription.	• Client registration number / MRN. • Final diagnosis. • Date and time of discharge. • Discharge type. • Authorized person. • Date for follow up date / appointment.
	• The system must enable the authorized user for this module to capture discharge information, such as date and time of discharge and the name of doctor who authorizes the discharge.		
	• The system shall be integrated with the Appointment Module for setting up appointment if a follow up is needed.		
	• Shall be able to read barcode, biometrics.		
	• Shall be able to search/ edit/ merge / append/ view clinical information.		
	• Shall be able to generate care plan.		

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	• Shall be able to auto generate discharge summary and note.	Format to be specified.	
	• Shall be able to retrieve/update information on billing and provide a bill of service.	• Bill for services.	• Date and time of bill issued. • Type of payment. • Location of payment done. • Authorized person. • Financial type. • Financial No. • Amount.
	• The system must enable the authorized user for this module to generate operational report such as daily ward census.		
	• The system must enable the authorized user for this module to maintain reference file such as bed category and ward details such as ward number, class, location and disciplines.		
5.2.2 Reports.	• Link to CIS to capture diagnosis. • Query by discharge date. • Data analysis should include day / week / month / year allowing user to specify period “From and To”	PD 206 Morbidity and Mortality:- • Age Group. • Sex. • Discharge. • Death. • Diagnosis by ICD 10 Classification.	• Client registration number / MRN. • Final diagnosis. • Date and time of discharge. • Discharge type.

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	• Link to LIS to capture results of G6PD tests. • Link to CIS to capture diagnosis and case management and complications. • Query tool by date of discharge by day/ week/month/year. • System to automatically generate medical report.	KIB 204 Report on G6PD Deficiency:- • No. of G6PD tests done. • No. of test with G6PD deficiency. • No. of cases detected with Neonatal Jaundice. • No. of NNJ admitted to Hospital. • No. receiving phototherapy and receiving exchange transfusion. • No. of cases with bilirubin more than 12 mg. • No. of cases with kernicterus. • No. of death due to kernicterus. • No. of cases with other complication. • No. of death due to other complication. • Medical reports. • Format will be given.	• Client registration number / MRN. • Final diagnosis. • Date and time of discharge. • Discharge type. • G6PD Order details (LIS). • Case Management Progress data (CIS).
5.3 Referral.	• Shall be able to read barcode, biometrics.		
	• Shall be able to search / edit / merge /append / view clinical information.		
	• Ability to select.		

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	facility for the referral.		
	• Shall be able to perform online appointment.	• Online referral. • Referral letter.	• Client registration number/MRN. • Date and time of referral. • Type of referral. • Reason for referral. • Place of referral. • Authorized referring person.
	• Able to perform teleconsultation for referral – via phone, e-mail.		
	• Shall be able to document the transfer decision and incorporate a 'reason field' to enter the reason for the referral.		
	• Shall be able to perform online request for porter/ transport service.		
	• The system must enable the authorized user for this module to capture referred cases from all participating healthcare facilities.		
5.4 Billing.	• The system must ensure that only authorized users	• Online billing.	• Client registration number/MRN. • Date and time of

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	can access the billing module.		bill issued. • Type of payment. • Location of payment done. • Authorized person. • Financial type. • Financial No. • Amount.
	• The system shall enable the authorized user for this module to exit from the system at anytime.		
	• The system must enable the authorized user for this module to collect registration fees. Registration fees collected are based on the following:- • Patient category (general or specialist outpatient, inpatient). • Nationality (local or foreigner). • Visit type (new or follow-up-cases). • Patient eligibility. • Referral source (government medical officer, private practitioner or other healthcare facilities).		

PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT

	• The system must have integration with the Ward Module and be able to calculate the following charges:-
	  • Ward.
	  • Laboratory test.
	  • Imaging procedures.
	  • Diagnostic procedures.
	  • Treatment including the various classification of operations.
	  • Artificial limbs and prosthesis, etc.
	  • Calculation shall be based on patient eligibility as defined in Akta Fee 1951 Perintah Fee (Perubatan) 1982.		

	• The system must enable the authorized user for this module to create, maintain or cancel a bill.		
	• The system must enable the authorized user for this module to identify test that can be exempted from payment such as compulsory investigation		

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	carried out during an outbreak of an epidemic.		
	• The system must enable the authorized user for this module to print itemized bills.		
	• The system must allow the authorized user for this module to generate the required number of copies of an itemized bill prior to payment is made.		
	• The system must allow the authorized user for this module to view interim and actual bills.		
	• The system must enable the authorized user for this module to record and monitor the payment collection.		
	• The system must allow the authorized user to cancel or reverse payment transactions.		
	• The system must be able to accept several modes of payment including		

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	cash, credit card, money order, postal order, charge card and cheque.		
	• The system must enable the authorized user for this module to cancel a payment receipt (if necessary).		
	• The system must enable the authorized user for this module to handle payment adjustment and issue credit notes.		
	• The system must enable the authorized user for this module to cater for discount allowed through appeals made to the relevant hospital authorities.		
	• The system must be able to check status of patient account or company depository account.		
	• Shall be able to read barcode, biometrics.		
	• Shall be able to search/ edit/ merge /append/ view client information.		

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PROCESS	SYSTEM FUNCTION	DATA OUTPUT	DATA INPUT
	• Ability to verify/ print out bill.		
	• Ability to itemize bill if requested.		
	• Ability to print out reminder.	• Reminders.	
	• Ability to update bill (cancellation if required).		
	• Shall be able to print auto-generated receipt upon payment.	• Receipt. • Auto-generated receipt.	

	• The system must enable the authorized user for this module to print the following report:-
	  • Operational report such as daily collection statement.
	  • Managerial report.		

	• The system must enable the authorized user for this module to generate audit trail report for all transactions.		
	• The system must enable the authorized user for this module to maintain reference file such as chargeable items, company and patient accounts.		

6 HIGH LEVEL WORKFLOWS AND WORK PROCEDURE (PMS)

1. Making Appointment / Scheduling.
2. Outpatient Care (Hospital).
3. Outpatient Care (Health Clinic).
4. Registration Of Outpatient (Hospital).
5. Registration Of Outpatient (Health Clinic).
6. Referral For Consultation For Outpatient.
7. Referral For Admission From Health Clinic.
8. Admission.
9. Inpatient Care.
10. Person Management In Emergency Department.
11. Referral For Consultation (Inpatient).
12. Transfer Out For Inhouse Clients.
13. Transfer In For Inhouse Clients.
14. Discharge.
15. Brought In Dead (Bid).
16. Transferring Deceased To Mortuary.
17. Receiving Dead Bodies From Units / Wards In The Hospital.
18. Brought In Dead (Bid) From Outside The Hospital.
19. Release Bodies To Claimant Parties.
20. Releasing Of Unclaimed Bodies For In-house Deaths.
21. Releasing Of Unclaimed Bodies Brought In Dead.
22. Exporting Bodies.

23. Body Storage.

24. Billing Paying Clients (Outpatient).

25. Billing For Paying Clients In Emergancy Department.

26. Billing For Paying Clients In Ambulatory Care.

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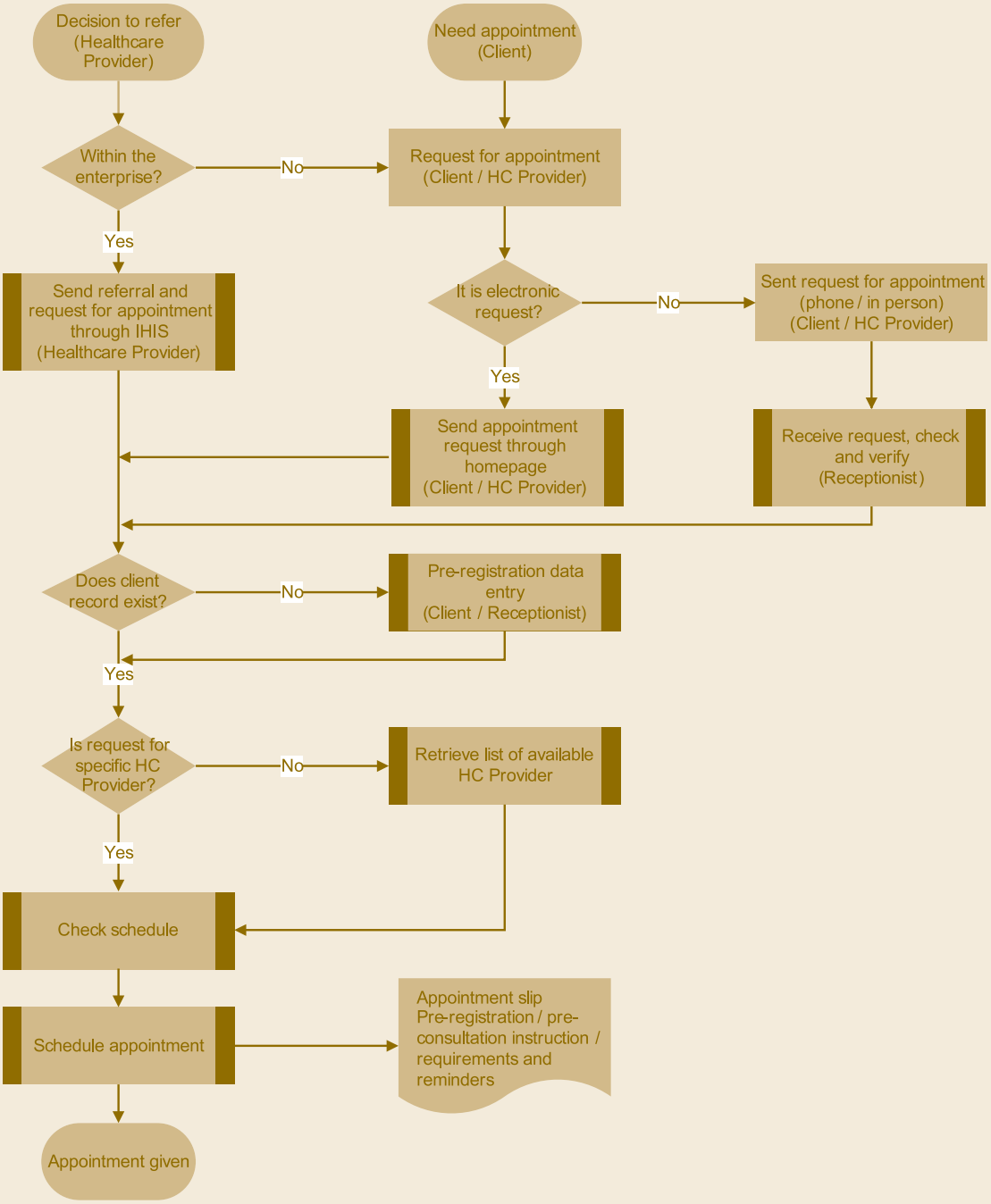
MAKING APPOINTMENT / SCHEDULING
HIS/PMS/WF1



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MAKING APPOINTMENT / SCHEDULING
HIS/PMS/WP1

1. This high-level work procedure is applicable for making appointment in healthcare facilities within and outside the enterprise. This work procedure is applicable for self-referrals to the primary healthcare facilities and referrals from primary healthcare facilities to primary / secondary / tertiary healthcare facilities.

2. Appointment request for clients within the enterprise will be done through Integrated Health Information System (IHIS).

3. For HC Facilities outside the enterprise, appointment request may be made by HC Provider or client may be empowered to make the appointment himself / herself. Such appointments request may be made through direct access to the HC facility homepage or by e-mail / phone / fax or in-person. However, appointment made by clients to secondary / tertiary through e-mail / homepage will be subjected to electronic verification from the Primary Care Provider. For appointment made to the secondary / tertiary facilities through phone, the clients will be required to bring referral letter.

4. For appt request through e-mail / phone / fax / person, verification of clients' particulars and purpose of request will be done in the HC facilities by a HC provider.

5. For clients for whom previous records do not exist, pre-registration data entry will be done by the HC provider or the client himself / herself. This may be done online while making appointment through homepage or through info-kiosks.

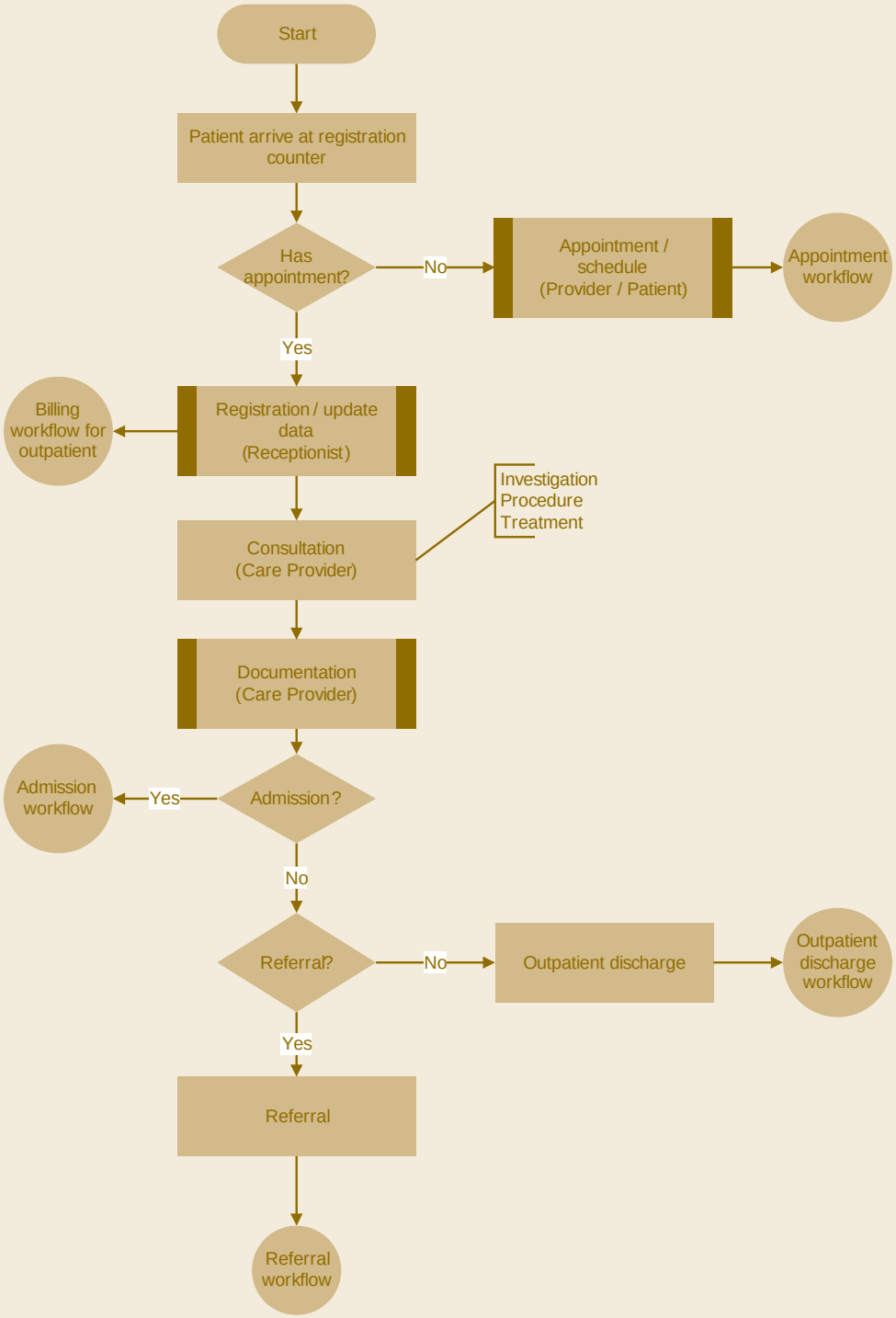
6. Request for specific HC provider, will be matched against the availability and scheduling done accordingly. Request which does not specify any particular HC provider will be matched against the availability of HC provider by respective discipline and scheduling done accordingly.

7. Appointment Slip, Pre-registration / Pre-consultation instruction / requirements will be given to the client either through e-mail or printed copy will be generated as required.

8. Time taken for making appt within healthcare enterprise should be real time. For facilities outside enterprise, time taken will depend on the local policy.

9. System generated online reminder shall be sent to the client two days prior to the appointment date.

OUTPATIENT CARE (HOSPITAL)
HIS/PMS/WF/2



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OUTPATIENT CARE (HOSPITAL)
HIS/PMS/WP/2

1. This high-level work procedure is applicable to all outpatient care services, which include general outpatient clinics, specialist clinics and emergency care for non critical cases, irrespective of whether it is provided in hospitals, health and dental clinics.

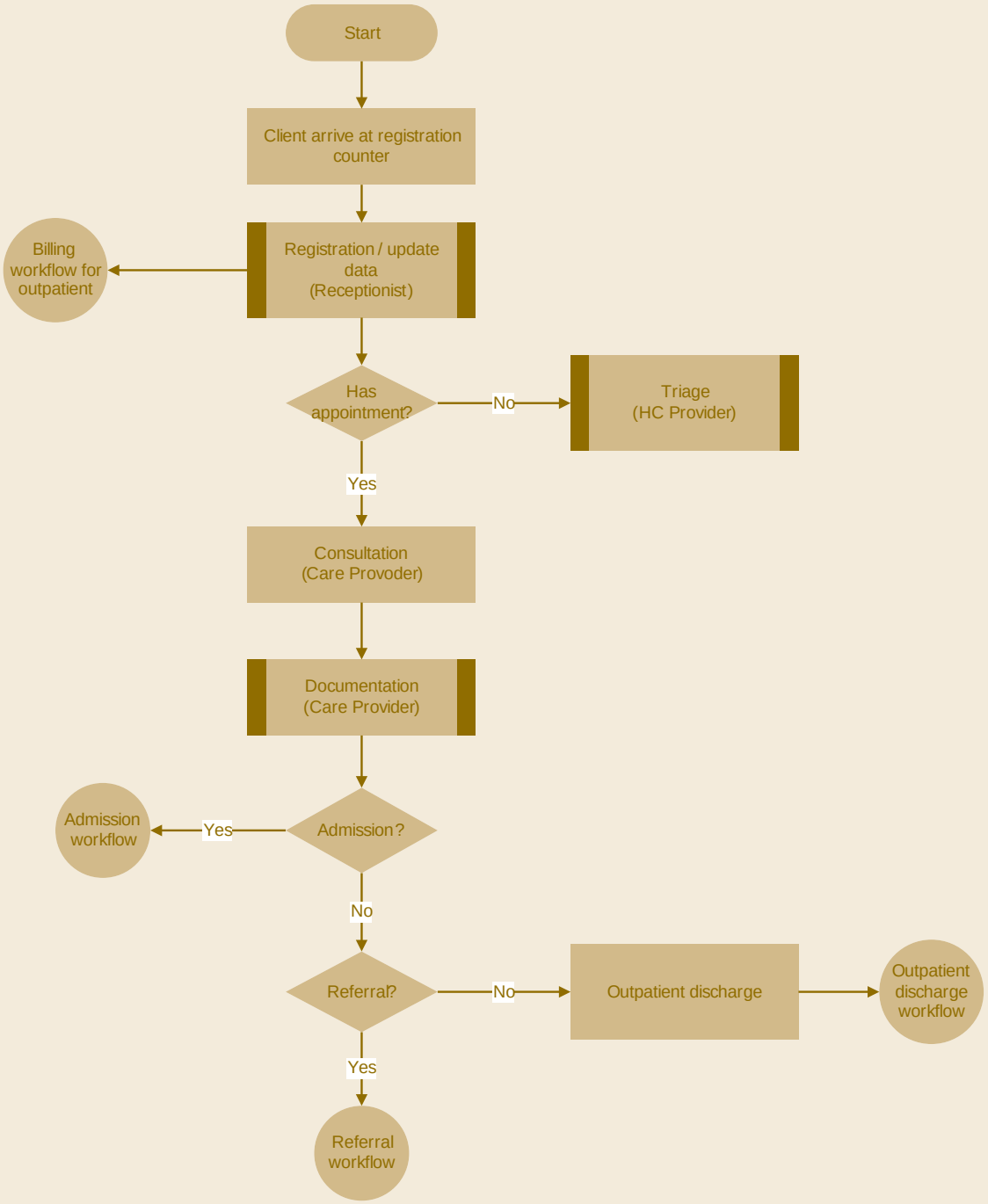
2. Clients arriving at registration counter may or may not have prior appointment. Clients without appointment will be scheduled for an appointment by the reception counter staff. The appointment may or may not be on the same day, depending on the condition.

3. Those with an appointment will be registered by the receptionist and will be seen by the care provider at the appropriate time and location.

4. After consultation, the client may be referred, discharged or admitted. The time taken for the client from registration until he / she gets referred, discharged or admitted will be determined by local policies.

5. For more details, please refer to the respective work procedure and flow.

OUTPATIENT CARE (HEALTH CLINIC)
HIS/PMS/WF/3



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OUTPATIENT CARE (HEALTH CLINIC)
HIS/PMS/WP/3

1. This high-level work procedure is applicable to all outpatient care services, which include general outpatient clinics, specialist clinics and emergency care for non critical cases, irrespective of whether it is provided in hospitals, health and dental clinics.

2. Clients arriving at registration counter may or may not have prior appointment.

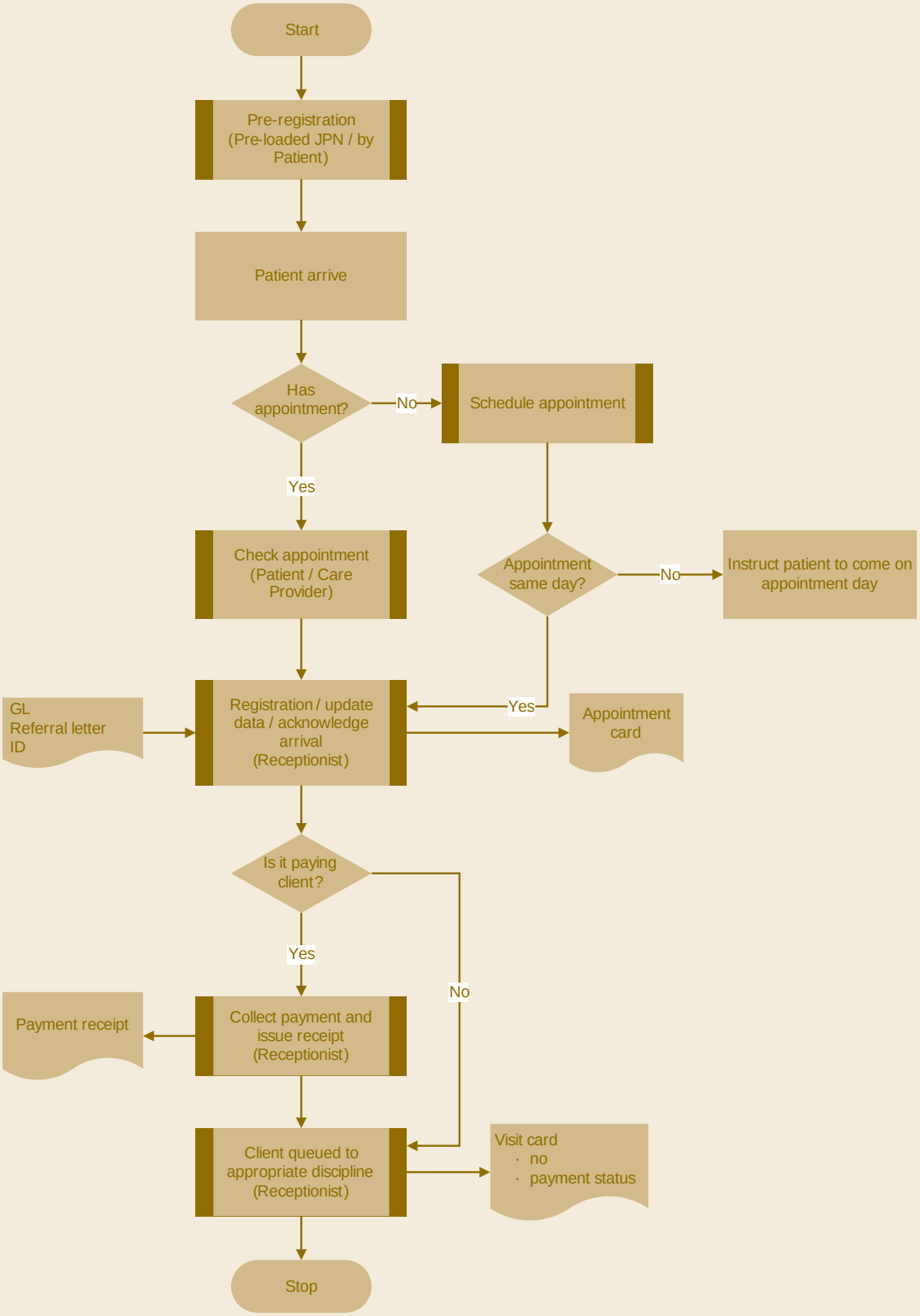
3. Those with an appointment will be registered by the receptionist and will be seen by the care provider at the appropriate time and location.

4. Clients without appointment will be registered by the receptionist and sent to the triage. The triage nurse will screen and send the client to appropriate level of care.

5. After consultation, the client may be referred, discharged or admitted. The time taken for the client from registration until he / she gets referred, discharged or admitted will be determined by local policies.

6. For more details, please refer to the respective work procedure and flow.

REGISTRATION OF OUTPATIENT (HOSPITAL)
HIS/PMS/WF/4



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REGISTRATION OF OUTPATIENT (HOSPITAL)
HIS/PMS/WP/4

1. This work procedure is applicable for the registration of clients for outpatient care services, which includes general outpatient clinics and specialist clinics irrespective of whether it is provided in hospitals, health and dental clinics.

2. Clients can perform pre-registration formalities online or at info- kiosks located in the health facilities where they seek care. Pre-registration refers to entry of information such as demographic data, next of kin, address, telephone, fax and e-mail address, etc.

3. Upon arrival, the client will pick up a queue number, which will be used for queuing clients to the registration counter. Clients may be categorised according to those with or without appointment.

4. Clients arriving at registration counter without appointment will be scheduled for an appointment by the reception counter staff. The appointment may or may not be on the same day, depending on the condition.

5. Clients will produce identification document such as IC, Pension card, Passport, Guarantee Letter, etc; and referral letter if any.

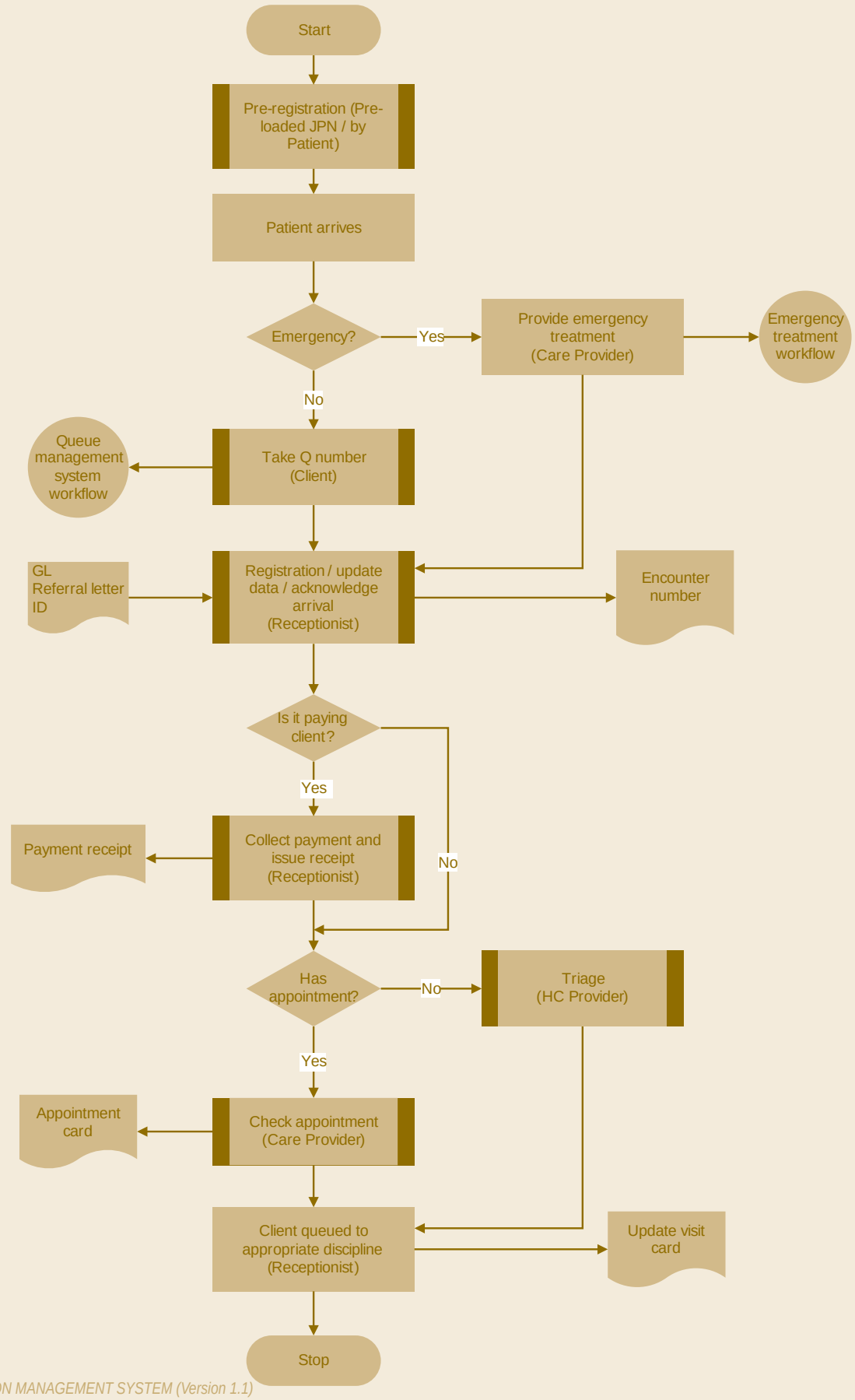
6. The client's particulars will be checked, by the receptionist, with the registration database to determine whether the client has been registered earlier. For new cases, system generated MRN will be assigned to the client and the visit number given. For repeat cases, client particulars will be updated and a visit number given. This visit number will be used for all encounters with the care providers in that health care facility for that particular day.

7. Client's arrival will be acknowledged and queued according to the conditions and needs.

8. The receptionist will collect payment from paying patients and credit it into the health facility accounting system and a receipt will be issued.

9. It is possible for the whole work procedure to be performed within 5 minutes.

REGISTRATION OF OUTPATIENT (HEALTH CLINIC)
HIS/PMS/WF5



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REGISTRATION OF OUTPATIENT (HEALTH CLINIC)
HIS/PMS/WP5

1. This work procedure is applicable for the registration of clients for outpatient care services in primary healthcare clinics.

2. Clients can perform pre-registration formalities online or at any info-kiosks. Pre-registration refers to entry of information such as demographic data, next of kin, address, telephone, fax and e-mail address, etc.

3. Upon arrival, the client will pick up a queue number which will be used for queuing clients to the registration counter, except for emergency cases. Clients may be categorised according to those with or without appointment.

4. For emergency cases, client will be sent straight to the treatment room. Registration will be done later by relative or accompanying person.

5. Clients will produce identification document such as NRIC, Pension card, Passport, Guarantee Letter, etc; and referral letter if any.

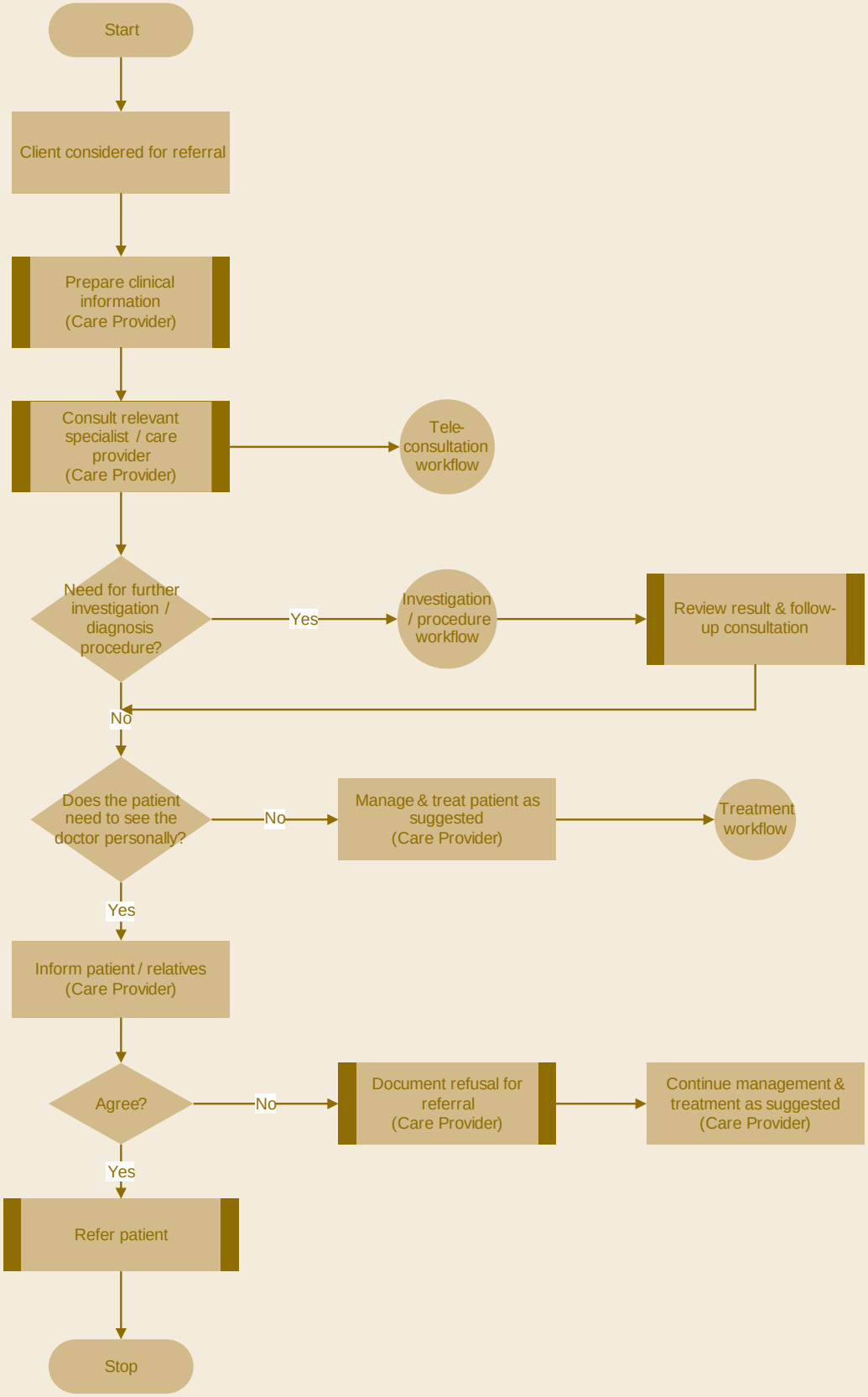
6. The client's particulars will be checked, by the receptionist, with the registration database to determine whether the client have been registered earlier. For new cases, system generated MRN will be assigned to the client and the visit number given. For repeat cases, client particulars will be updated and a visit number given. This visit number will be used for all encounters with the care providers in that health care facility for that particular day.

7. Clients arriving without appointment will be screened at the triage counter and sent to appropriate level of care according to the conditions and needs.

8. The receptionist will collect payment from paying patients and credit it into the health facility accounting system and a receipt will be issued.

9. Time taken for registration within healthcare enterprise should be real time. For facilities outside enterprise, time taken will depend on the local policy.

REFERRAL FOR CONSULTATION OUTPATIENTS (HEALTH CLINIC)
HIS/PMS/WF6



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REFERRAL FOR CONSULTATION OUTPATIENTS (HEALTH CLINIC)
HIS/PMS/WP6

1. This high-level work procedure is applicable to all outpatients referred for consultation to another care provider in a facility within and outside the hospital/clinic. This is also applicable for referral to therapist, optometrist and other allied health personnel as indicated. This will not include consultation for critical cases where such cases will be admitted directly to the referring facility.

2. Clients may be referred for consultation to another hospital / health facilities for the following reasons:-
   - 2.1. To seek second opinion.
   - 2.2. Services not available due to lack / inadequate resources such as manpower, equipment, beds and facility.
   - 2.3. Non-availability of a particular specialty.
   - 2.4. Equipment breakdown.
   - 2.5. Specialist/care provider not available due to leave, etc.
   - 2.6. Others (Patient request).

3. Upon making a decision to refer, the doctor/care provider who sees the case will make an initial consultation with the specialist/another care provider concerned. Relevant clinical information will be provided to the specialist / care provider to whom the case is referred.

4. Such consultation will be made online for facilities within the enterprise. For those facilities outside the enterprise, the consultation will be made either through phone or e-mail. Refer teleconsultation work procedure for further details. For referrals made through phone to / from facilities outside the enterprise, a referral letter will be required, either electronic or hard copy.

5. Upon consultation, the client may be required to undergo further investigation / diagnostic procedures. The doctor / care provider will do the investigations / diagnostic procedures available in clinic / hospital. Refer investigation / diagnostic procedure workflow for further details.

6. Clients who undergo further investigation or diagnostic procedure will be reviewed by the doctor / care provider in the hospital / clinic in consultation with the specialist / care provider concerned. Upon final consultation, a decision may be made to allow the client to continue management in the same hospital / clinic with appropriate care-plan drawn with the specialists / care provider concerned. For those clients whose results indicate need for further management by the specialist / care provider concerned, such cases will be referred to the external facility concerned.

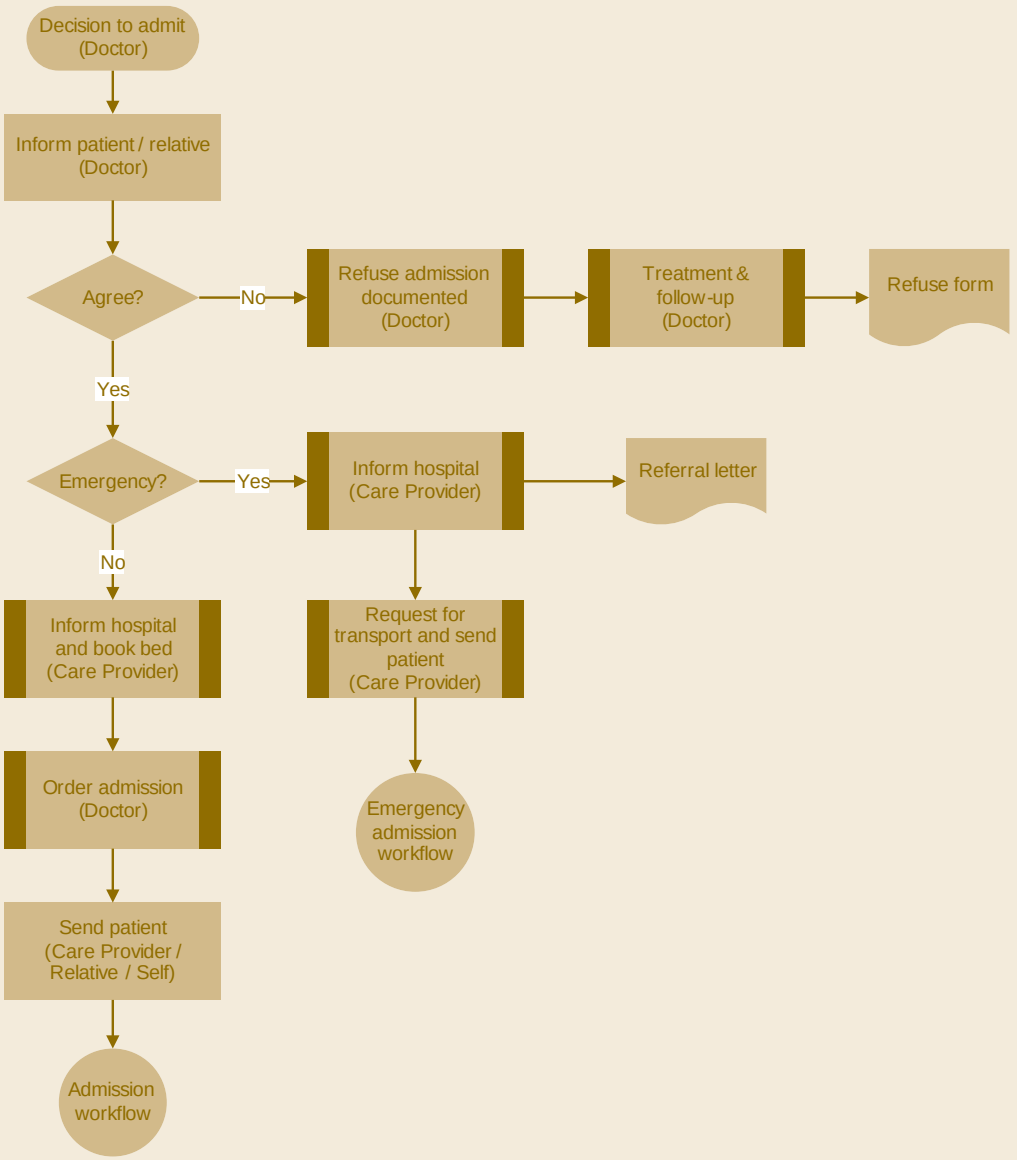
7. Clients who do not require further investigation / diagnostic procedures will be consulted to determine whether they need to be seen personally or not. Some of them may be allowed to

be managed and treated in the hospital/clinic referring the case, with appropriate care plan agreed by both parties. For cases, which indicate further management by specialist/care provider concerned, decision will be made to refer the case to the concerned healthcare facility.

8. Upon making a decision to refer, the doctor/care provider in charge will inform the client and his / her family about the decision and reasons for referral. The clients / relatives will be encouraged to use MCPHIE portal to obtain further information on his / her conditions. This will enable them to make informed decision making. If the client and his / her family refuse referral, the doctor/care provider will document the reasons for refusal and the client / relatives will be required to sign the refusal form. However, the doctor will consult the specialist / care provider concerned and draw appropriate care plan and continue to manage the client in same hospital/ clinic.

9. For clients who agreed for the referral, it will be sent to the specialist / care provider in the external facilities for further consultation and management. Standard Operating Procedure (SOP) for referral of such cases will follow local policy.

REFERRAL FOR ADMISSION (FROM HEALTH CLINIC)
HIS/PMS/WF7



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REFERRAL FOR ADMISSION (FROM HEALTH CLINIC)
HIS/PMS/WP7

1. This high level work procedure is applicable to all admissions in Ministry Of Health hospitals including those from outpatient health and dental clinics, specialist clinics, emergency department and labour delivery.

2. Upon making a decision to admit, the doctor will inform the client and the relatives. For those who refuse admission, treatment procedures and care plan will be executed and the patient or relatives will be requested to sign a Refusal Form.

3. For those who agree for the admission, the doctors will order for admission to the specific discipline. For elective cases, preadmission requirements will be done by the doctor / nurse. Preadmission requirements refer to booking beds to specific ward, preadmission work-ups. Admission package consisting of hospital policies, admission slip and other relevant information pertaining to condition of patient will be given.

4. For non elective cases who are ill or need assistance, the nurse at the clinic admitting the client will request for a porter to accompany the patient. For others, the client will be directed to the admission counter with an admission package consisting of hospital policies, admission slip and other relevant information pertaining to condition of patient.

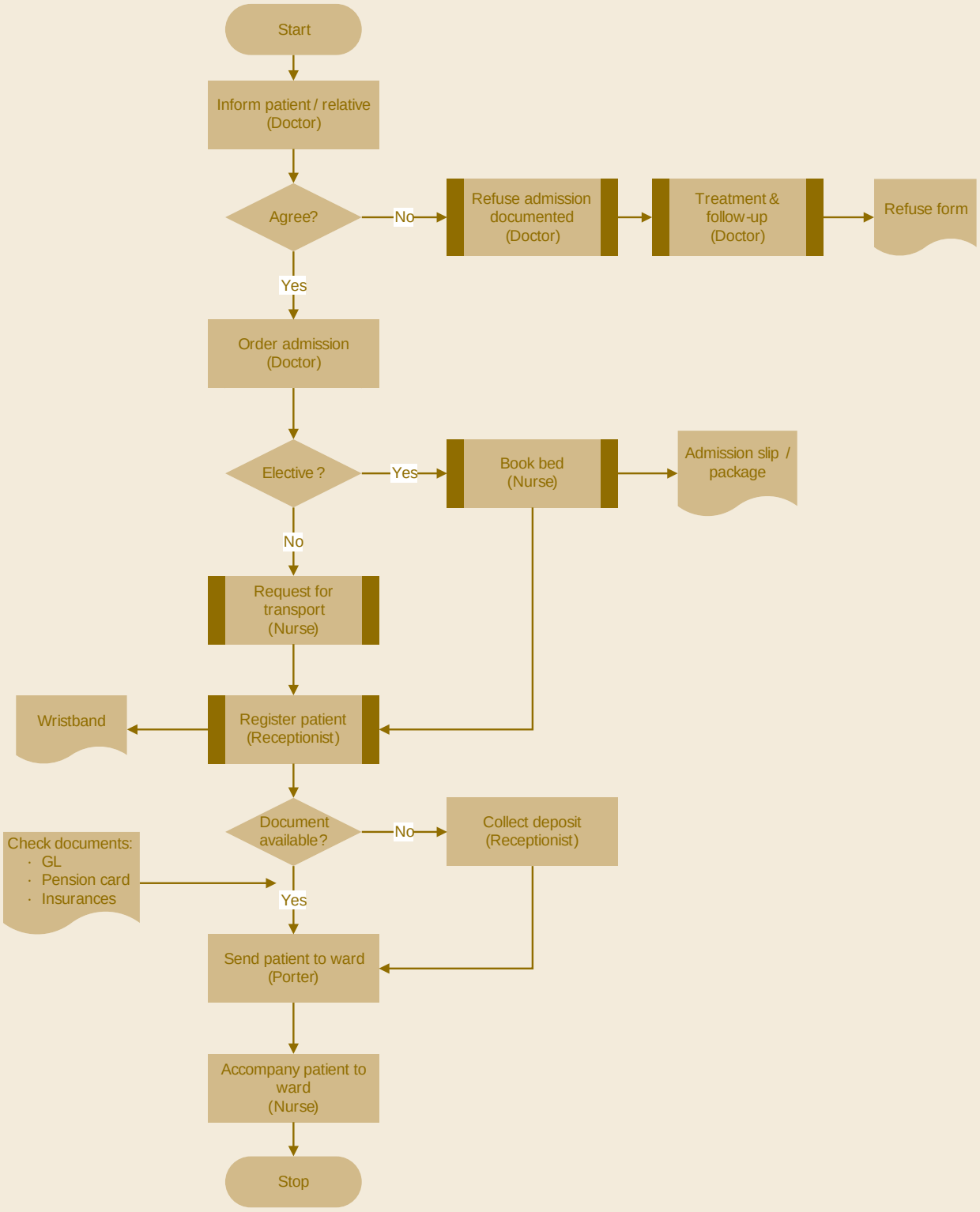
5. Upon arrival at the admissions counter, the receptionist will check and verify the relevant documents such as admission slip, Pension Card, IC, Guarantee Letter and other documents for purpose of billing. In the absence of any relevant documents, the receptionist will collect the payment deposit and issue a receipt.

6. Upon completion of verification of documents and collection of deposits, the receptionist will admit the case to the specific ward and a bed will be allocated.

7. Upon completion of admission, a wrist band will be issued and the client will be accompanied by a porter to the respective ward.

8. The whole work procedure for admission will be done between two to three minutes.

ADMISSION (HOSPITAL)
HIS/PMS/WF8



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ADMISSION (HOSPITAL)
HIS/PMS/WP8

1. This high level work procedure is applicable to all admissions in Ministry Of Health hospitals including those from outpatient health and dental clinics, specialist clinics, emergency department and labour delivery.

2. Upon making decision to admit, the doctor will inform the client and the relatives. For those who refused admission, treatment procedures and care plan will be executed and the patient or relatives will be requested to sign a Refusal Form.

3. For those who agree for the admission, the doctors will order for admission to the specific discipline. For elective cases, preadmission requirements will be done by the doctor / nurse. Preadmission requirements refer to booking beds to specific ward, preadmission work-ups. Admission package consisting of hospital policies, admission slip and other relevant information pertaining to condition of patient will be given.

4. For non elective cases who are ill or need assistance, the nurse at the clinic admitting the client will request for a porter to accompany the patient. For others, the client will be directed to the admission counter with an admission package consisting of hospital policies, admission slip and other relevant information pertaining to condition of patient.

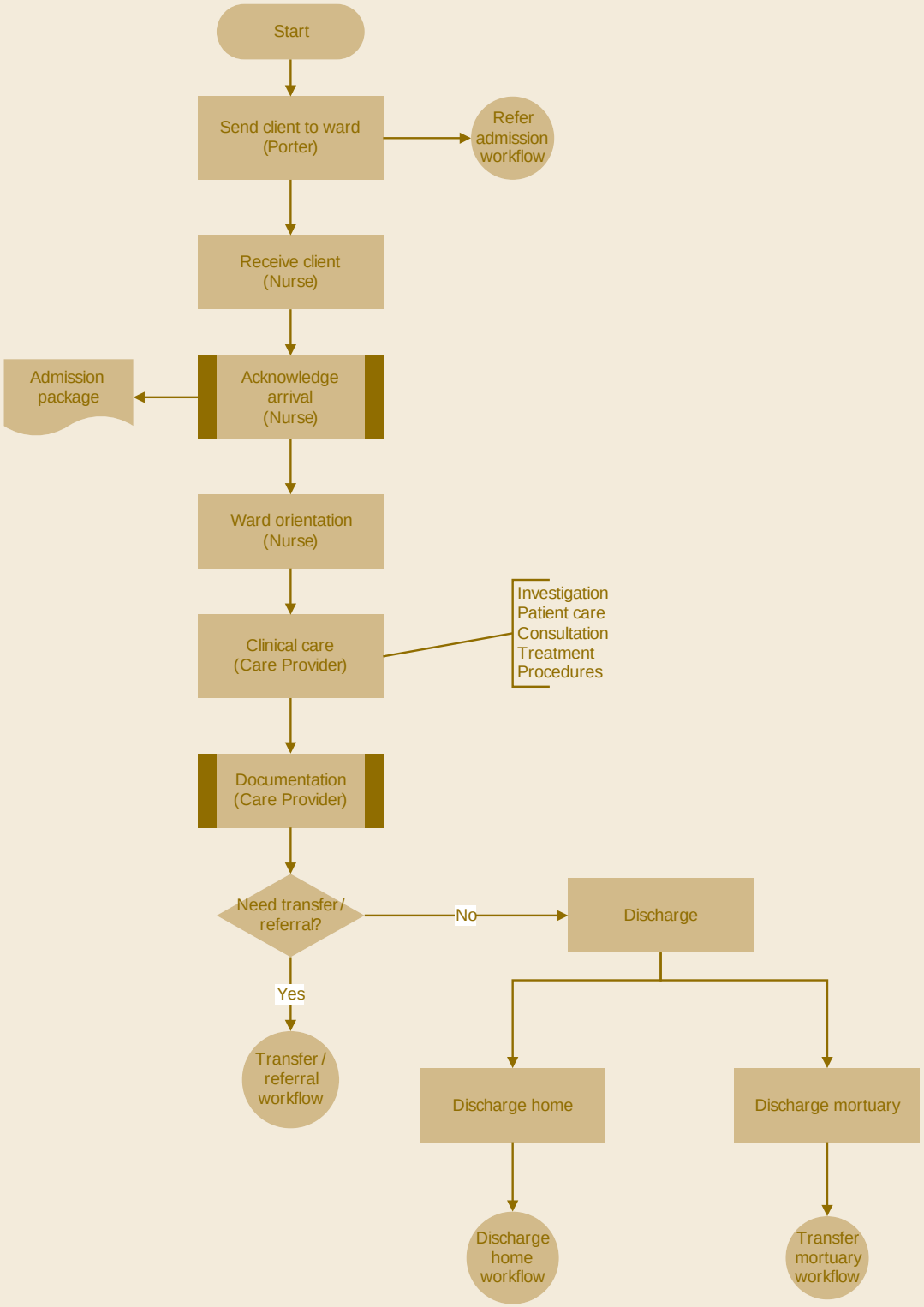
5. Upon arrival at the admission counter, the receptionist will check and verify the relevant documents such as admission slip, Pension Card, IC, Guarantee Letter and other documents for purpose of billing. In the absence of any relevant documents, the receptionist will collect the payment deposit and issue a receipt.

6. Upon completion of verification of documents and collection of deposits, the receptionist will admit the case to the specific ward and a bed will be allocated.

7. Upon completion of admission, a wrist band will be issued and the client will be accompanied by a porter to the respective ward.

8. The whole work procedure for admission will be done between two to three minutes.

INPATIENT CARE
HIS/PMS/WF9



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INPATIENT CARE
HIS/PMS/WP9

1. This high level work procedure is applicable to all inpatient care services which include wards, ICU, CCU, Labour Delivery, Day Care and Observation Ward in ED.

2. Clients arrive in the ward accompanied by a porter / MA / Nurse or other relevant personnel. However, clients getting admitted to labour ward may go with their relative only. Admissions to the day care will not be accompanied by care providers.

3. On arrival in the ward, the nurse will receive the clients and give ward orientation as per SOP of hospitals. However for admission to intensive care units, the relatives will be briefed on local policy.

4. After settling the clients in the bed and providing immediate care, the nurse will acknowledge client arrival in the HIS and inform doctor.

5. The client will receive care as per care-plan suggested by the doctor.

6. Upon receiving care and management, the client may either be referred to another specialist and continue the management in same ward or may be transferred out to another ward. Refer to the respective workflow and procedure.

7. The outcome of management of inpatient may also include discharge home when the client is fit to go home. For clients who die in the ward, the body will be discharged to the mortuary. Refer to the respective workflow and procedure.

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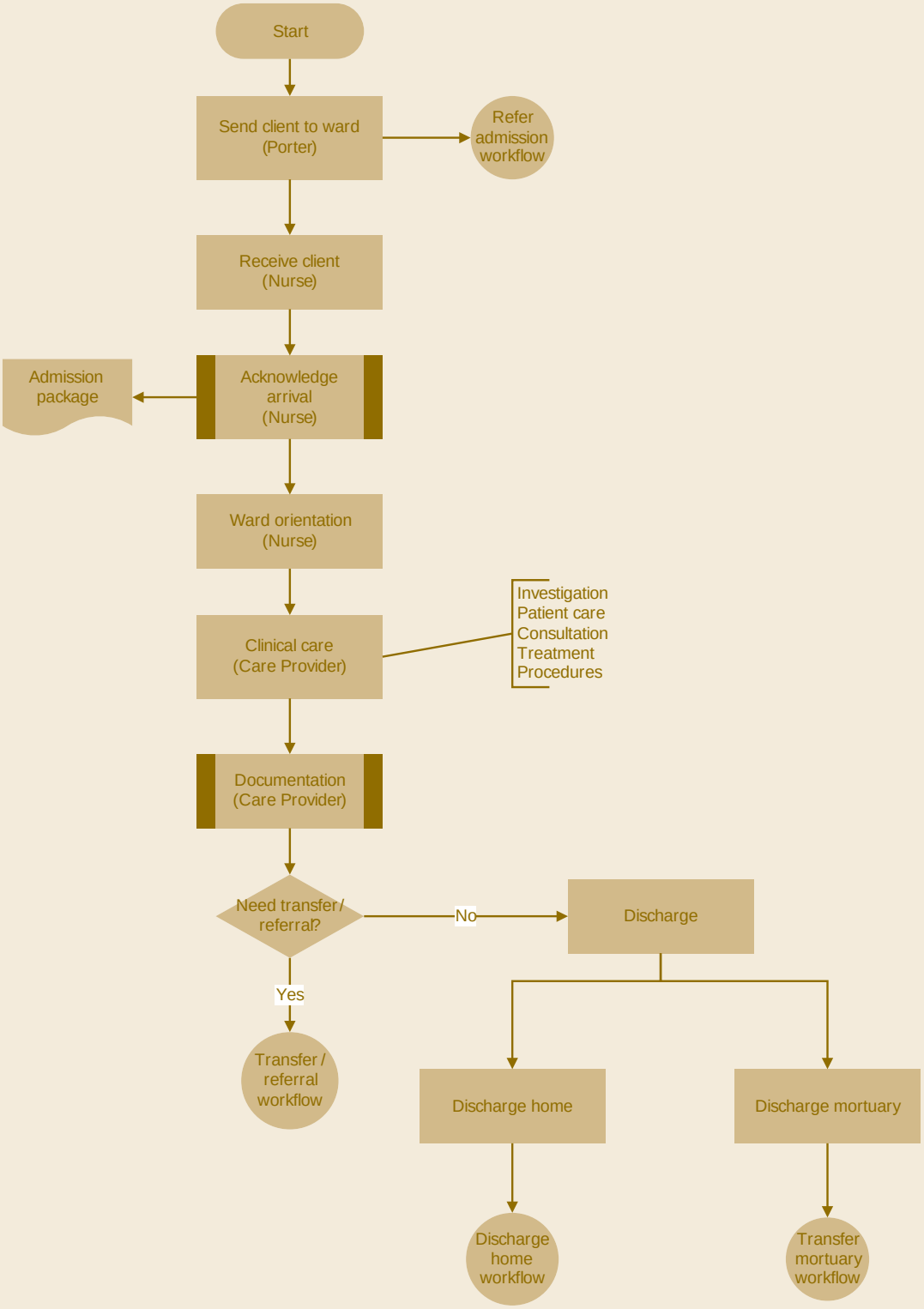
PERSON MANAGEMENT IN EMERGENCY DEPARTMENT
HIS/PMS/WF10



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PERSON MANAGEMENT IN EMERGENCY DEPARTMENT
HIS/PMS/WP10

1. This high level work procedure is applicable to the management of patients in the clinics and the emergency department of the hospitals. However, it is not applicable for management of the deceased and disaster management.

2. Clients arriving at emergency department may or may not be in critical condition. All clients will be triaged and priority status determined according to the condition of the client.

3. Priority status refers to policy of Ministry of Health and includes critical cases, urgent cases such as, police case, rape and domestic violence. However, elderly, infants and pregnant mothers coming to the emergency department does not qualify for priority cases.

4. Clients belonging to the non priority status category will be requested to register at the registration counter. Upon registration, visit number will be created and patient will be required to follow visit number.

5. The clients will be seen by the doctor and appropriately managed. After consultation, the client may be admitted, referred or discharged.

6. Priority cases will be managed according to condition of patient. Critical cases will be resuscitated / and stabilised and managed appropriately. Clients may be admitted or referred to appropriate healthcare facility.

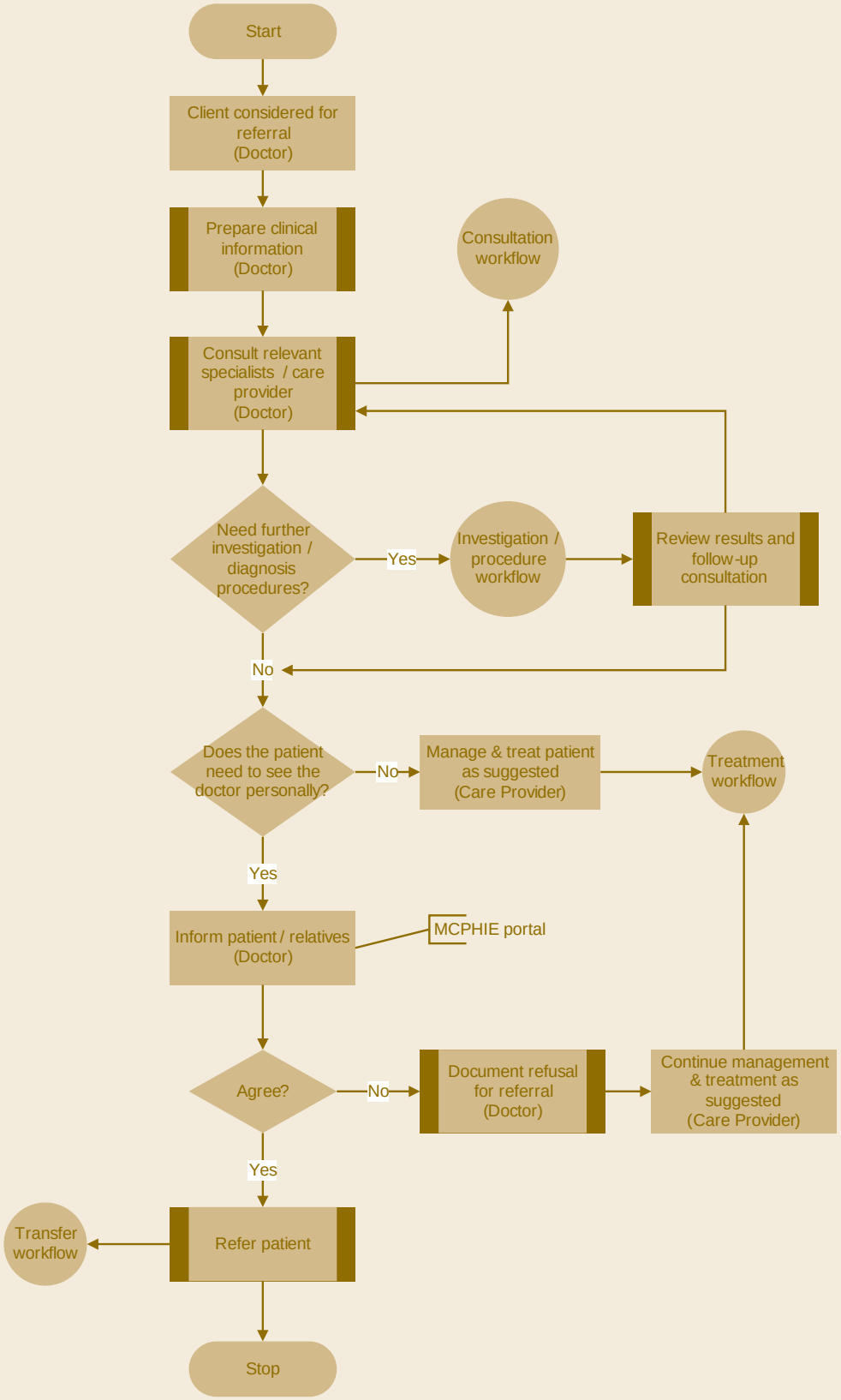
7. Police cases, rape and domestic violence victims will be managed according to MOH guidelines. For more details on management of police cases, rape and domestic violence victims, refer to respective workflow and procedures.

8. Time taken for management of critical, semi-critical and non critical cases will depend on local policy.

9. For management of deceased, refer to respective workflow for deceased.

10. For disaster management workflow and procedures, refer MOH guidelines.

REFERRAL FOR CONSULTATION (INPATIENTS)
HIS/PMS/WF11



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REFERRAL FOR CONSULTATION (INPATIENTS)
HIS/PMS/WP11

1. This high-level work procedure is applicable to all inpatients referred for consultation to a specialist in a facility within and outside the hospital. This will include consultation for critical and non-critical cases and for facilities within and outside the enterprise. This is also applicable for referral to therapist, dieticians and other allied health personnel as indicated.

2. Clients may be referred to another hospital for the following reasons:-
   - 2.1. To seek second opinion.
   - 2.2. Services not available in the hospital due to lack / inadequate resources such as manpower, equipment, beds and facility.
   - 2.3. Non-availability of a particular specialty.
   - 2.4. Equipment breakdown.
   - 2.5. Specialist not available due to leave, etc.
   - 2.6. Others (disasters, electrical / power breakdown, etc).

3. Upon making a decision to refer, the doctor in charge of the ward will make an initial consultation with the specialist concerned. Relevant clinical information will be provided to the specialist/s to whom the case is referred.

4. Such consultation will be made online for facilities within the enterprise. For those facilities outside the enterprise, the consultation will be made either through phone, e-mail or letter. Refer consultation work procedure for further details.

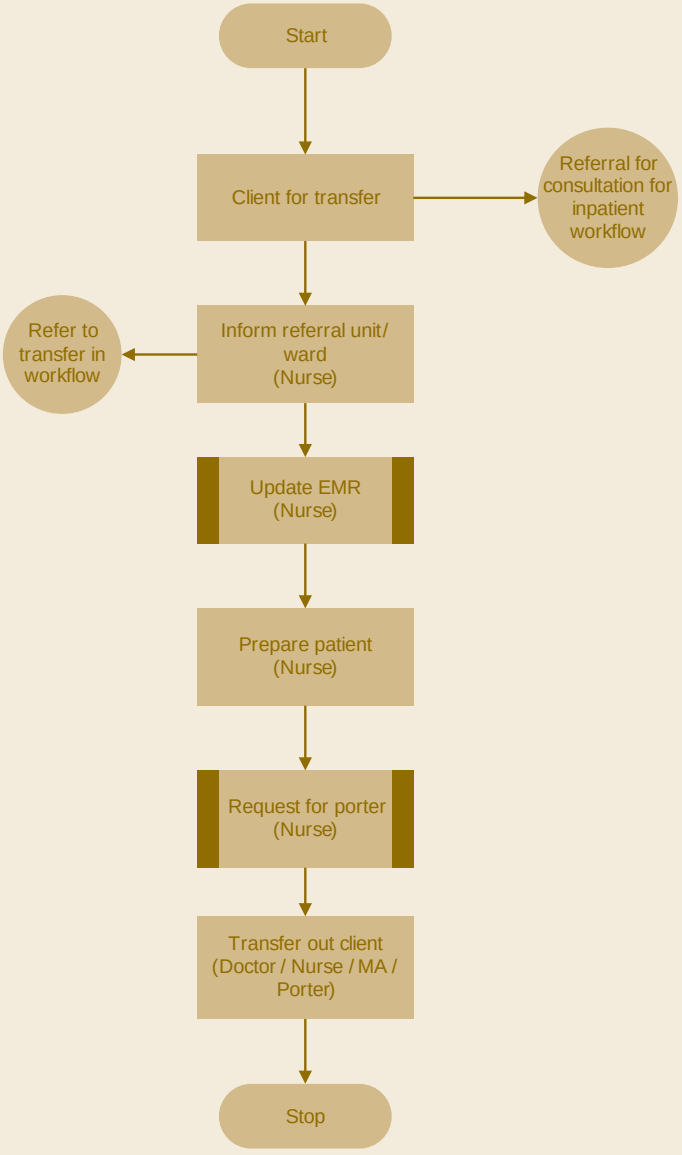
5. On consultation, the client may be required to undergo further investigation / diagnostic procedures, or may be allowed to continue treatment in the same hospital with appropriate care plan or may be required to be transferred to the referring health facility to continue further management. Refer investigation / diagnostic procedure workflow for further details.

6. Clients who undergo further investigation or diagnostic procedure will be reviewed by the doctor in the hospital in consultation with the specialist concerned. Upon final consultation, a decision may be made to allow the client to continue management in the same hospital with appropriate care-plan drawn with the specialists concerned. For those clients whose results indicate need for further management by the specialist/s concerned, such cases will be transferred to the external facility concerned.

7. Upon making a decision to transfer, the doctor in charge will inform the client and his / her family about the decision and reasons for transfer. If the client and his / her family refuse referral, the doctor will document the reasons for refusal and the client will be required to sign the refusal form. However, the doctor will consult the specialist concerned and draw appropriate care plan and continue to manage the client in same hospital.

8. For clients who consented for transfer, he / she will be sent to the hospital concerned. Refer ‘Transfer Work procedure’ for details.

TRANSFER OUT FOR INHOUSE CLIENTS
HIS/PMS/WF12



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TRANSFER OUT FOR INHOUSE CLIENTS
HIS/PMS/WP12

1. This high-level work procedure is applicable for transferring out the client from one ward to another within the hospital. This does not apply for transfer out to an external facility.

2. Upon making the decision to transfer based on consultation and agreement between the two specialists, the nursing staff will inform the staff of receiving unit / ward. Refer to referrals for consultation for inpatients / transfer in for detailed workflow.

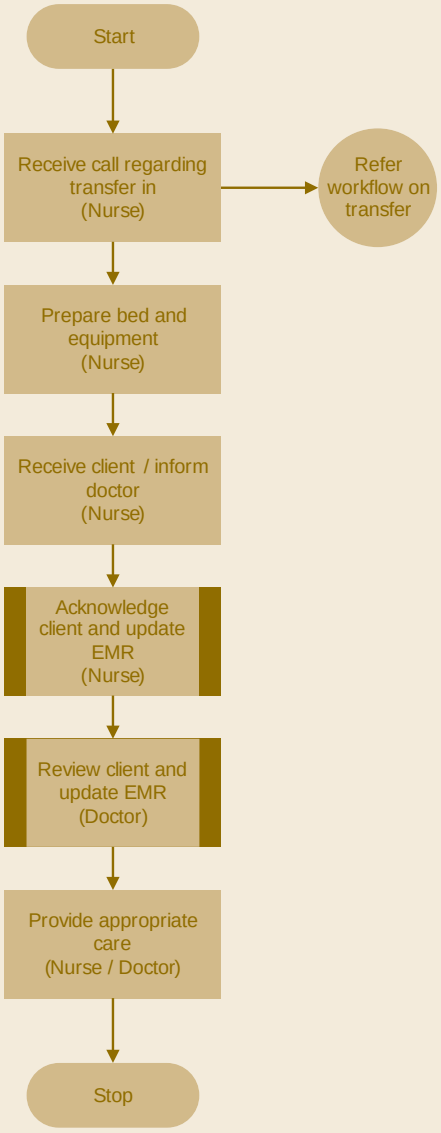
3. The doctor / nurse will update the patients EMR prior to transfer.

4. The nurse will prepare patient accordingly including necessity for special equipment required.

5. The nurse will request for porter for transporting the client. Refer local policy for SOP on porterage services.

6. The client will be transferred out, accompanied by appropriate health personnel depending on the condition of the client.

TRANSFER IN FOR INHOUSE CLIENTS
HIS/PMS/WF13



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TRANSFER IN FOR INHOUSE CLIENTS
HIS/PMS/WP13

1. This high level work procedure is applicable for transferring in the client from one ward to another within the hospital. This does not apply for transfer in from an external facility.

2. Upon receiving the call regarding the transfer in, the nurse will inform the relevant staff and make arrangements for preparing bed / equipment depending on the client's conditions. Refer to workflow on transfer out for in house clients for detailed workflow.

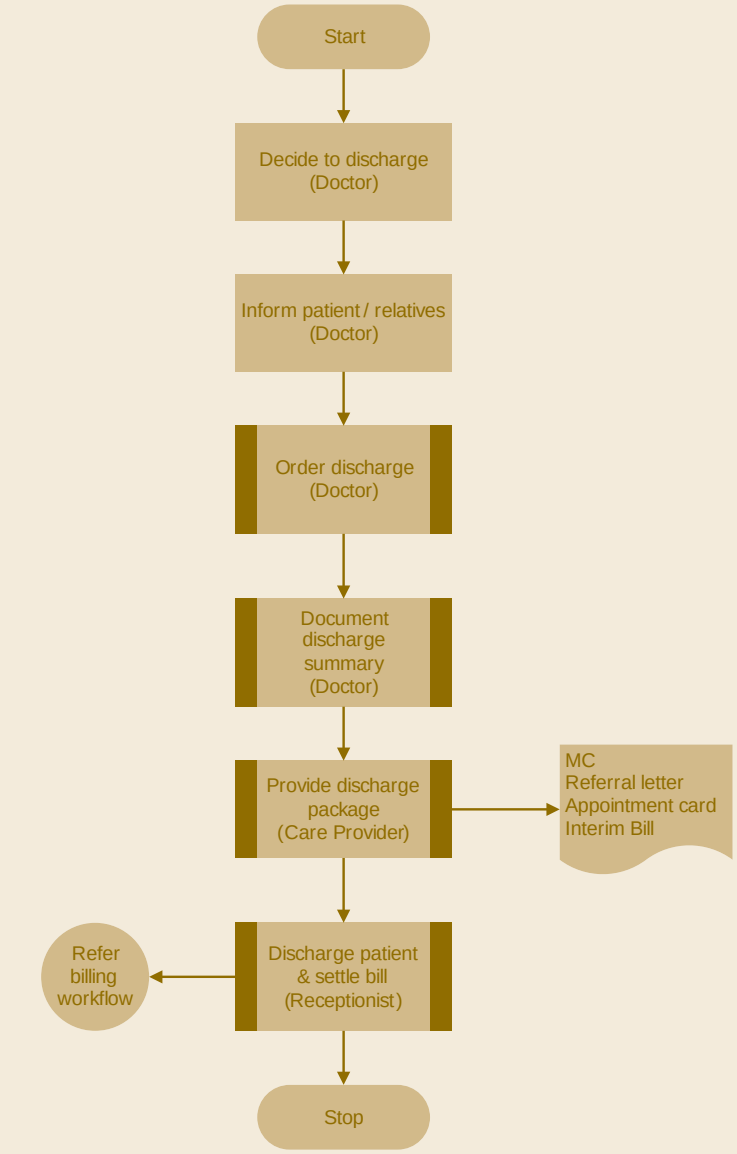
3. Upon the client's arrival, the nurse will take the client to the allocated bed, check vital signs / equipment and provide appropriate nursing care.

4. The nurse will then inform the doctor, acknowledge client arrival and update EMR accordingly.

5. The doctor will review client's condition / update EMR and recommend the appropriate care plan.

6. Recommended care plan will be carried out.

DISCHARGE
HIS/PMS/WF14



* Discharge package consist of
  - MC
  - Referral letter
  - Appointment card
  - Interim bill
  - Education materials
  - Medication
  - Advice

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DISCHARGE
HIS/PMS/WP14

1. This high level work procedure is applicable to all discharges in Ministry Of Health hospitals.

2. Upon making the decision to discharge, the doctor will inform the client / relatives that he / she is fit for discharge.

3. The doctor will prepare the discharge summary and a discharge package will be made available. The discharge package consists of MC, medications, appointment slip, education materials and referral letter if required.

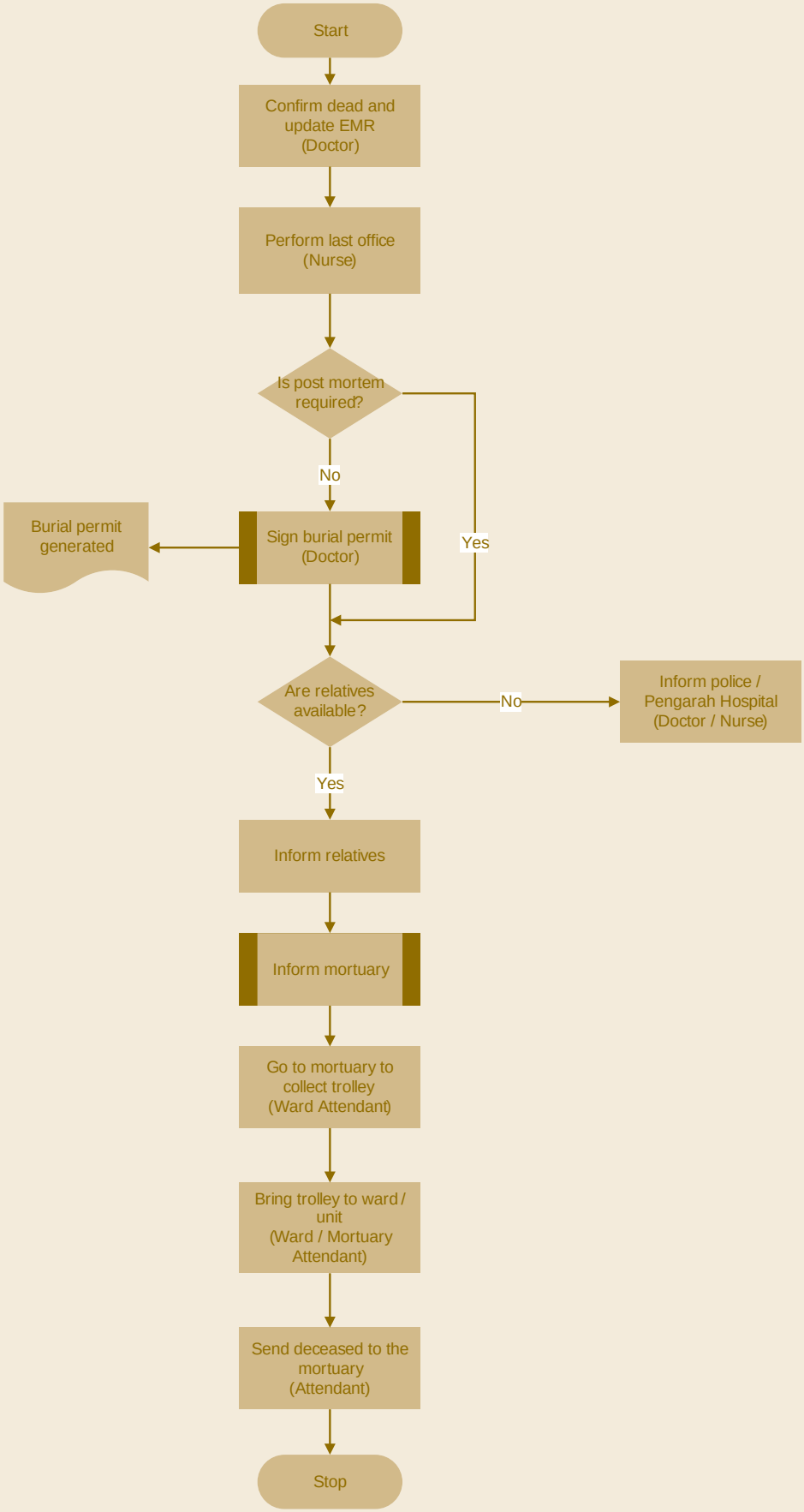
4. The nurse will request client / relatives to settle the bill at the billing counter.

5. Upon settlement of bill and checking the receipt, the nurse will give the discharge package and inform client that he / she can go home.

6. For more details for billing, please refer to the respective work procedure and flow.

7. Time taken depends on the workload of the hospital. Each hospital will be required to project their workload and develop a target.

TRANSFERRING DECEASED TO MORTUARY
HIS/PMS/WF15



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TRANSFERRING DECEASED TO MORTUARY
HIS/PMS/WP15

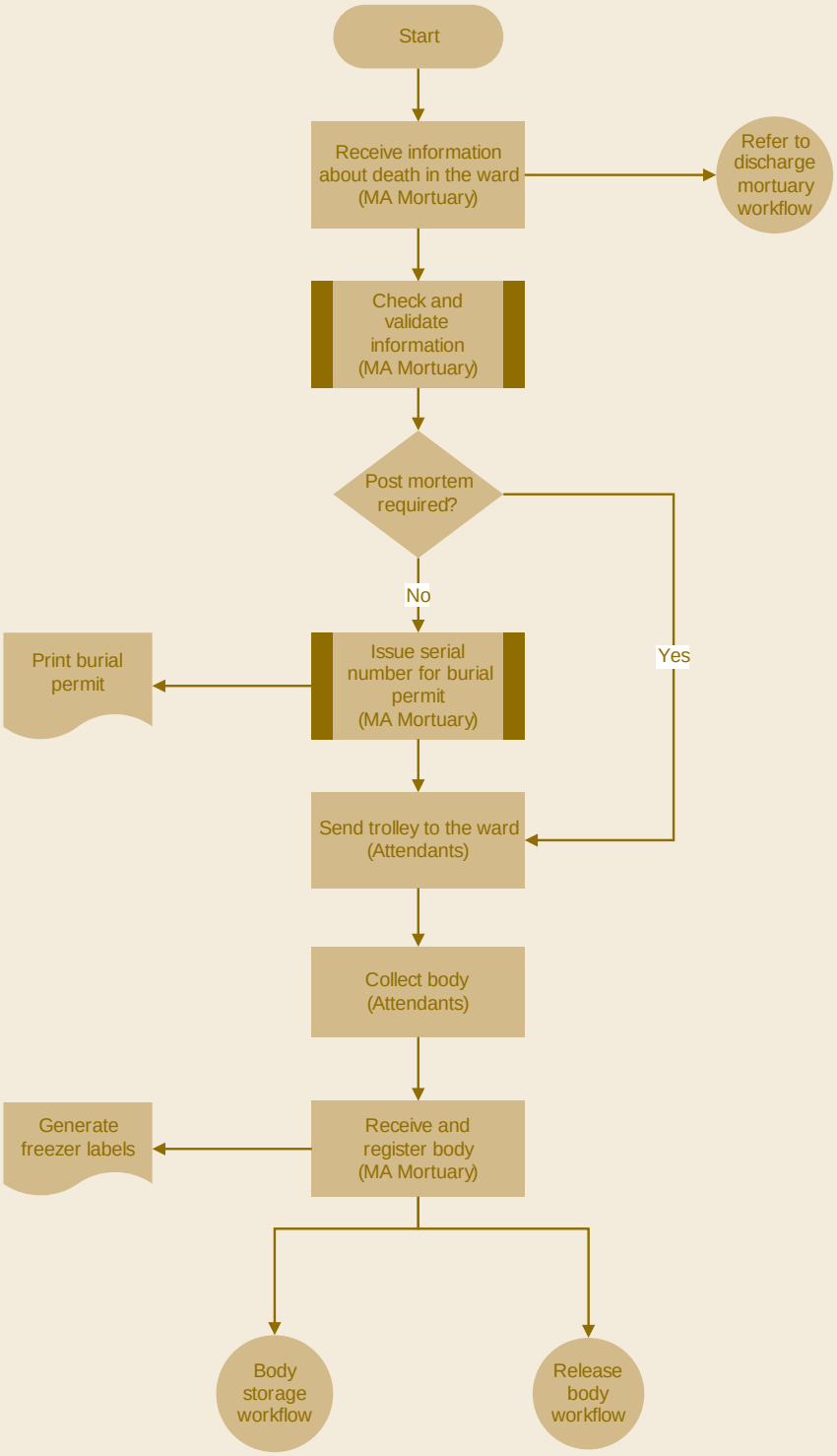
1. This high level work procedure is applicable for transferring deceased from ward to mortuary.

2. After confirming that the client in the ward has passed away, the nurse will update the EMR and perform last rites. The doctor will then decide whether post-mortem is required. If not required, the doctor will sign the burial permit and the deceased will be sent to mortuary. Refer to workflow for receiving dead bodies from wards for detail.

3. If post mortem is required, the relative will be informed if available. If not, either the police or Pengarah Office will be informed. Then, the ward attendant will be sent to the mortuary to collect trolley.

4. The deceased will then be sent on the trolley to the mortuary.

RECEIVING DEAD BODIES FROM UNITS / WARDS IN THE HOSPITAL
HIS/PMS/WF/16



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RECEIVING DEAD BODIES FROM UNITS / WARDS IN THE HOSPITAL
HIS/PMS/WP/16

1. This high level work procedure is applicable for receiving dead bodies in the mortuary. These include deaths in the wards, clinics, day care surgeries, Operation Theatres etc. This is also applicable for work process related to receiving dead foetuses, stillborn and limbs.

2. The MA in the mortuary will receive information about the death in the ward through phone. Upon receiving the phone call, the MA will check/validate the information, issue a serial number for the burial permit and determine whether a post mortem is required or not.

3. Upon determining that a post mortem is not required, burial permit with the assigned serial number will be printed. For cases requiring post mortem, burial permit will not be printed until the post mortem is conducted.

4. For cases that do not require post mortem, the MA will then request the ward to get the doctor to enter the cause of death, sign the burial permit and stamp it. For cases requiring post mortem, the body will be registered in the mortuary without burial permit signed by the ward doctor.

5. Ward attendant will be requested to collect the trolley from the mortuary. The ward attendant will collect the trolley and he will be accompanied by a mortuary attendant to fetch the body from the ward.

6. The body with the burial permit duly signed will be collected by the attendants.

7. Upon reaching the mortuary, the MA will register the body and admit it into the mortuary.

8. For bodies that do not require post mortem, refer ‘release body workflow’ for procedure related to claiming body. For body that requires post mortem, refer to ‘body storage workflow’ for procedure prior to performing post mortem.

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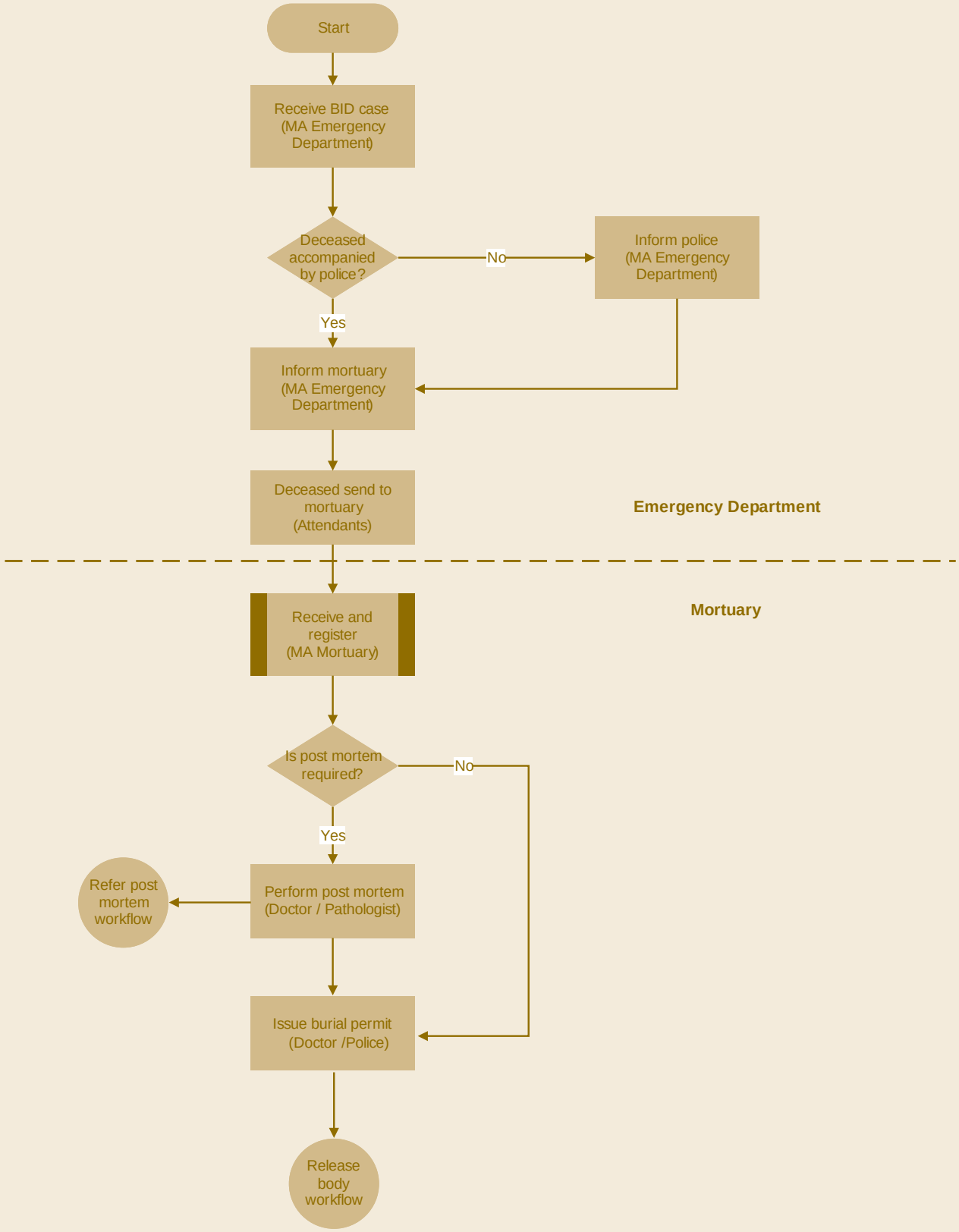
BROUGHT IN DEAD (BID) FROM OUTSIDE THE HOSPITAL
HIS/PMS/WF/17



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BROUGHT IN DEAD (BID) FROM OUTSIDE THE HOSPITAL
HIS/PMS/WP/17

1. This high level work procedure is applicable for receiving deceased BID from outside the hospital. This work procedure is not applicable for hospital with 24 hours forensic services or serving a local authority providing services for death certification e.g. HKL and DBKL.

2. All BIDs will be sent to the Emergency Department (ED) of the hospital.

3. Upon receiving the body the MA in ED will check whether the police report has been made or not. If there is no police report, the MA (ED) will inform the police. He will then inform the MA in the mortuary about the BID case.

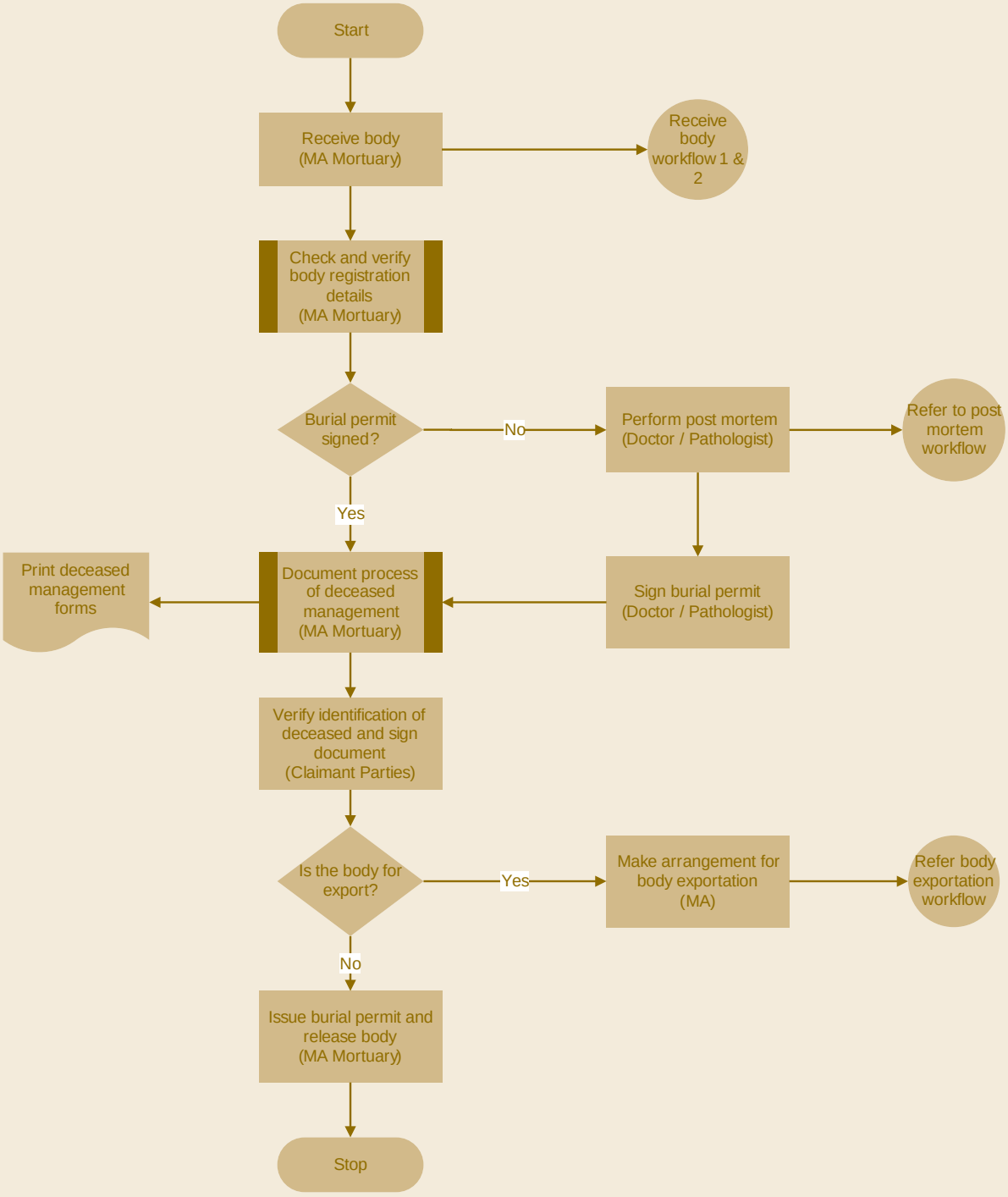
4. All BID cases irrespective of whether there is a police report or not will be sent to the mortuary by the ED and the Mortuary attendants.

5. Upon receiving the body in the mortuary the MA will register, tag the body, check and verify whether an order for post mortem is requested or not.

6. If a post mortem is not requested the police will be required to issue the burial permit prior to release to the next of kin; refer to 'release body workflow' for further details.

7. If post mortem is requested, it will be performed by the doctor/pathologist and burial permit issued by doctor / police; refer to 'post mortem workflow.'

RELEASE BODIES TO CLAIMANT PARTIES
HIS/PMS/WF18



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RELEASE BODIES TO CLAIMANT PARTIES
HIS/PMS/WP18

1. This high-level workflow is applicable for releasing bodies received from within and outside the hospital. This workflow includes release to claimant parties as defined and approved by MOH.

2. This workflow is not applicable to the release of body where death is certified by local authorities e.g. DBKL or others as approved by any law (e.g. Sabah, Sarawak).

3. Upon receiving the body, the MA in mortuary will register and check whether the Burial Permit is signed or not. If the burial permit is signed, the MA will continue to process the documentation of Deceased Management as per approved procedures and guidelines.

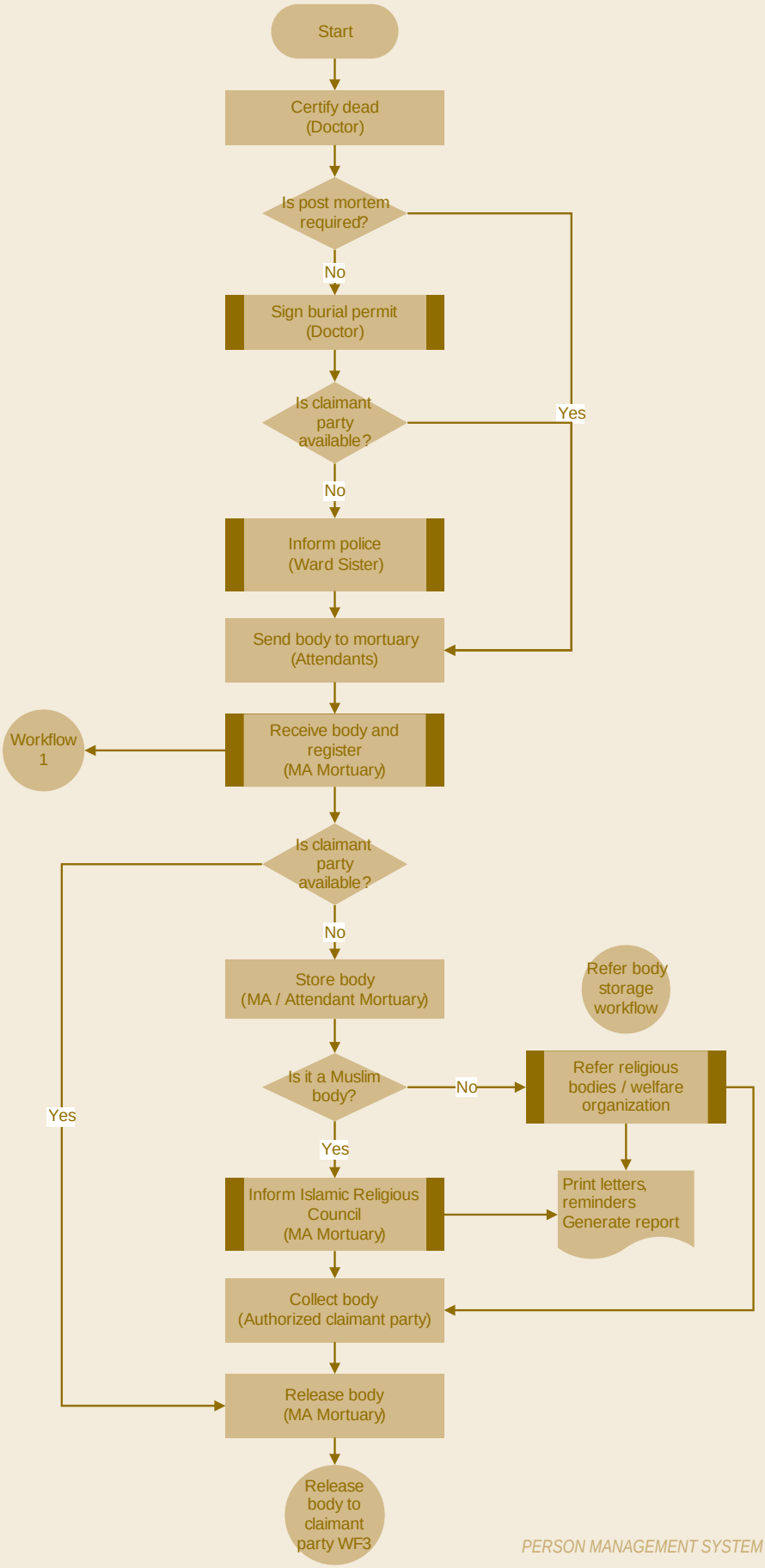
4. If the burial permit is not signed, the post mortem will be performed in accordance with approved policies and procedures and subsequently the burial permit will be signed by the doctors / pathologist followed by documentation of Deceased Management.

5. The MA will call upon the claimant party to verify the identification of the deceased and sign the document.

6. The MA will determine whether the body is to be exported to Sabah or Sarawak or outside of Malaysia. Refer to workflow for exportation of the bodies.

7. If the body is meant for local burial in Peninsular Malaysia, the MA will then issue the burial permit and release the body.

RELEASING OF UNCLAIMED BODIES FOR INHOUSE DEATHS
HIS/PMS/WF/19



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RELEASING OF UNCLAIMED BODIES FOR INHOUSE DEATHS
HIS/PMS/WP/19

1. This high-level workflow is applicable for releasing unclaimed bodies who dies in the hospital. This shall apply for release for the purpose of local burials / cremations only in Peninsular Malaysia.

2. This workflow is not applicable for release and exportation of bodies to Sabah and Sarawak and outside of Malaysia.

3. Upon certifying death of a patient with identity not known and without anybody to claim the body, the ward nursing staff shall determine the general identity of the body, inform the police immediately and make arrangements for press release through Hospital Director.

4. The body shall be sent to the mortuary as per approved procedure and policy. Refer to workflow on receiving bodies for in house deaths.

5. Upon receiving the body in the mortuary the MA will register the body and check whether any claimant party is available. If there are claimants, the body will be released as per procedure and policy. Refer to workflow for releasing bodies to claimant parties.

6. If there are no claimant parties available the MA will store the body as per approved procedure and policy. Refer workflow on body storage.

7. If the body is a Muslim body and no claimants for the period of 3 days from the date of press release, the body shall be referred to the Islamic Religious Council for purposes of burial.

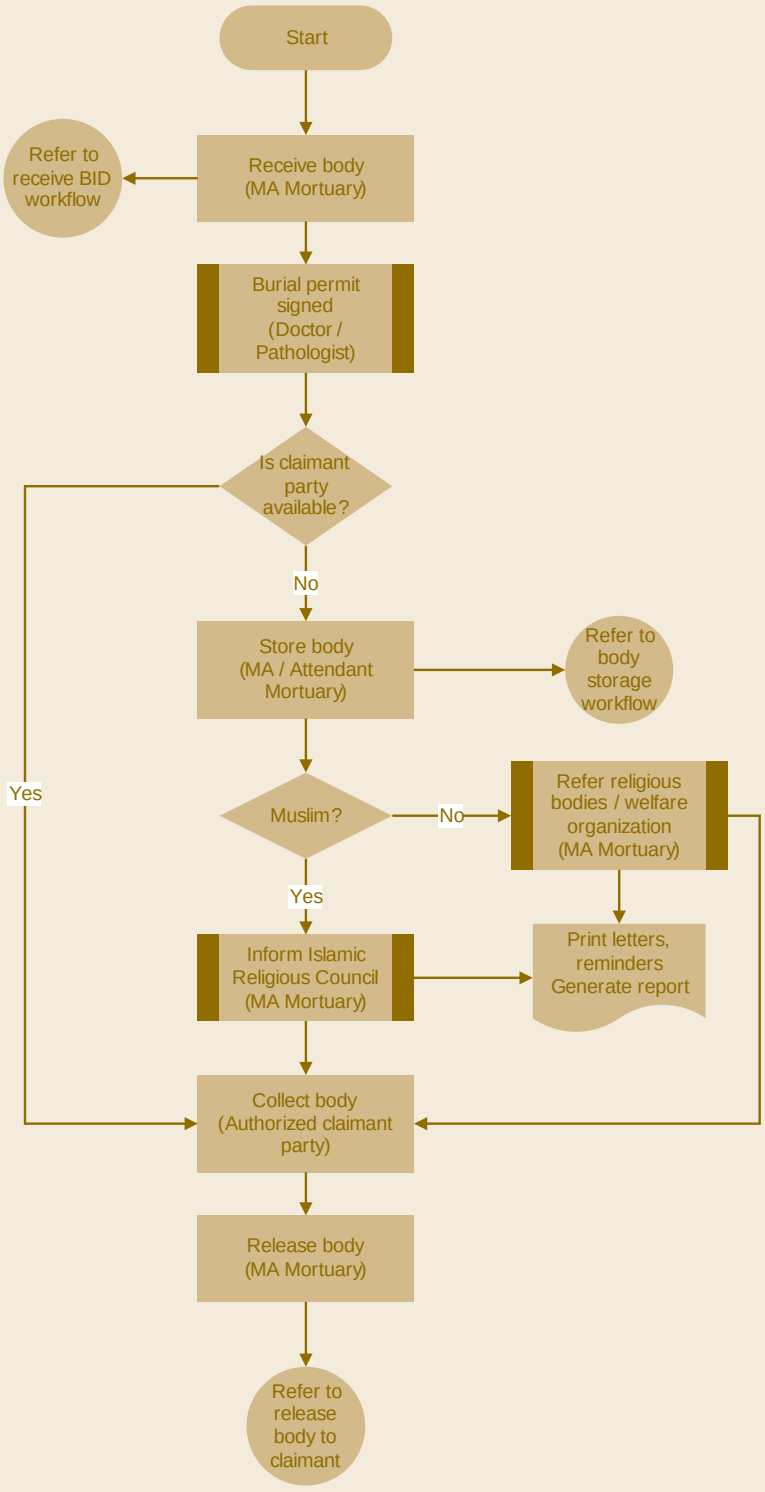
8. If the body is a non-muslim body and no claimant for a period of 2 weeks from the date of press release, the body shall be referred to the respective religious body / welfare organization for purposes of burial / cremation.

9. Referral to the respective religious body / welfare organization will be sent in the form of a letter signed by Hospital Director.

10. Automatic reminders will be sent to the respective religious body / welfare organization according to predetermined intervals as defined in the local operational policy.

11. Upon collection of the body in the mortuary by the authorized representative of the respective religious body / welfare organization, the MA will proceed to issue the burial permit and release the body. Refer workflow on release of body to claimant parties.

RELEASING OF UNCLAIMED BODIES BROUGHT IN DEAD
HIS/PMS/WF/20



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RELEASING OF UNCLAIMED BODIES BROUGHT IN DEAD
HIS/PMS/WP/20

1. This high-level workflow is applicable for releasing of unclaimed bodies brought in dead for local burials / cremation only in Peninsular Malaysia.

2. The workflow is not applicable for release and exportation of bodies to Sabah, Sarawak and outside of Malaysia.

3. Upon receiving the body with unknown identity, arrangements will be made for the burial permit to be signed by the police or by the doctor / Pathologist after performing post mortem.

4. The MA in mortuary will check whether the claimant party is available to claim the body. If available, he will release the body as per approved procedure and policy. Refer to workflow for releasing bodies to claimant parties.

5. If there is no claimant party available, the MA will proceed to store the body as per approved procedure and policy. Refer workflow on body storage.

6. The MA mortuary will assist the police to make general identification of the body and make arrangements for the press release.

7. If the body is a Muslim body and no claimants for the period of 3 days from the date of press release, the body shall be referred to the Islamic Religious Council for purposes of burial.

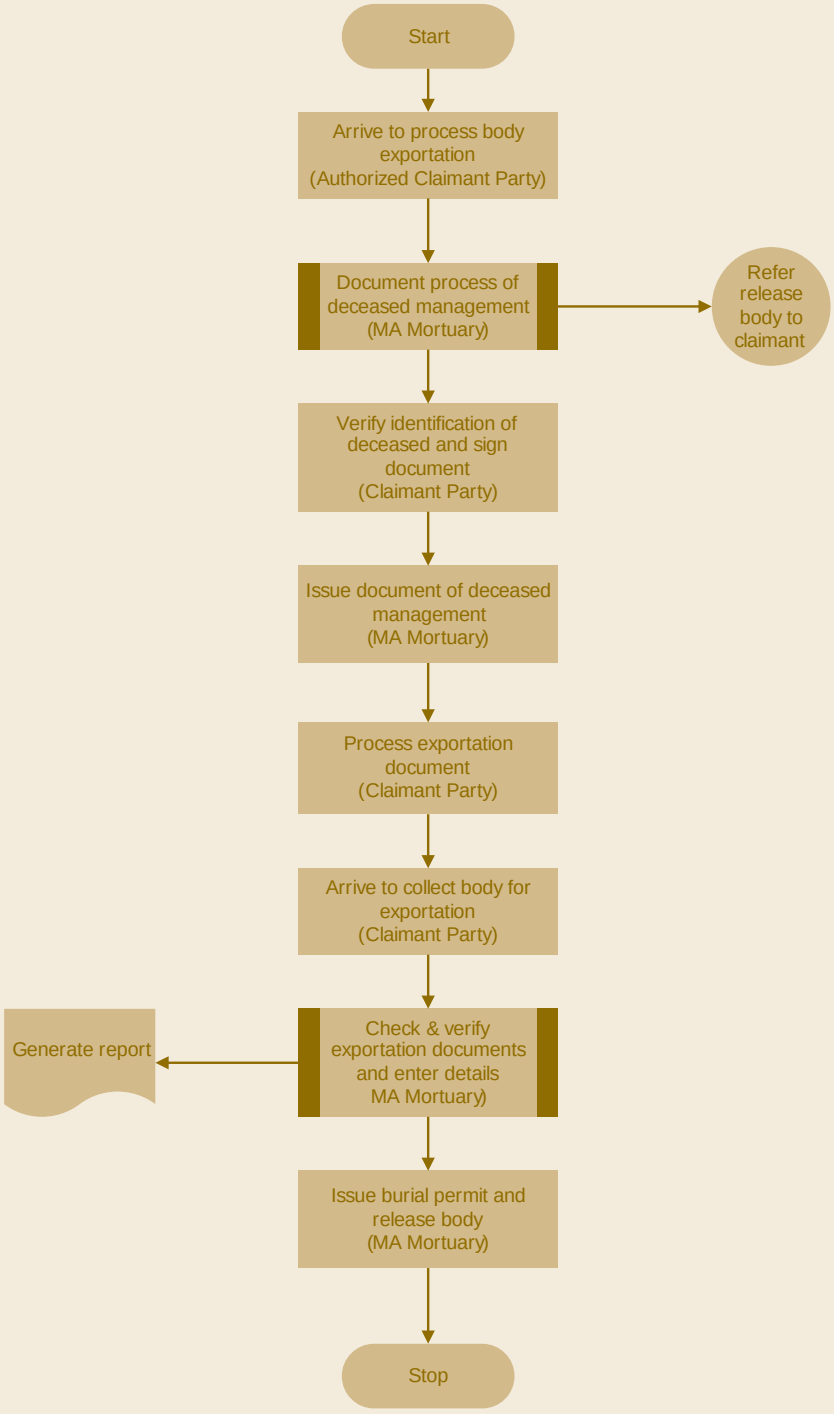
8. If the body is a non-muslim body and no claimant for a period of 2 weeks from the date of press release, the body shall be referred to the respective religious body / welfare organization for purposes of burial / cremation.

9. Referral to the respective religious body / welfare organization will be sent in the form of a letter signed by Pengarah Hospital after getting clearance from police.

10. Automatic reminders will be sent to the respective religious body / welfare organization according to predetermined intervals as defined in the local operational policy.

11. Upon collection of the body in the mortuary by the authorized representative of the respective religious body / welfare organization the MA will proceed to issue the burial permit and release body. Refer workflow on release of body to claimant parties.

EXPORTING BODIES
HIS/PMS/WF21



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EXPORTING BODIES
HIS/PMS/WP21

1. This high level work flow is applicable for releasing of bodies meant for exportation outside Peninsular Malaysia. This includes exportation to Sabah and Sarawak as well.

2. This workflow is not applicable for releasing body for exportation using military aircraft of any government.

3. The claimant party arrives at the mortuary requesting for the body to be exported outside Peninsular Malaysia. Upon receiving the request, the MA will process deceased management document as per approved procedure and policy. He will then issue the document to the claimant party in order to process exportation document.

4. Upon receiving the deceased management documents, the claimant parties will process the exportation documentation with relevant authorities.

5. The claimant party will bring the completed and duly signed exportation document to the mortuary. The MA will check and verify document and enter details.

6. The MA will then issue the burial permit and release the body to the authorized claimant party. Refer release body to claimant party workflow.

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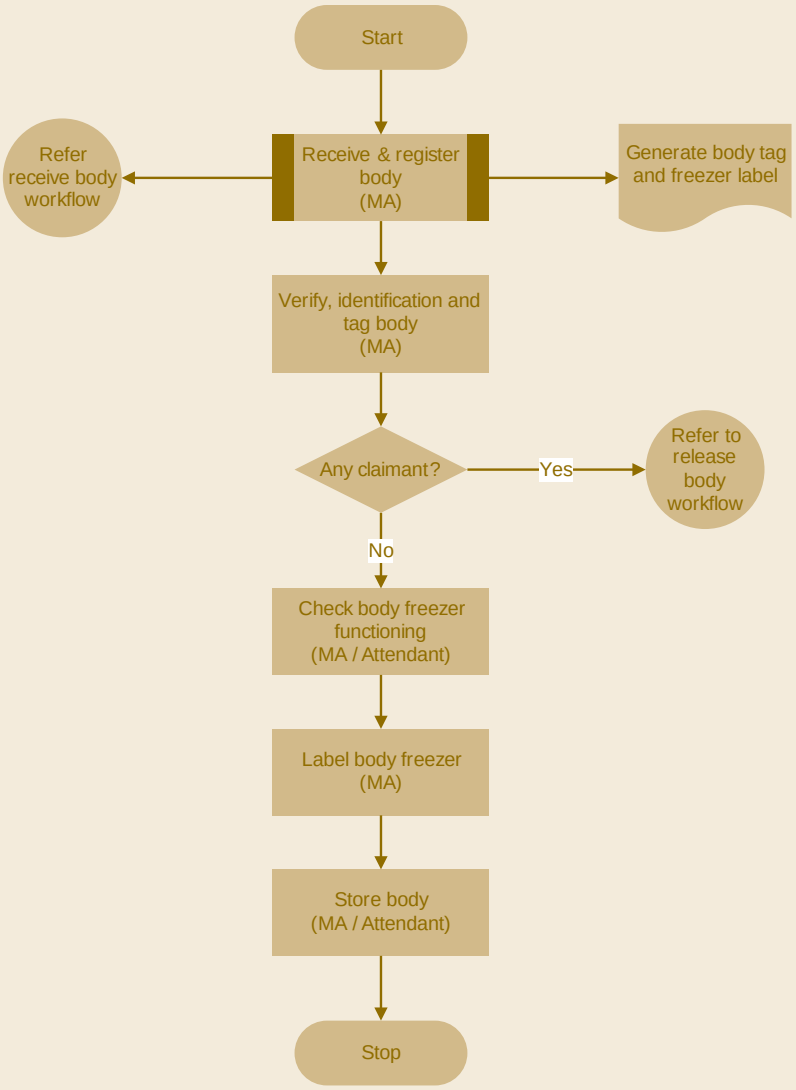
BODY STORAGE
HIS/PMS/WF/22



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BODY STORAGE
HIS/PMS/WP/22

1. This high-level work procedure is applicable for storing bodies received from within the hospital and BID cases as well.

2. This work procedure is not applicable for bodies claimed by the claimant party immediately upon registration at the mortuary.

3. Refer to receive body workflow for procedure related to receiving bodies.

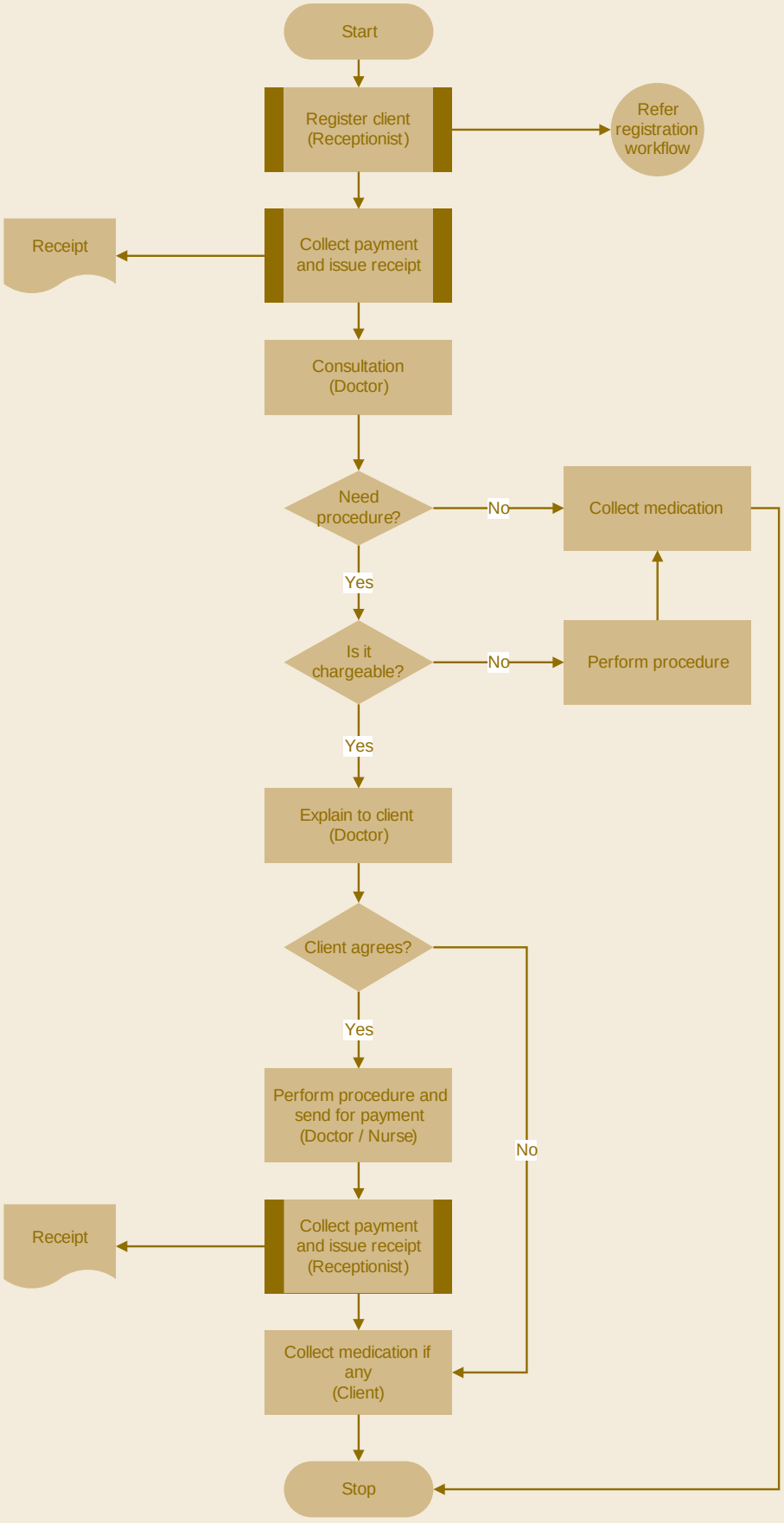
4. Upon receiving the body, the MA in the mortuary will register the body, check/verify the body tag and generate freezer label. Body tag and freezer label will have the same information to enable identification of the body in their respective body freezer.

5. For bodies with immediate claimant parties' available, the body will be released as per procedures related to released body workflow.

6. For bodies without immediate claimant parties available, the MA will verify the body tag and label the respective body freezer before storage.

7. The MA will ensure that the body freezer is functioning before storing the body.

BILLING FOR PAYING CLIENTS (OUTPATIENT)
HIS/PMS/WF/23



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BILLING FOR PAYING CLIENTS (OUTPATIENT)
HIS/PMS/WP/23

1. This high-level work procedure is applicable for billing paying clients attending the outpatient department. This is not applicable for clients with Guarantee Letter and outpatient attending emergency department and Ambulatory Care Center (ACC).

2. Upon arrival at the registration counter, the client will be required to pay consultation fees in accordance with Fees Ordinance Act, Ministry Of Health. The receptionist will register the client as per work procedure for registration and will collect payment from the client. He/she will then issue the receipt.

3. The client will be sent to the doctor for consultation. Upon examination, the client may or may not be required to undergo certain investigation/diagnostic procedure. Such procedure may or may not be chargeable.

4. If the client does not require any procedure to be done, he/she will be sent to collect medication, for which no separate charge will be collected.

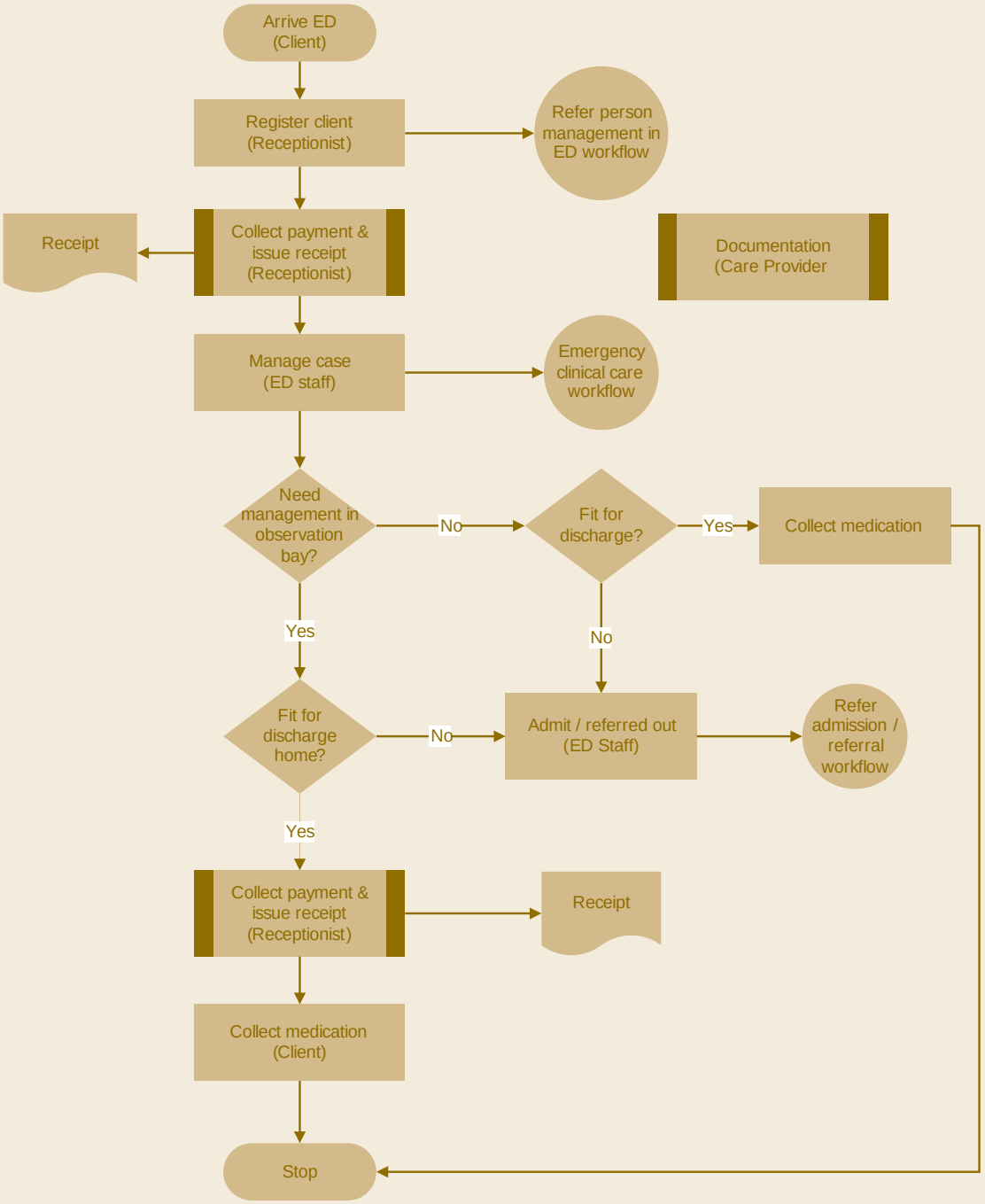
5. For clients who undergo procedure which are not chargeable, the clients will be allowed to collect the medication and go home after completion of the procedure.

6. For clients who will have to undergo procedure which are chargeable, the doctor / nurse will explain to the client / relatives on the importance of the procedure and the charges that will be collected.

7. If the client agrees to pay for the procedure, the doctor will continue to perform the procedure and subsequently the client / relatives will be requested to make the payment at the payment counter.

8. For clients who do not agree for the procedure, the doctor / nurse will advice accordingly and will be requested to collect medication.

BILLING FOR PAYING CLIENTS IN EMERGENCY DEPARTMENT
HIS/PMS/WF/24



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BILLING FOR PAYING CLIENTS IN EMERGENCY DEPARTMENT
HIS/PMS/WP/24

1. This high-level work procedure is applicable for billing paying clients attending the Emergency Department. This will include all categories of cases such as critical / semi critical and non critical. This is not applicable for clients with Guarantee Letter, where they will be required to bring the GL the following day.

2. Upon arrival at the emergency department, the client will be triaged in accordance to his / her physical condition as critical, semi critical and non-critical. Such cases will be required to be examined in the designated zones such as red, yellow and green. All cases registered in the ED will be required to pay RM1 in accordance with Fees Ordinance Act, Ministry Of Health irrespective of their physical condition. The receptionist will register the client as per work procedure for registration and will collect payment from the client. He/she will then issue the receipt.

3. For cases designated to yellow / green zone, such cases may or may not be required to be observed in the observation bay. For cases that do not require observation, they may be admitted, referred out or discharged home. For cases which are admitted / referred out, refer to the respective Workflow/procedure.

4. For cases fit for discharge home, the client will be requested to collect medication and go home.

5. For cases requiring observation in the Observation Bay, they may be either admitted to the ward, referred out or discharged home. For cases discharged home after observation, they will have to pay fees in accordance with the Fees Ordinance Act. Such cases will pay stipulated fees at the Emergency Department where the receptionist/ MA will collect payment and issue receipt. They will then be requested to collect medication and go home.

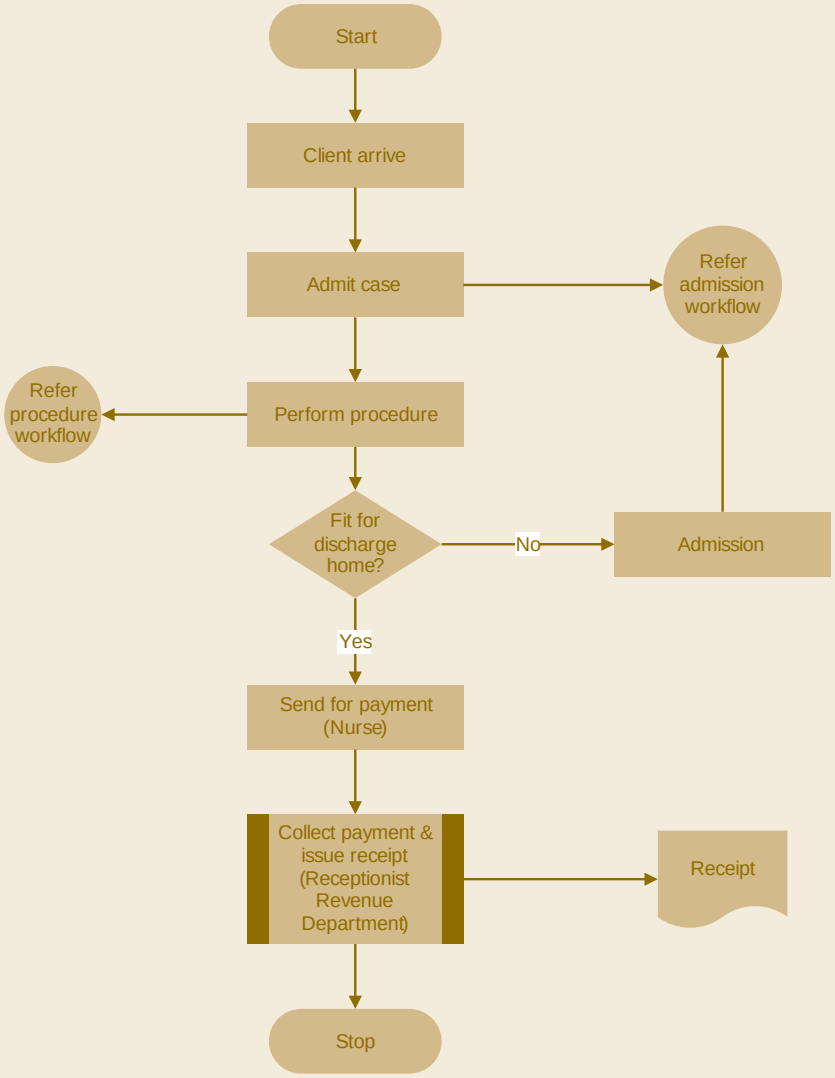
6. For clients who undergo procedure which are not chargeable, the clients will be allowed to collect the medication and go home after completion of the procedure.

7. For clients who will have to undergo procedure which are chargeable, the doctor / nurse will explain to the client / relatives on the importance of the procedure and the charges that will be collected.

8. If the client agrees to pay for the procedure, the doctor will continue to perform the procedure and subsequently the client / relatives will be requested to make the payment at the payment counter.

9. For clients who do not agree for the procedure, the doctor / nurse will advice accordingly and will be requested to collect medication.

BILLING FOR PAYING CLIENTS IN AMBULATORY CARE
HIS/PMS/WF/25



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BILLING FOR PAYING CLIENTS IN AMBULATORY CARE
HIS/PMS/WP/25

1. This high-level work procedure is applicable for billing paying clients attending the Ambulatory Care Centre (ACC). This will include all categories of cases such as medical / surgical / others. This is not applicable for clients with Guarantee Letter.

2. Upon arrival at the ACC, the client will be admitted by the receptionist and will be requested to go to respective unit. Refer to the Admission Workflow / procedure.

3. Upon completion of the procedure, the doctor will review the case to access whether the client is fit for discharge home. If the client is not fit for discharge, he / she will be sent to the ward for further management.

4. For clients who are fit to be discharged home, his / her relatives will be requested to make the payment at the Revenue Department of the Hospital.

5. The receptionist at the Revenue department will collect the payment and issue receipt.

6. The client will then be allowed to go home.

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3.	Raja Razali bin Raja Yaakob	Medical Online.
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5.	Dr. Amiruddin bin Hisan	Telehealth.
6.	Dr. Azrin Zubir	Hospital Selayang.
7.	Mr. Abdollah Salleh	Hospital Selayang.
8.	Dr. Syed Amin Husaini	Solution Protokol.
9.	Dr. Othman Warijo	Family Health.
10.	Dr. Wan Noraini Abu Bakar	Dental Division.
11.	Dr. Arif Mohd Hashim	Telehealth.
12.	En. Kuna Seelan	Telehealth.
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14.	Sister Nafisah Ibrahim	Hospital Selayang.
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16.	Sister Skeena Begum	Hospital Selayang.
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18.	Hj. Anuar bin Subari	Telehealth.

Secreteriat:-

Datin Dr. S. Selvaraju	Telehealth.
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1.	Dr. Rosnah Hadis	- Director, Planning and Development Division, MOH.
2.	Mr.Lai Lim Swee	- Deputy of Director, Pharmacy Division, MOH.
3.	Dr. Mohd Arif Mohd Hashim	- Pathologist, Hospital Kuala Lumpur.
4.	Dr. Zaharah Musa	- Radiologist, Hospital Selayang.

Speakers:-

1.	Tan Sri Dato' Dr. Abu Bakar Suleiman	- Chairman, TC Health Informatics, SIRIM.
2.	Datin Dr. S. Selvaraju	- IDS Unit, MOH.
3.	Dr Fazilah Shaik Allaudin	- Planning and Development Division, MOH.
4.	Dr. Zanariah Alias	- Pathologist, Hospital Ampang.
5.	Dr. Faraizah Abdul Karim	- Deputy Director, National Blood Bank.
6.	Pn. Kamarunnesa Mokhtar Ahmad	- Pharmacist, Hospital Serdang.
7.	Mr. Daud Ismail	- Radiologist, Hospital Selayang.

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4.	Ms. Soh Thai Lin	SUNWAY MEDICAL CENTRE.
5.	Mr.Lee Kok Khin	SUNWAY MEDICAL CENTRE.
6.	Ms. Ng Leng Yau	SUNWAY MEDICAL CENTRE.
7.	Rachel Lim	SUNWAY MEDICAL CENTRE.
8.	Eric Yin	SUNWAY MEDICAL CENTRE.
9.	Ching Lai Ling	SUNWAY MEDICAL CENTRE.
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11.	Sarniah Sidek	Kementerian Kesihatan Malaysia.
12.	Mohd Mahadzir Tumin	Kementerian Kesihatan Malaysia.
13.	En. Mohd Rodzi Ismail	Lab Link.
14.	En. Mohd Shazwan Lui	Lab Link.
15.	Dr. Wong Kien Seng	KOMPAKAR.
16.	Jacinta Gan Norli	KOMPAKAR.
17.	Norli Mohd Nasir	KOMPAKAR.
18.	Mohd Hanafiah	KOMPAKAR.
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25.	Norazlina Ahyat	HUKM.
26.	Abdul Rahman Bullah	HUKM.
27.	Pn. Faridah Yusof	HUKM.
28.	En. Dexter Francis Vandof	HUKM.
29.	Prof. Madya Dr. Mokhtar Abu Bakar	HUKM.
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39.	Abdul Hadi Bin Abdul Rahman	HUKM.
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41.	Dr. Amirul Muhd Nur	HUKM.
42.	Halimah Razali	HUKM.
43.	Faridah Abdullah	HUKM.
44.	Rahimah Rahmat	HUKM.
45.	Zainal Abdul Ghani	HUKM.
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49.	Selvakumar	Gribbles.
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55.	Dr. Anitha K.V	KPJ.
56.	Yusri Ali	KPJ.
57.	Ng Boon Swee	KPJ.