DRAFT GUIDELINES ON APPROPRIATE USE AND ACCESS TO NATIONAL ELECTRONIC HEALTH RECORD (NEHR)

Contents

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1. Introduction and Preamble

1.1. What is the National Electronic Health Record (NEHR)?

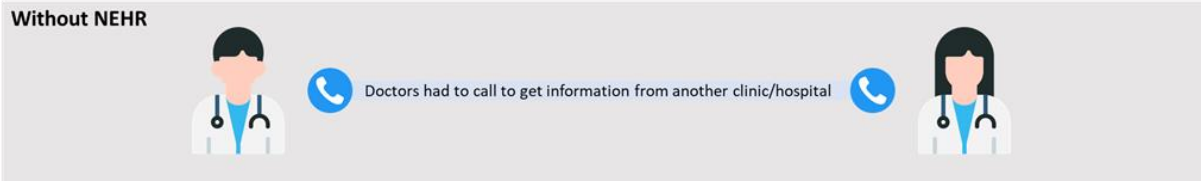
The NEHR is a centralized repository of Heath Information established in 2011 and is intended to serve as a source of information for users of the system who contribute to patient care. NEHR has been progressively deployed to both public and private healthcare institutions across Singapore to support “One Patient, One Health Record” for better continuity of care across various patient settings.

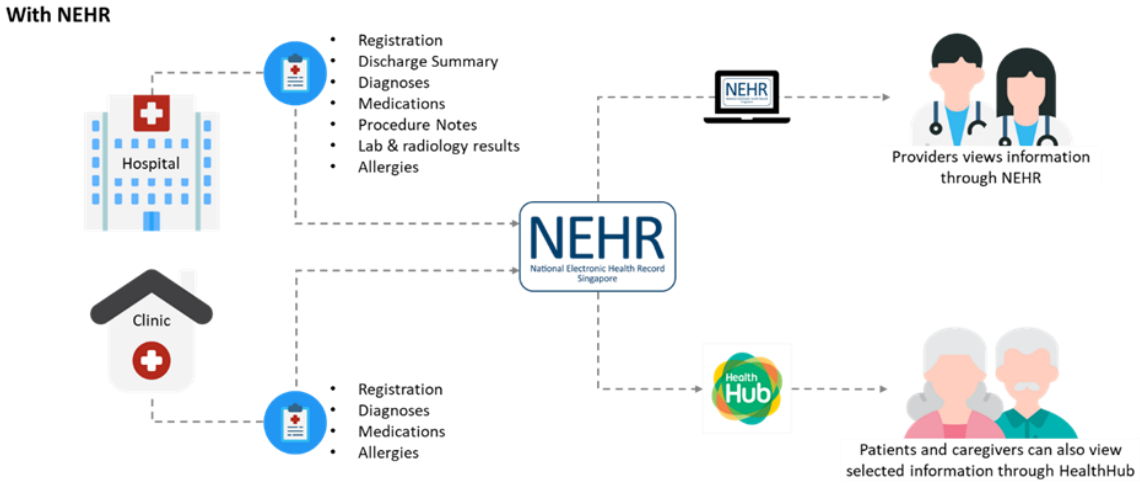
Owned by the Ministry of Health (MOH) and managed currently by Synapxe (previously known as IHiS, Integrated Health Information Systems), NEHR is a secure system that collects only selected health information from the electronic case records across the different healthcare practices and institutions. Health Information in this context is defined as information extracted from institutions’ Electronic Medical Records (EMR) system and consolidated in NEHR. Screenshots of Health Information contained in the NEHR system from the healthcare professionals’ and patients’ perspectives are found in Annex A (note that these are a preview version).

When connected to the NEHR, practice’s and institution’s EMR system will automatically send a copy of the selected key health information (as stipulated by MOH) from the practice’s and institution’s EMR into NEHR. This means that the NEHR will have updated Health Information regardless of where the patient has received their care.

Health information from all patients will be automatically contributed to NEHR. Patients may choose to restrict all care providers’ access to their health information in NEHR. However, restricting access does not prevent the patient’s selected key health information from being automatically contributed to NEHR. This is to prevent any gaps in the patient’s records should the patient choose to allow access to their NEHR data in the future. However, healthcare professionals are able to override a patient’s restricted access to NEHR only in medical emergencies. Such medical emergencies would include instances where the health information is necessary to prevent immediate and significant harm to the patient.

As more healthcare professionals use and contribute to NEHR, there will be more information available in NEHR. This will enhance patient care by ensuring that up-to-date Health Information aggregated across various care providers is available for healthcare practitioners to rely upon in making more informed and holistic care decisions. Extending NEHR access across various healthcare services will also allow for improved coordination between services.





Note to Healthcare Professionals

This set of draft guidelines as well as the examples and scenarios described within should not be considered exhaustive, nor do they represent the minimum standards of care expected of Healthcare Professionals in various clinical and public health settings.

NEHR is a useful tool to support Healthcare Professionals in determining the most appropriate clinical care for patients but is not a substitute for exercising clinical skills and judgement. Healthcare Professionals should continue to exercise professional judgment appropriate to each specific clinical setting and presentation of each individual patient.

1.2 Impetus for these guidelines

As more healthcare professionals are contributing to and using NEHR, it is opportune to develop guidance to help all users of NEHR continue to deliver effective patient care while navigating NEHR. These guidelines will provide core ethical principles and propose reasonable professional standards to adopt when contributing to, accessing or using NEHR.

This set of guidelines will guide healthcare professionals who have access to NEHR on how to address and respond to different situations when contributing, accessing and using NEHR.

1.3 Key Principles and guidance on how to use these guidelines

All healthcare professionals are expected to maintain a reasonable standard of care and conduct, including when interacting with NEHR.

1.3.1 Key Principles

To meet these expectations, we outline the following key principles on which these guidelines are based:

- Clinical Evaluation of Patients: Healthcare professionals should ensure that they have sufficient reliable information about their patients derived through good history-taking, adequate clinical examination and other relevant investigations or information sources, before they offer any opinion, make management plans or treatment. These guidelines would provide some guidance on how and when NEHR information may be used to aid in facilitating and supporting the clinical evaluation of patients.
- Maintaining good medical records: Healthcare professionals should be aware that parts of their medical records (i.e., Health Information) may be relied on in clinical care.

Therefore, reasonable effort should be made to ensure that information entered into their EMR (and subsequently collected in NEHR) are accurate, clear and contemporaneous to facilitate the use of Health Information.

- Medical confidentiality: Any information recorded in a medical record is confidential. Healthcare professionals should not access NEHR records of an individual unless there is a patient care-related purpose for doing so.
- Security of medical systems: Healthcare professionals are responsible for meeting the cyber and data security requirements in order to contribute to and/or use NEHR safely. Healthcare professionals are required to put measures in place for the proper storage, access, use and sharing of health information.
- Legal considerations: These guidelines are written to help healthcare professionals better understand the legal requirements regarding NEHR and address potential concerns they may face when using NEHR. We encourage healthcare professionals to consider these guidelines with regard to NEHR.
- Ethical considerations: These guidelines take reference from the code of conduct of the various professional bodies, such as the Singapore Medical Council's (SMC) Ethical Code and Ethical Guidelines (ECEG).

We will further explain key principles in subsequent sections of these guidelines and illustrate application of the key principles via scenarios in the Annexes. The scenarios compiled are not exhaustive and are not intended to set out the minimum standards of care, and will serve as useful illustrations of the key principles in these guidelines.

1.3.2 How to use these guidelines

These guidelines should be applied in conjunction with the ECEG, other practice guidelines, and the laws and regulations governing healthcare practice in Singapore. It is not a substitute for prevailing legislation or applicable case law.

These guidelines will also be periodically updated to reflect the changing digital healthcare landscape.

1.4 Guiding Principles on Contribution, Access and Use of NEHR

These guidelines have been structured into three sections, namely *contribution*, *access to* and *use of* NEHR, as this is the natural sequence of events when one refers to NEHR. Each section will elaborate on the guiding principles, which are premised on fundamental ethical principles and professional standards (see Section 1.3.1). The guiding principles are:

Guiding Principles on contribution of medical records to NEHR (Section 2.1)

- Healthcare professionals should make accurate, clear, and contemporaneous medical records within their own EMR, taking into account that the Health Information extracted from these medical records may also be viewed on NEHR and used for clinical care purposes by other healthcare professionals.
- Any errors made should be amended as soon as reasonably possible. (Sections 2.1.1 to 2.1.3)

Guiding Principles on accessing Health Information on NEHR (Section 3.1)

- All information in NEHR should be treated with the same degree of confidentiality as all other medical records. (Section 3.1.1)
- Healthcare professionals should only access NEHR when they have been granted access for patient care purposes. They should abide by any regulations / circulars /

directives issued by MOH regarding the authorised purposes for accessing NEHR. (Section 3.1.2)

Guiding Principles on use of NEHR (Section 4.1)

- Healthcare professionals should consider whether they have sufficient information about their patients derived from history-taking, clinical examination and/or relevant investigations before deciding if NEHR should be used. In certain situations, healthcare professionals might access NEHR *prior* to the patient consultation for patient care purposes. (Section 4.1.1)
- Healthcare professionals should review the NEHR information they have accessed before relying on it for clinical use. (Section 4.1.2)
- If incidental findings are discovered in the course of using NEHR, healthcare professionals should use their judgment to decide whether any follow-up is required for such incidental findings. (Section 4.1.3)
- Healthcare professionals should use their judgment to decide if there is a need to access Sensitive Health Information. If they do access Sensitive Health Information, they should handle it with care (Section 4.1.4). For the definition and list of Sensitive Health Information, please refer to Annex B.

2. Guidelines on Contribution to NEHR

The process of contributing health information to NEHR is automated for practices and institutions with a compatible EMR system. As such, no effort is required from the user for the transmission of data from a compatible EMR to NEHR. Only selected key categories of Health Information from healthcare professionals'' compatible EMR system will be contributed to NEHR. A list of such Health Information can be found in Annex C.

Infographic I: Contribution to NEHR is an automated process.

Contribution to NEHR is automated. Only selected key health information is contributed from a healthcare professionals' EMR.

2.1 Guiding Principles on contribution of medical records to NEHR

- **2.1.1 to 2.1.3: Healthcare professionals should make accurate, clear, and contemporaneous medical records within their own EMR, taking into account that the Health Information extracted from these medical records may also be viewed on NEHR and used for clinical care purposes by other healthcare professionals. Any errors made should be amended as soon as reasonably possible.**

2.1.1 What is a contemporaneous medical record?

Healthcare professionals should follow the professional guidelines set by their respective professions. For instance, medical practitioners should follow the ECEG on the contemporaneousness of their own medical records (Annex D). Since specific segments of compatible EMRs are automatically contributed to NEHR, no additional step is required for healthcare professionals to ensure contemporaneous medical record contribution to NEHR.

However, in situations where healthcare professionals become aware that there are technical issues which may delay the capturing of information into the EMR or transmission of the information from EMR to NEHR, healthcare professionals should ensure that the information is updated into the system no later than 72 hours from the time the system becomes available again.

2.1.2 Revisions and addendums to medical records

NEHR only maintains a copy of the hospital or clinic or laboratory records. When a healthcare professional notices an error in NEHR records, he/she should first exercise professional judgement in determining whether the error needs to be corrected to prevent future negative impact on the patient's clinical management. If so, the healthcare professional should inform the patient of this error and notify the relevant institution's Medical Records Office for the error to be corrected in the EMR, which is in line with current practice. This will allow the relevant healthcare institution to consider adding an addendum to the original document, which will then be contributed to NEHR. The healthcare professional may also consider documenting the error in their notes.

In this process of identifying errors made by other users, healthcare professionals should maintain professional collegiality and refrain from casting aspersions on other healthcare professionals' competency.

3. Appropriate Access to NEHR

Under the current NEHR policy, the primary purpose for accessing NEHR is patient care. Healthcare professionals should limit NEHR access to individuals who are directly involved in patient care and/or who are formally employed or engaged by the healthcare institution providing patient care.

3.1 Guiding Principles on accessing medical records on NEHR.

- **3.1.1: All information in NEHR should be treated with the same degree of confidentiality as all other medical records.**
- **3.1.2: Healthcare professionals should only access NEHR when they have been granted access for patient care purposes. They should abide by any regulations / circulars / directives issued by MOH regarding the authorised purposes for accessing NEHR.**

3.1.1 Maintaining confidentiality of medical records on NEHR.

All information in NEHR should be treated with the same degree of confidentiality as all other medical records.

All healthcare professionals must maintain confidentiality when accessing medical records (Annex F). The same applies when accessing medical records on NEHR. For example, where there is a need to disclose Health Information to other parties, patients' consent should be sought.

3.1.2 Access to NEHR

3.1.2.1 Granting NEHR access to healthcare professionals

Individual institutions should only grant NEHR access to healthcare professionals who have a legitimate, patient-care related need based on their roles. They should also ensure that those individuals who have been granted access to NEHR are trained and educated on the importance of maintaining patient confidentiality of the records they access.

Access to NEHR should only be granted to those who have been employed / engaged by the institution to provide patient care, and who need to consult NEHR to discharge such patient care responsibilities. Which individuals are granted access will depend on the roles that they play within each individual institution. As such, each institution should determine which of their personnel require access to NEHR before seeking approval from the relevant authority.

3.1.2.2 Authorised and Unauthorised Access to NEHR

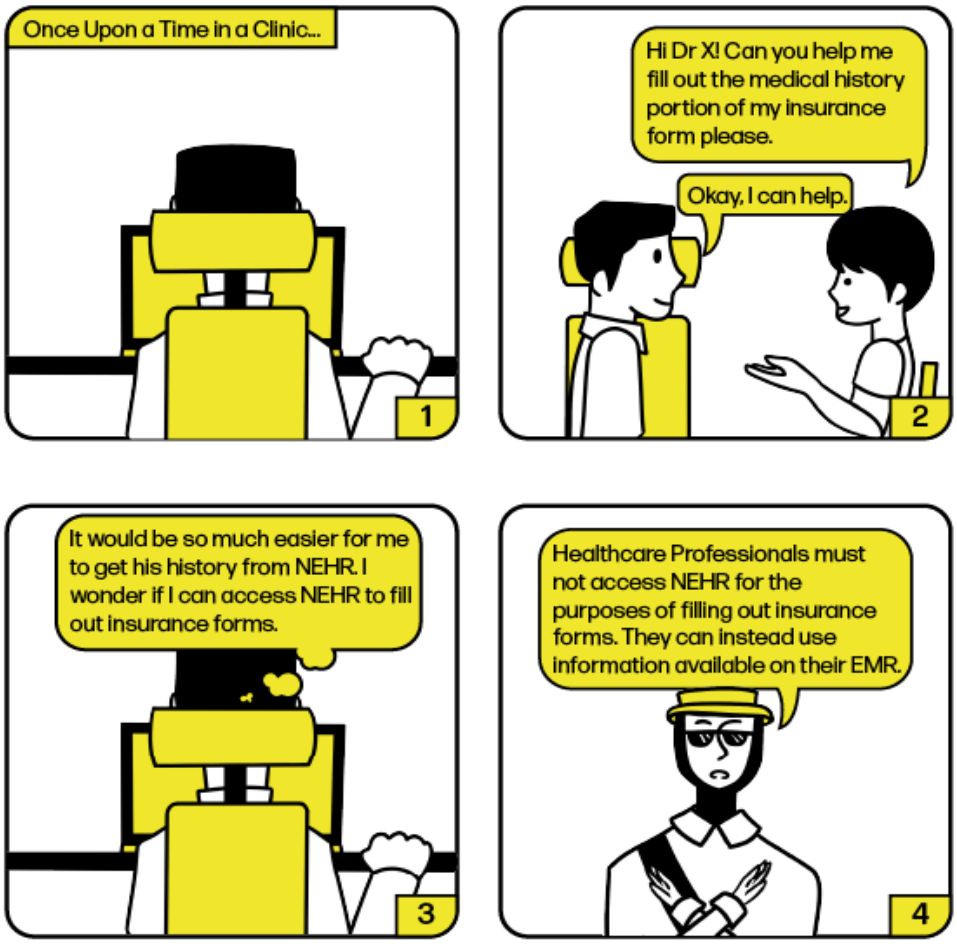
Healthcare professionals should ensure that they abide by any regulations/circulars/directives issued by MOH regarding the authorised purposes for accessing NEHR.

Institutions should establish policies and procedures and provide appropriate training to ensure that NEHR is only accessed for authorised purposes. Unless specified by legislation or prior approval from MOH has been obtained, healthcare professionals should not access NEHR for non-patient care related purposes. This includes accessing NEHR to obtain information for employment, insurance, education, training, audit or research purposes, even when the patient has provided consent.

In the event that such information was previously transcribed from NEHR into the patient's clinical notes, it would be treated as part and parcel of the medical record belonging to the healthcare institution. In this regard, the healthcare professional could

use this information in the clinical notes for non-patient care related purposes, including the ones listed above.

Infographic II: Unauthorised Access to NEHR



Accessing NEHR to fill out insurance forms is strictly prohibited. NEHR should only be accessed for patient-care purposes.

3.1.2.3 Informing Patients Prior to Accessing NEHR

Healthcare professionals should respect their patient's wishes if the patient refuses to allow the healthcare professional to have access to their NEHR records during a consultation.

Healthcare professionals who have been granted access to NEHR records may rely on patients' implied consent to the healthcare professionals accessing their records. However, if patients explicitly inform the healthcare professional that they do not wish for their NEHR records to be accessed during a particular consultation, the healthcare professional should respect the patient's wishes and document this in the patient's records.

Should a patient choose to restrict access to their own NEHR records and are seeking guidance from healthcare professionals on how to do so, the healthcare professionals can consider informing the patient about the implications of not accessing their records

and refer them to the NEHR FAQs found on the Synapxe website where the process is laid out for the public.

3.1.2.4 Handling patients who have restricted access to NEHR

Where a patient has restricted access to their NEHR records, healthcare professionals can only override this during a medical emergency.

Patients can choose to restrict access to their NEHR records. In doing so, healthcare professionals will not have access to any of the patient's records on NEHR.

Healthcare professionals can override a patient's restricted access to NEHR only during medical emergencies. A medical emergency is when a patient is at risk of immediate and significant harm. If a healthcare professional deems it necessary to access information on NEHR during a medical emergency, they should seek the patient's consent before doing so. However, if the patient is unable to provide verbal consent (e.g., an unconscious patient), the healthcare professional can override the patient's restricted access if it is deemed necessary to prevent immediate and significant harm to the patient.

3.1.2.5 Documentation for NEHR access

Healthcare professionals are not required to routinely document their reasons for accessing NEHR.

However, when NEHR records are accessed outside of a consultation or admission encounter, healthcare professionals may subsequently be asked to provide reason(s) for such access as part of an investigation. Consequently, whenever healthcare professionals access NEHR outside of a consultation or admission encounter, they are strongly encouraged to document their reasons for doing so.

3.1.2.6 Privilege to access patient's Health Information on NEHR.

Healthcare professionals must not abuse their access to patient's Health Information on NEHR.

Beyond the legal requirement to only access NEHR for the purpose of patient care or any other legally prescribed purpose, access to patient's medical records is a privilege that is built on the patients' trust that healthcare professionals will use the medical records for the purposes of patient care.

Such privilege must not be abused for the purposes of personal gain, curiosity or other frivolous or malicious purposes. When consulting NEHR for patients' Health Information, healthcare professionals must not access their own Health Information or that of their relatives, friends, colleagues or any related or unrelated persons on NEHR, unless such persons are registered and consulting the healthcare professional as their patients.

You may refer to Annex G for scenarios that illustrate the key principles surrounding appropriate access to NEHR.

4. Appropriate Use of NEHR

The preceding sections have set the stage for NEHR use by setting out the key principles relating to contribution and access. This section will discuss the guiding principles on the use of NEHR once it has been established that the healthcare professional has appropriate reasons to access NEHR.

4.1 Guiding Principles on use of NEHR

- **4.1.1: Healthcare professionals should consider whether they have sufficient information about their patients derived from history-taking, clinical examination and/or relevant investigations before deciding if NEHR should be used. In certain situations, healthcare professionals might access NEHR *prior* to the consultation for patient care purposes.**
- **4.1.2: Healthcare professionals should review the NEHR information they have accessed before relying on it for clinical use.**
- **4.1.3: If incidental findings are discovered in the course of using NEHR, healthcare professionals should use their judgment to decide whether any follow-up is required for such incidental findings.**
- **4.1.4: Healthcare professionals should use their judgment to decide if there is a need to access Sensitive Health Information. If they do access Sensitive Health Information, they should handle it with care.**

4.1.1 Scope of Use of NEHR

Healthcare professionals should consider whether they have sufficient information about their patients derived from history-taking, clinical examination and/or relevant investigations before deciding if NEHR should be used. In certain patient care purposes, healthcare professionals might access NEHR *prior* to the patient consultation.

History taking and physical examination will continue to be the mainstay in clinical assessment. NEHR is an adjunct tool that can complement and aid clinical assessment. With more healthcare professionals using NEHR, the amount of Health Information the healthcare professional has access to is expected to be more comprehensive and useful. However, healthcare professionals are not expected to consult NEHR at every single clinical encounter. When they decide to do so, they are not expected to review every single past medical record. Healthcare professionals should refer to the factors listed below when considering when to consult NEHR for the purposes of patient care, as well as take guidance from ECEG. An example of the relevant section in the SMC's ECEG is extracted in Annex H.

Factors to consider when deciding if it is reasonable to consult NEHR include:

- **Does history taking and physical examination suffice to make a reliable clinical assessment?** Where a healthcare professional is satisfied that the information provided through the patient's history and their examination is sufficient for them to assess and treat the patient, there is no requirement that they must consult NEHR. For instance, if a young and healthy patient is seeking treatment for cough, and the history and examination taken is sufficient to conclude that the patient has an upper respiratory tract infection, there may not be a need to consult NEHR to obtain more health information to make a diagnosis or start the relevant treatment.

- **Is more information required?** A healthcare professional may refer to NEHR if the patient is unable to provide sufficient details during the course of history taking, or if the

healthcare professional suspects that the history provided by the patient is incomplete or incoherent. For example, if a patient claims to have undergone an operation 2 years ago but is unable to name the operation or what it involved, it is reasonable for the healthcare professional to consult NEHR if such information could potentially be relevant to the current management.

- **Which information in NEHR is relevant to the current consultation?** NEHR is an adjunct tool to assist healthcare professionals to obtain information that is missing or unclear from the patient's history and physical examination. Healthcare professionals are not expected to review every single record in NEHR each time it is consulted. Healthcare professionals need only review the relevant portion of the NEHR records that clarifies their doubts on the patients' history or to obtain any missing information required for their assessment and treatment of the patient's condition.

Infographic III: Scope of accessing and using NEHR.

Healthcare Professionals can use professional judgement to determine whether access to NEHR is required to obtain additional information for patient care.

4.1.2 Reviewing of NEHR records before use

Healthcare professionals should review the NEHR information they have accessed before relying on it for clinical use.

Healthcare professionals should recognise that information in NEHR is dynamic (e.g., new test results may be added) and is subject to the accuracy of the clinical information at the

time of writing. Further, information contributed to NEHR depends on the setting where the patient received care and may not be exhaustive.

It is therefore appropriate for healthcare professionals to consider their own assessment findings when relying on the NEHR information. Where there are inconsistencies, they should assess if the NEHR information is still valid prior to relying on the NEHR information for their own clinical use. Where required, information obtained from NEHR (such as information on drug allergies) can be validated with the patient.

4.1.3 Incidental findings within NEHR

If incidental findings are discovered in the course of using NEHR, healthcare professionals should use their judgment to decide whether any follow-up is required for such incidental findings.

Discovery of incidental findings in medical records is not a new phenomenon. Hence, the approach to dealing with incidental findings should be no different from before the inception of NEHR. When incidental findings are discovered, healthcare professionals should assess whether the findings correlate with other clinical findings, for example, from history taking and clinical signs elicited from physical examination.

Where it is important and relevant, healthcare professionals should decide what is the appropriate course of action to follow up on these findings and whether further advice should be provided to patients and/or further investigation and/or treatment is needed. These should be appropriately documented within the medical records of the patients, including any consultation with other healthcare professionals or specialists to review the diagnosis and/or management.

4.1.4 Handling Sensitive Health Information

Healthcare professionals should use their judgment to decide if there is a need to access Sensitive Health Information. If they do access Sensitive Health Information, they should handle it with care.

Sensitive Health Information (SHI) refers to health information that could lead to stigmatisation or discrimination, or are governed by specific statutory requirements. MOH has defined a list of SHI (Annex B) for which there are additional safeguards in place, such as a double log-in feature, to prevent any unauthorised access to or use of this Health Information.

Formal consent from the patient is not required before accessing SHI on NEHR, however explaining the need to access SHI can help healthcare professionals build trust with their patients. In cases where a discussion with the patient is not feasible, healthcare professionals may still access NEHR for SHI if they have a reasonable basis to believe that the SHI is relevant to the clinical management. Healthcare professionals are encouraged to document their rationale for accessing such information in their records.

When reviewing SHI, healthcare professionals should be mindful to handle this data with care to minimise any embarrassment to the patient or any unintended disclosure. For instance, healthcare professionals should ensure that there is sufficient privacy before accessing this information and/or discussing it further with the patient.

You may refer to Annex I for scenarios that illustrate the key principles surrounding appropriate use of NEHR.

5. Annexes

Annex A – Preview of NEHR

Screenshots of NEHR from patients' perspective and clinicians' perspective will be included when guidelines are finalised.

Annex B – List of Sensitive Health Information

Sensitive Health Information (SHI) refers to health information that could lead to stigmatisation or discrimination, or are governed by specific statutory requirements. There will be additional safeguards placed, such as a double log-in feature, to prevent unauthorised access of such information on NEHR.

SHI*, as defined by MOH, includes the following:

A. Sexually Transmitted Diseases (e.g., Chlamydial genital infection, Gonorrhea, Syphilis)
B. Human Immunodeficiency Virus Infection (HIV)
C. Schizophrenia, Delusional Disorder
D. Substance Abuse and Addictions
E. Biological Parenthood
F. Termination of Pregnancy/Sterilisation
G. Attempted Suicide
H. Abuse
I. Organ Donation and Transplantation

**This list is accurate as of 15 August 2023 and may be subject to changes. NEHR users are encouraged to refer to the MOH website for the most up-to-date list of SHI.*

Annex C – List of health information that will be contributed to NEHR

Not all health information will be contributed to the NEHR. Only information that is expected to be generally beneficial to all providers will be mandated for contribution. This includes:

1. Patient demographics (e.g., name, age, sex, NRIC/FIN number, address)
2. Visits (e.g., admission to hospital, GP visit)
3. Medical Diagnosis / Allergies
4. Procedure Notes (e.g., OT report, Endoscopy reports)
5. Investigation Results (e.g., Laboratory, Radiology, Cardiac)
6. Prescribed Medications / Dispensed Medication
7. Discharge Summaries

Annex D – Maintaining Good Medical Records as guided by the ECEG.

Medical Records [Section B3 of the ECEG]

1. Maintaining clear and accurate medical records enhances good patient care and ensures high quality continuity of care.
2. Medical practitioners must maintain clear, legible, accurate and contemporaneous medical records of sufficient detail to enable a high quality of continuing care.
3. Medical practitioners must make their records at the time of engagement with patients, or as soon as possible afterwards.
4. Those medical records must include all clinical details about their patients, discussions of investigation and treatment options, informed consents, results of tests and treatments and other material information. If a medical practitioner is delegated an aspect of the care, the records may be confined to what is relevant to that portion of the care.
5. If patients request for information not to be documented, the medical practitioner may accede to their requests, but they must ensure that this does not adversely impact their own care or the safety of others.

6. Medical notes must be written or entered in objective language without showing disrespect for patients, or otherwise disparaging or insulting patients in any way.
7. Medical records must not be amended in order to hide anything, or to otherwise mislead. Amendments are only permitted to make genuine corrections or amplifications.
8. If the medical records are made on behalf of the medical practitioner, reasonable steps must be taken to ensure that the quality of the records is up to the required standards.
9. Within the ability of the medical practitioner, all medical records must be kept safely and securely and are not at risk of unauthorized access and breach of medical confidentiality. If the medical record systems are not within the control of the medical practitioner, it is the duty of the medical practitioner to use the systems responsibly and abide by all the security protocols in place.
10. Patients have a right to their medical information (though not the physical medical records or the original digital records) and when requested, unless there are exceptional circumstances, such information from their medical records should be made available to them, communicating it in a way that best suits the patients' needs, such as in a medical summary or report.

Annex E - Scenarios to illustrate appropriate contribution to NEHR.

Scenario A: Correcting errors in medical record that are discovered through the use of NEHR.

Patient A and his next-of-kin (NOK) visits Dr X for what appears to be an acute asthma attack. Dr X is unable to elicit a clear history from Patient A and accesses NEHR for further information on Patient A's history and any past presentations of asthma exacerbations requiring hospitalization. Dr X notes that Dr Y, the patient's primary physician, had recorded that the patient had no past hospitalisations for an asthma exacerbation but noted from Patient A's NOK that Patient was admitted twice in the past 1 year for an acute asthma attack. Dr X proceeds to stabilize the patient and update his notes. He determines that this information is important enough to be updated in Dr Y's records and informs Patient A's NOK to notify Dr Y of this. Dr X also informs the Medical Records Office of Dr Y's institution.

Professional Guidance:
Section 3.1.2 - When a healthcare professional becomes aware of an error in the NEHR records, he/she should exercise professional judgement in determining whether the error needs to be corrected to prevent an adverse impact on the patient's future clinical management. If yes, as per current practice, the healthcare professional should inform the patient of this error and may also consider updating the relevant institution's Medical Records Office so that the error can be corrected in the EMR. They are also encouraged to document that they have discovered this error and carried out the necessary steps, as deemed appropriate, to address the error.

Annex F – Maintaining Medical Confidentiality when accessing medical records on NEHR.

Medical Confidentiality [Section C7 of the ECEG]

1. Patients have a right to expect that any information provided in the context of clinical care must be kept confidential unless there are good reasons for sharing the information.
2. Medical practitioners must maintain medical confidentiality unless patients consent for specific disclosure to other parties.

3. Reasonable care must be taken to ensure security of the systems used for storing medical records. If the systems are not within the medical practitioners' control, it is their duty to use the systems responsibly and comply with all the security protocols in place.
4. There should be no access to confidential patient information unless the medical practitioner is involved in the patient's care.
5. If patients' request withholding of information from those involved in their care, appropriate advice should be provided to the patients on possible adverse consequences of doing so. If they insist, such request may be acceded to unless disclosure is necessary to prevent harm to the patients, other healthcare professionals or the public.

Annex G – Scenarios and further guidance to illustrate appropriate access to NEHR

Scenario B1: Informing Patients Prior to NEHR Access

Patient X presents to Doctor A's GP clinic with a history of recurrent episodes of chest pain over the preceding few weeks. Upon history taking, it becomes apparent that Patient X is unable to recount the medications he is on, nor is he able to provide his past surgical history. Doctor A decides to access Patient X's NEHR in aid of making a diagnosis. When Patient X is informed that Doctor A will be accessing NEHR to find out if he had previously undergone angiograms, Patient X tells Doctor A that he does not want his NEHR medical records to be accessed during this consultation and asks if Doctor A can proceed with the review without accessing his records. Doctor A is of the view that the inability to obtain such information on NEHR will hamper his ability to make a correct diagnosis and offer appropriate treatment, and proceeds to explain to Patient X the implications of not accessing their pertinent health information on NEHR. When Patient X reiterates his position, Doctor A advises Patient X to return to his previous healthcare provider who prescribed him with medication, and Patient X agrees to do so.

Professional Guidance:
Section 3.1.2.3 - Healthcare professionals should respect patient's wishes should they choose to refuse access to NEHR during a consultation, even if the patient has not registered his intent to restrict access to their NEHR.

Scenario B2: Documentation of NEHR Access

A few days later, Doctor A receives a referral note from the Hospital stating that Patient X had undergone an angioplasty for unstable angina, and Doctor A was to follow up with Patient X's care. Ahead of his appointment with Patient X, Doctor A reviews Patient X's medical records on NEHR to prepare himself for the consultation. Doctor A documents his access to NEHR as follows:

"Reviewed NEHR and noted that Patient X underwent angioplasty in Hospital for unstable angina and has since been discharged. Noted discharge plan from the hospital and will follow up with Patient X"

Professional Guidance:
Section 3.1.2.5 - Healthcare professionals are not required to routinely document their reasons for accessing NEHR. However, when NEHR records are accessed outside of a consultation or admission encounter, healthcare professionals may subsequently be asked to provide reason(s) for such access as part of an investigation. Consequently, whenever healthcare professionals access NEHR outside of a consultation or admission encounter, it will be helpful for the healthcare professionals to document their reasons for doing so.

Scenario C: Authorised Access to NEHR

Doctor X in Hospital A refers his/her patient to Institution B for care and would like to access the patient's records in the NEHR to check if the patient had in fact consulted Institution B, and review the patient's status, findings and outcomes for proper continuity of care for the patient ahead of future appointments.

Professional Guidance:
Access to NEHR for such patient-care purposes is considered appropriate. Before accessing a patient's NEHR records, the patient must be registered under the care of the institution AND be under the direct and on-going care of the user, being an assigned care-team member.

Dr X may choose to inform his patient that he may be accessing NEHR to aid him in following up from the care plans instructed by Institution B. After patient has been referred to another institution, it would be reasonable for the institution who made the referral to access the patient's records in the NEHR **only** for the purposes of facilitating continuity of care for the patient.

Separately, MOH considers access to and use of the NEHR in the following (non-exhaustive) circumstances to be **inappropriate**:

a. Users accessing data of patients not assigned to their care within their institution.
b. Users accessing data of patients not under the care of the users' institution (e.g., a patient who is not registered with the institution);
c. Users accessing patient data for research purposes without MOH's prior consent; and
d. Users accessing patient data for clinical audits, teaching or training purposes. For example, if a patient underwent surgery and suffered post-op complications and a clinical audit quality was requested, NEHR **cannot** be used for such purposes.

Scenario D: Inappropriate Access to NEHR

Nurse A accidentally pricks her own finger whilst drawing blood from Patient B. She then visits Occupational Health, where Doctor X reviews her. Doctor X considers if he should access the NEHR records of Patient B to screen for blood-borne infectious diseases such as HIV, to better treat Nurse A's needlestick injury.

Professional Guidance:
Accessing Patient B's NEHR in such circumstances is considered **inappropriate**. Even though this would enable Doctor X to provide better care for Nurse A, Patient B is not under the care of Doctor X.

- The risk of inadvertent disclosure of personal health information, including SHIs, far outweighs the benefit of reducing duplicative tests in this scenario.
- In the case of needlestick injury, healthcare professionals are encouraged to follow the relevant guidelines of the hospital and treat the primary patient accordingly.
- If required, Doctor X can consider consulting Patient B's Doctor and ask for relevant information that can be disclosed for the purposes of Nurse A's clinical care.

Scenario E: Handling patients with restricted access to NEHR.

Doctor A receives an unconscious Patient Z at the Emergency Department (ED). This patient was brought to hospital by the Ambulance after he was found unconscious by the road. Ambulance staff had managed to identify the patient with his NRIC and noted that the patient is a 19-year-old male. In the ED, Doctor A notes that Patient Z's glucose level is dangerously low and begins immediate treatment with Dextrose. Doctor A also notes that the rest of Patient Z's vital signs are unstable and proceeds to stabilize the patient. To gain further information on Patient Z's past medical history and allergies, Doctor A instructs the House Officer to review Patient Z's Health Information on NEHR. The House Officer notes that Patient Z has restricted access to his NEHR records and seeks Doctor A's guidance on whether they should override this restriction. Doctor A assesses the situation to be a medical emergency and NEHR access is necessary to facilitate rapid treatment. The House Officer proceeds to override the restriction on access and reviews the required information on NEHR in order to treat Patient Z.

Professional Guidance:
Section 3.1.2.4 - Healthcare professionals can override a patient's restricted access to NEHR but only during medical emergencies. A medical emergency is when a patient is at risk of immediate and significant harm. If a healthcare professional deems it necessary to access information on NEHR during a medical emergency, where possible, they are required to seek the patient's consent before accessing NEHR. However, if the patient is unable to provide verbal consent (e.g., an unconscious patient), the healthcare professional can override the patient's restriction on access if it is deemed necessary to prevent immediate and significant harm to the patient.

Scenario F: Accessing NEHR as specified by legislation.

Patient A, a 24-year-old female, attends Doctor Y's clinic with a form requesting a medical examination to be done prior to Patient A's voluntary enrolment with the Singapore Armed Forces (SAF). In the process of conducting a history and examination, Doctor Y notes that Patient A is unable to recall certain aspects of her medical history. Doctor Y notes that this medical examination is not for direct patient care purposes and is unsure of whether he can access NEHR to gain the required information to fill out the form. As he is unsure, Doctor Y reviewed the form and noted that the form stated that this is a statutory medical examination required by law, and MOH has allowed access to NEHR for this purpose. Doctor Y then proceeds to fill out the rest of the form based on the information available on NEHR.

Professional Guidance:
Section 3.1.2.2 - Unless specified by legislation or prior approval from MOH has been obtained, healthcare professionals should not access NEHR for non-patient care related purposes. This includes accessing NEHR to obtain information for employment, insurance, education, training, audit or research purposes, even when the patient has provided consent.

NEHR should only be assessed for patient care purposes and for the review of selected statutory medical examinations, which are examinations required by certain laws as a pre-requisite for the individual's participation in certain activities. Healthcare professionals can access an individual's NEHR information in the course of conducting such medical examinations, but only where it is in both the individual's safety and welfare, and the interest of the public that such examinations are conducted thoroughly.

In this instance, as the Singapore Armed Forces (Volunteer) Regulations requires this medical examination to be done prior to volunteering, MOH has allowed NEHR access, as

stated on the form. Hence, it is appropriate for Doctor Y to access NEHR to gain the required information for this medical examination.

Infographic IV: Unauthorised Access to NEHR

NEHR should not be accessed or used for non-patient care related purposes.

<u>Scenario G: Appropriate Documentation of Access to NEHR</u>

Dr X, a specialist dentist, receives a referral letter from a GP to seek his opinion on Patient A's care. Dr X pre-registers Patient A and sets an appointment date for him. In preparation for the consult, Dr X sets out to seek further information on Patient A via NEHR. After reviewing the records on NEHR, Dr X determines that he is unable to review the Patient and would prefer to refer the Patient to another specialist dentist. Dr X proceeds to document that he had received the referral, reviewed Patient A's medical records on NEHR and determined that it is best for Patient A to be referred to another dentist.

<u>Professional Guidance:</u>

Access to NEHR was appropriate. Healthcare professionals should document their access to NEHR when it occurs outside of a patient consultation setting.

- In such a scenario, the healthcare professional should document that they had accessed NEHR for the purpose of triaging the patient and determining whether this patient is suitable for their care, regardless of whether the patient was seen by the healthcare professional or not.

- The creation of an appointment for the patient indicates the beginning of the care relationship, albeit a limited one, which justifies the use of NEHR.

Scenario H: Appropriate Documentation and Access to NEHR

Patient Y received a facial aesthetic treatment by Dentist A. After a few courses of treatment, Patient Y was unhappy with the results and wanted to change dentist to Dentist B. During history taking, Dentist B noted that Patient Y was unable to recall the date of his last treatment and the number of treatments he has already received. Dentist B decides to review NEHR to obtain this necessary information before providing further treatments to Patient Y.

Professional Guidance:
Access to NEHR is considered appropriate in this instance as this is for patient care purposes. As the patient was unable to recall pertinent information about his treatment, Dentist B had reasonable grounds to access NEHR to obtain the necessary information. As a clear patient-care relationship has been established, and this access to NEHR was done during the patient consultation, there is no need to document the reason for accessing NEHR.

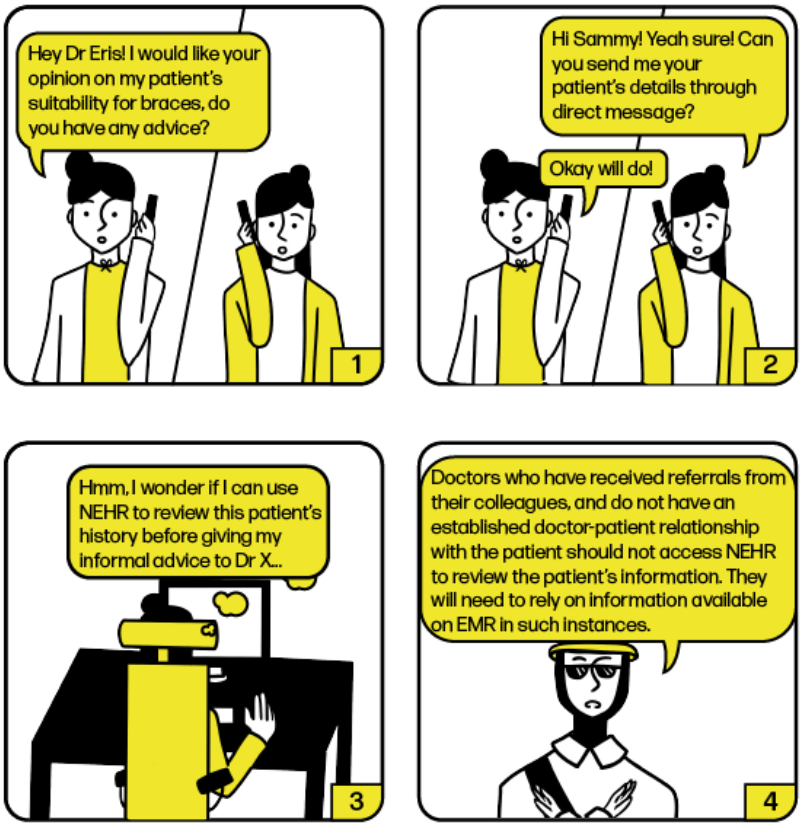
Annex H – Clinical Evaluation of Patients

Clinical Evaluation of Patients [Section A2 of the ECEG]

1. Medical practitioners must ensure that they have sufficient information about their patients, derived from history-taking, clinical examination and other relevant investigations or information sources, before they offer any clinical opinion, make management plans or offer treatment.

Annex I – Scenarios to illustrate appropriate use of NEHR.

Infographic V: Inappropriate Use of NEHR for patient referrals.



Healthcare professionals should only use NEHR for authorised purposes.

Scenario I: Relying on professional judgement to determine if access to NEHR is required.

Practitioner reviews patient who has come in for asthma exacerbation. Practitioner asks patient and accompanying relative if there have been any hospital/ICU admissions due to asthma or any other breathing related difficulties in the past. Patient and relative reply that there has not been. NEHR is not accessed as practitioner assesses that patient's history is reliable enough. Patient is given the necessary treatment for the exacerbation and sent home, but subsequently gets admitted for a severe asthma attack. It is later found out that the patient did in fact have previous hospital and ICU admissions for asthma attack. Had the Practitioner been aware of this, the management plan would have been different. However in this instance, there was nothing to suggest to the Practitioner that the information provided by both patient and accompanying relative was wrong.

Professional Guidance:

Section 4.1.1 - Healthcare professionals should depend on their own professional judgement to assess whether there is a need to consult NEHR as a complement to history taking and physical examination for the purposes of patient care.

- In this case, it was reasonable not to access NEHR if the healthcare professional was confident that the Patient and relative was able to give a clear and coherent account.
- Practitioner's obligation to consult NEHR can be determined by the factors of consideration as discussed in the earlier section of the guideline:
    - The first consideration is whether the Practitioner is satisfied that appropriate and sufficient history taking and physical examination have been undertaken to make clinical assessment. Assuming that focused history taking would have

uncovered patient's history of asthma and recurrent admissions for asthma exacerbation, or a physical examination would have detected a wheeze on lung examination indicating possible asthma exacerbation—in such a situation the Practitioner may conclude that the information provided by the patient and accompany relative does not adequately explain the clinical presentation. The Practitioner should then consider consulting NEHR to obtain additional relevant medical information on the patient.

- Another consideration is whether the patient is a reliable historian. If the Practitioner assesses that the patient has a condition that makes it difficult for the patient to be clear about his medical history or if patient admits that he is unsure about his past medical history, there would be a stronger need for the Practitioner to consult NEHR to clarify the history.
- In order to obtain the relevant information, the Practitioner should focus the use of NEHR on the patient's respiratory condition. In other words, there should be no need for the GP to perform a general review of all Health Information available in NEHR on the patient.

Scenario J: Relying on Professional Judgment to Determine if Access to NEHR is Required

Patient A was admitted to Hospital X for a hip fracture requiring replacement. On the day prior to the operation, the anaesthetist reviews the patient and notices there are missing teeth. The anaesthetist attempts to ask Patient A about his dental history but is unable to obtain the relevant information. The anaesthetist then accesses NEHR to check the patient's dental records and corroborates the findings and charts it on the anaesthesia record prior to the operation.

Patient A was subsequently reviewed by the Geriatrics team who recommended starting on bisphosphonates for osteoporosis. Patient A's most recent dental records on NEHR was then accessed and reviewed to determine if further dental clearance is required prior to starting on bisphosphonates.

Professional Guidance:

Dental records in NEHR may be accessed by healthcare professionals if they assess that any prior dental treatment will have an impact on the clinical decision making for the patient (as seen in the above examples).

Scenario K: Reviewing and Clarifying Information on NEHR before relying on it.

Patient A informed Dr X that he had no drug allergies. Dr X had no reason to suspect otherwise and entered into his record that the patient had no known allergies. This data was then contributed to NEHR. Subsequently the patient developed an allergy to Augmentin, however this information was not captured in NEHR. Patient then visited Dr Y, who noted Dr X's entry regarding nil allergies and did not ask the patient about his allergy history. Dr Y proceeded to prescribe the patient Augmentin. Patient A subsequently developed an anaphylactic shock from taking Augmentin.

Professional Guidance:

Section 4.1.2 **-** Healthcare professionals should be aware that various factors can affect the currency and accuracy of NEHR information. They may need to take reasonable steps to review and clarify available information prior to relying on it for clinical use.

- Healthcare professionals should be aware that information in NEHR is only accurate as at the time it was entered and may change. Further, although uncommon, such information may also be subject to human error. Where there is no contrary

information/inconsistency and where the information in NEHR is deemed reasonably consistent with the doctor's own assessment, a doctor acting in good faith should not be deemed negligent.

- Even if Dr X had taken a complete history including checking patient's allergies through patient interview and NEHR, this information was accurate at the point of documentation, and it may not be fair to fault Dr X for contributing the history to NEHR that the patient has no known drug allergies.
    - *Reminder:* Healthcare professionals are reminded that their clinical competence and professional judgment in their respective clinical encounters is reflected in their medical documentation. Good history taking and physical examination skills remain the cornerstone of high-quality care.

Scenario L: Reviewing and Clarifying Information on NEHR prior to use.

Doctor X documented the patient's last known medical history from NEHR while pre-clerking the patient in ED. This was based on information from a discharge summary contributed to NEHR from 10 years ago, and the information was not up to date. Due to a busy workload, Doctor X had not verified the past medical history with the patient, which subsequently led to suboptimal assessment of the patient and poor treatment decisions.

Professional Guidance:

Section 4.1.2 - Healthcare professionals should take reasonable steps to clarify and review Health Information obtained from NEHR prior to relying on the said information for clinical purposes.

- Healthcare professionals should avoid copying and pasting past medical history drawn from old medical records without verifying the information afresh with patients.
- NEHR use is not a substitute for exercising clinical skills and judgement. The healthcare professional should consider the need to perform targeted verification of the Health Information as it relates to the patient's past medical history. For instance, if he decides to prescribe chronic medications documented in the discharge summary 10 years ago, he should minimally perform a targeted search for other clinical notes over the last 10 years or patient's most recent medication records in NEHR.

Infographic VI: Clarifying Health Information on NEHR before relying on it.

Healthcare professionals should review and clarify health information on NEHR but should not only rely on NEHR.

Scenario M: Relying on professional judgement to determine if incidental findings need to be followed up on.

Patient consults her GP for flu-like symptoms. The GP decides to review NEHR for information on past clinical reviews and notes that earlier in the year, the patient had undergone a CT Chest scan which showed incidental thyroid nodules.

Professional Guidance:

Section 4.1.3 - Healthcare professionals should assess whether any follow-up is required for incidental findings discovered through using NEHR.

- The GP should consider the need to inform the patient and establish what the patient knows about the finding and where necessary, to correlate the CT chest findings of incidental thyroid nodules with patient's symptoms and physical findings. There may be a need for the GP to either pursue further investigations or refer patient to a specialist doctor for further management.
- Healthcare professionals are advised to order investigations only if clinically indicated. In the situation where advanced imaging or diagnostic modalities reveal incidental findings and the findings can be viewed on NEHR, the approach should be no different from what it was prior to the use of NEHR.

The following is an example of what a reasonable doctor may consider doing when faced with incidental findings discovered through NEHR:

a. To inform the patient of the incidental finding;
b. Enquire if the finding has been made known to the patient by the doctor who ordered the CT scan or any other healthcare professional
c. If patient has not been informed, to encourage him/her to return to the original institution / healthcare professional to seek the required follow up care.
d. To document that they have discovered the incidental findings and carried out reasonable follow-up as listed above.