GASTROENTEROLOGY DAN HEPATOLOGY				
NO	**INDICATOR**	**DIMENSION**	**STANDARD**	**SECONDARY DATA REPORTING FREQUENCY**
1a	Percentage of patients with waiting time of ≤ 60 minutes to see the doctor at Gastroenterology and Hepatology Outpatient Clinic **(Two or more registration areas involved)**	Timeliness	≥ 80%	Monthly
1b	Percentage of patients with waiting time of ≤ 90 minutes to see the doctor at Gastroenterology and Hepatology Outpatient Clinic **(Only one registration area involved)**	Timeliness	≥ 90%	Monthly
2	Percentage of oesophagogastroduodenoscopy (OGDS) performed within (≤) 24 hours of admission in patients presented with Upper Gastrointestinal Haemorrhage (UGIH) without complication	Customer centeredness	≥ 90%	3 Monthly
3	Failure rate of caecal intubation	Effectiveness	≤ 10%	3 Monthly
4	Percentage of cirrhotic patients with clinically apparent ascites had diagnostic abdominal paracentesis performed within (≤) 48 hours of admission to medical wards and referred to Gastroenterology and Hepatology Department	Customer centeredness	≥ 90%	3 Monthly
5	Percentage of Chronic Hepatitis C patients who are fully assessed and initiated on anti-HCV therapy within (≤) 8 months of first consultation at Gastroenterology and Hepatology Outpatient Clinic	Efficiency	≥ 90%	3 Monthly

*For indicator 1, each department to report either 1a **OR** 1b, and not both. (Refer technical specification)

Indicator 1

*Either indicator 1a **OR** 1b is to be reported, based on how many registration counters are involved.

- **Two or more registration areas are involved:** If registration of patient is first done at hospital's main outpatient / ACC complex registration counter with payment collection, following which the patient needs to re-register at the respective clinical department counter - Refer **Indicator 1a**.
- **Only one registration area is involved:** If registration of patient with payment collection is either done **ONLY** at clinical department counter **OR** it is done **ONLY** at hospital's main outpatient/ ACC complex registration counter with no further re-registration required at the clinical department counter - Refer **Indicator 1b**.

Discipline	:	**Gastroenterology and Hepatology**
Indicator 1a	:	**Percentage of patients with waiting time of ≤ 60 minutes to see the doctor at Gastroenterology and Hepatology Outpatient Clinic (Two or more registration areas involved)**
Dimension of Quality	:	Timeliness
Rationale	:	1. MOH aims for waiting time to see the doctor at outpatient services to be less than 90 minutes in line with patient centred services. Waiting time is time patient first registers in the hospital till the time patient is seen by doctor. (Reference: Director-General of Health Malaysia Circular No. 6/2004) 2. The waiting time is based on patient's experience from the time patient first registers at the first counter in the hospital till seen by doctor. In view of many counters are involved in some hospitals/ departments, some clinical departments have opted for monitoring of registration from department counter as any process prior to that appears out of the clinical department's control. Thus, due to involvement of 2 or more counters within the hospital, for monitoring of clinical services KPI, the target of waiting time is for less than 60 minutes within the department. This is applicable only if patient is being registered at another counter within the same hospital (e.g. at hospital's main outpatient/ ACC complex registration counter) prior to the clinical department counter. 3. For hospital to eliminate or reduce waiting time, it is important to balance between the demand for appointments and the supply of appointments. One needs to identify opportunities for improvement by strengthening policy of outpatient service in hospital, applying Queuing Theory and having contingency plans.
Definition of Terms	:	**Two or more registration areas involved**: If registration of patient is first done at hospital's main outpatient/ ACC complex registration counter with payment collection, following which the patient needs to re-register at the respective clinical department counter: **Waiting time**: Time of registration counter at department counter or time of appointment given to patient (whichever is later) till the time the patient is first seen by the doctor, which is beginning of a consultation.
Criteria	:	**Inclusion**: 1. All outpatients of Gastroenterology and Hepatology Outpatient Clinic. **Exclusion**: 1. Patients who come without an appointment ("walk-in" patients). 2. Patients that need to do procedures on the same day before seeing the doctors (e.g blood taking and imaging).

<table>
<tr><td></td><td></td><td>Sampling:
Using an average of total patients seen in a month, 30% of the patients in each month need to be sampled for this indicator.
For example, in a case of 22 clinic days per month, 7 clinic days in a month need to be selected for data collection. Hospital/ department to ensure randomised sampling of data by ensuring each clinic day of the week is included to ensure proper representation of data.</td></tr>
<tr><td>Type of indicator</td><td>:</td><td>Rate-based process indicator</td></tr>
<tr><td>Numerator</td><td>:</td><td>Number of sampled patients with waiting time of ≤ 60 minutes to see the doctor at Gastroenterology and Hepatology Clinic</td></tr>
<tr><td>Denominator</td><td>:</td><td>Total sample of patients seen by the doctor at the Gastroenterology and Hepatology Outpatient Clinic</td></tr>
<tr><td>Formula</td><td>:</td><td>Numerator x 100 %
Denominator</td></tr>
<tr><td>Standard</td><td>:</td><td>≥ 80%</td></tr>
<tr><td>Data Collection & Verification</td><td>:</td><td>1. Where: Data will be collected in Gastroenterology and Hepatology Outpatient Clinic.
2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.
3. How to collect Data is suggested to be collected from patient's case notes/ appointment record book/ waiting time slip.
4. How frequent: Monthly data collection within department.
Validated summarised secondary data to be sent monthly to Quality Unit of the respective hospital for monitoring.
PVF to be sent 6 monthly to Quality Unit of hospital.
5. Who should verify:
<table>
<tr><td></td><td>Prepared by</td><td>Validated by</td></tr>
<tr><td>Primary Data</td><td>Officer/ Paramedic/ Nurse in-charge</td><td>Supervisor of the person who prepared the data</td></tr>
<tr><td>Secondary Data</td><td>Officer/ Paramedic/ Nurse in-charge</td><td>Head of Department/ Specialist in-charge</td></tr>
</table>
PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</td></tr>
<tr><td>Remarks</td><td>:</td><td></td></tr>
</table>

Discipline	**:**	**Gastroenterology and Hepatology**
Indicator 1b	:	**Percentage of patients with waiting time of ≤ 90 minutes to see the doctor at Gastroenterology and Hepatology Outpatient Clinic (Only one registration area involved)**
Dimension of Quality	:	Timeliness
Rationale	:	1. MOH aims for waiting time to see the doctor at outpatient services to be less than 90 minutes in line with patient centred services. Waiting time is time patient first registers in the hospital till the time patient is seen by doctor. (Reference: Director-General of Health Malaysia Circular No. 6/2004) 2. The waiting time is based on patient's experience from the time patient first registers at the first counter in the hospital till seen by doctor. In view of many

		counters are involved in some hospitals/ departments, some clinical departments have opted for monitoring of registration from department counter as any process prior to that appears out of the clinical department's control. Thus, due to involvement of 2 or more counters within the hospital, for monitoring of clinical services KPI, the target of waiting time is for less than 60 minutes within the department. This is applicable only if patient is being registered at another counter within the same hospital (i.e at hospital's main outpatient/ ACC complex registration counter) prior to the clinical department counter. 3. For hospital to eliminate or reduce waiting time, it is important to balance between the demand for appointments and the supply of appointments. One needs to identify opportunities for improvement by strengthening policy of outpatient service in hospital, applying Queuing Theory and having contingency plans.
Definition of Terms	:	<u>If registration of patient with payment collection is done ONLY AT CLINICAL DEPARTMENT COUNTER:</u> **Waiting time**: Time of registration counter at department counter or time of appointment given to patient (whichever is later) till the time the patient is first seen by the doctor, which is beginning of a consultation. <u>If the registration is done ONLY AT HOSPITAL'S MAIN OUTPATIENT/ ACC COMPLEX REGISTRATION COUNTER, with no re-registration at the clinical department counter:</u> **Waiting time**: Time of registration counter at hospital's main outpatient/ ACC complex registration counter or time of appointment given to patient (whichever is later) till the time the patient is first seen by the doctor, which is beginning of a consultation.
Criteria	:	**Inclusion**: 1. All outpatients of Gastroenterology and Hepatology Outpatient Clinic. **Exclusion**: 1. Patients who come without an appointment ("walk-in" patients). 2. Patients that need to do procedures on the same day before seeing the doctors (e.g blood taking and imaging). **Sampling**: Using an average of total patients seen in a month, 30% of the patients in each month need to be sampled for this indicator. For example, in a case of 22 clinic days per month, 7 clinic days in a month need to be selected for data collection. Hospital/ department to ensure randomised sampling of data by ensuring each clinic day of the week is included to ensure proper representation of data.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of sampled patients with waiting time of ≤ 90 minutes to see the doctor at Gastroenterology and Hepatology Outpatient Clinic
Denominator	:	Total sample of patients seen by the doctor at the Gastroenterology and Hepatology Outpatient Clinic
Formula	:	<u>Numerator</u> x 100 % Denominator

Standard	:	≥ 90%
Data Collection & Verification	:	1. **Where**: Data will be collected in Gastroenterology and Hepatology Clinic. 2. **Who**: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit. 3. **How to collect**: Data is suggested to be collected from patient's case notes/ appointment record book/ waiting time slip. 4. **How frequent**: Monthly data collection within department. Validated summarised secondary data to be sent monthly to Quality Unit of the respective hospital for monitoring. PVF to be sent 6 monthly to Quality Unit of hospital. 5. **Who should verify**:

	Prepared by	Validated by
Primary Data	Officer/ Paramedic/ Nurse in-charge	Supervisor of the person who prepared the data
Secondary Data	Officer/ Paramedic/ Nurse in-charge	Head of Department/ Specialist in-charge

PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.

Remarks	:	

Discipline	:	**Gastroenterology and Hepatology**
Indicator 2	:	**Percentage of oesophagogastroduodenoscopy (OGDS) performed within (≤) 24 hours of admission in patients presented with Upper Gastrointestinal Haemorrhage (UGIH) without complication** (Applicable in establish Gastroenterology and Hepatology centre with UGI bleeder call service)
Dimension of Quality	:	Customer centeredness
Rationale	:	1. The Glasgow Blatchford Score (GBS) is a pre-endoscopic risk assessment tool for patients presenting with UGIH. It can predict need for intervention or death and identifies low risk patients suitable for outpatient management. 2. The score has been validated to show that patients with a score of 0 are low risk. All other values are considered high risk. 3. In the validation group, scores of 6 or more were associated with a greater than 50% risk of needing an intervention. Reference: Blatchford O, Murray WR, Blatchford M. A risk score to predict need for treatment for upper-gastrointestinal haemorrhage. Lancet. 2000 Oct 14; 356(9238):1318-21.
Definition of Terms	:	**Upper Gastrointestinal Haemorrhage (UGIH):** The presence of haematemesis, coffee ground vomiting, maelena or haematochezia (verified by Gastroenterologist). **Glasgow Blatchford Score (GBS) for assessing the severity of UGIH:**

ADMISSION RISK MARKER		SCORE
Blood Urea (mmol/)L	≥6·5 <8·0	2
	≥8·0 <10·0	3
	≥10·0 <25·0	4

			≥25	6
		Haemoglobin (men) (g/dL)	≥12.0 <13.0	1
			≥10.0 <12.0	3
			<10.0	6
		Haemoglobin (women) (g/dL)	≥10.0 <12.0	1
			<10	6
		Systolic blood pressure (mmHg)	100-109	1
			90-99	2
			<90	3
		Other markers	Pulse ≥100 (per min)	1
			Presentation with maelaena	1
			Presentation with syncope	2
			Hepatic disease	2
			Cardiac failure	2

Low-risk criteria of GBS:

i. Urea < 6.5 mmol/L.
ii. Haemoglobin level >12.9 g/dL (men) or >11.9 g/dL (women).
iii. Systolic blood pressure >109 mmHg.
iv. Pulse <100 beats/ min.
v. Absence of maelena, syncope, cardiac failure or liver disease.

Criteria	:	**Inclusion:** 1. All cases of UGIH without complications. **Exclusion:** 1. UGIH with complications such as hypotensive shock, severe coagulopathy/ DIVC, severe electrolyte imbalance. 2. Unfit for endoscopy/ unstable patients (e.g. hypotensive shock or encephalopathy). 3. In severe coagulopathy or require special blood preparation. 4. Cases that need other therapeutic optimization (e.g. haemodialysis). 5. Refuse for endoscopy or no consent available.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of OGDS performed within (≤) 24 hours of admission in cases presented with UGIH without complication
Denominator	:	Total number of cases with UGIH without complication
Formula	:	Numerator x 100% Denominator
Standard	:	≥ 90%
Data Collection & Verification	:	1. **Where**: Data will be collected in Endoscopy unit. 2. **Who**: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the Endoscopic Unit. 3. **How to collect**: Data is suggested to be collected from admission & discharge record book/ procedure book/ patient's case notes. 4. **How frequent**: Monthly data collection within department. Validated summarised secondary data to be sent 3 monthly to Quality Unit of the respective hospital for monitoring.

		PVF to be sent 6 monthly to Quality Unit of hospital. 5. **Who should verify**: <table><tr><td></td><td>Prepared by</td><td>Validated by</td></tr><tr><td>Primary Data</td><td>Officer/ Paramedic/ Nurse in-charge</td><td>Supervisor of the person who prepared the data</td></tr><tr><td>Secondary Data</td><td>Officer/ Paramedic/ Nurse in-charge</td><td>Head of Department/ Specialist in-charge</td></tr></table> PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.
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Discipline	:	**Gastroenterology and Hepatology**
Indicator 3	:	**Failure rate of caecal intubation**
Dimension of Quality	:	Effectiveness
Rationale	:	1. Caecal intubation is critical to a complete examination. The need for caecal intubation is based on the persistent finding that a substantial fraction of colorectal neoplasms are located in the proximal colon, including the caecum. Visualization of this area is paramount to the prevention of Colon Cancer. 2. The unadjusted completion rate (CIR) for colonoscopy is 90%. Thus, failure rate of caecal intubation is aimed for <10%. Reference: • The Guidelines for the Implementation of a National Quality Assurance Programme in GI Endoscopy (Version 2.0) developed by The Working Group of National QA Programme in GI Endoscopy by the Conjoint Board of the Royal College of Physicians and Royal College of Surgeons (2011). • Quality Assurance Guideline for Colonoscopy by NHS Bowel Cancer Screening Programme's Endoscopy QA Group (2011). • BSG Quality and Safety Indicators for Endoscopy by Joint Advisory Group on GI Endoscopy (2007). • Measuring the quality of endoscopy by American Society for Gastrointestinal Endoscopy and American College of Gastroenterology (2006).
Definition of Terms	:	**Caecal intubation**: Passage of the colonoscope tip to a point proximal to the ileocaecal valve so that the entire caecal caput, including the medial wall of the caecum between the ileocaecal valve and appendiceal orifice; is visible. Failure of caecal intubation does not include patient factors contributing to failing in intubation such as adhesion/ post-laparotomy/ post-abdominal surgery.
Criteria	:	**Inclusion:** 1. All colonoscopy studies including those, in which a previously unknown benign or malignant stricture is encountered; should be counted. **Exclusion:** 1. Poor bowel preparation. 2. Procedure abandoned due to severe colitis. 3. Colonoscopic treatment of a benign or malignant stricture or a large polyp.

		4. Planned colonoscopy which does not require to reach caecum/ terminal ileum (e.g. radiation proctitis).
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number of colonoscopies where terminal ileum/ caecum/ anastomosis has been failed to be reached
Denominator	:	Total number of colonoscopies performed
Formula	:	Numerator x 100% Denominator
Standard	:	≤ 10%
Data Collection & Verification	:	1. **Where**: Data will be collected in Endoscopy unit. 2. **Who**: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the Endoscopic Unit. 3. **How to collect**: Data is suggested to be collected from patient's case notes/ colonoscopy report/ procedure book. 4. **How frequent**: 3 monthly data collection within department. Validated summarised secondary data to be sent 3 monthly to Quality Unit of the respective hospital for monitoring. PVF to be sent 6 monthly to Quality Unit of hospital. 5. **Who should verify**:

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Discipline	**:**	**Gastroenterology and Hepatology**
Indicator 4	:	**Percentage of cirrhotic patients with clinically apparent ascites had diagnostic abdominal paracentesis performed within (≤) 48 hours of admission to medical wards and referred to Gastroenterology and Hepatology Department**
Dimension of Quality	:	Customer centeredness
Rationale	:	All cirrhotic with clinically apparent ascites require paracentesis to diagnose unexpected infection when they are admitted.
Definition of Terms	:	**Clinically apparent ascites**: Flank dullness which is greater/ higher than usual and "shifting". **Performed within (≤) 48 hours of admission**: Time taken from the time patient arrived to the Gastroenterology and Hepatology ward or medical wards and being referred to respective Gastroenterology and Hepatology team to the time diagnostic abdominal paracentesis performed.
Criteria	:	**Inclusion**: 1. Newly admitted cirrhotic patients with clinically apparent ascites. **Exclusion**: 1. Unfit for paracentesis/ unstable patients (e.g. hypotensive in shock).

<table>
<tr><td></td><td></td><td>2. In severe coagulopathy or require special blood preparation.
3. Cases that need other therapeutic optimization (e.g. haemodialysis).
4. Patient refusal or no consent.
5. Patients with suspicion of intra-abdominal haemorrhage or dilated bowel.
6. Recent abdominal paracentesis in referring hospital that were adequately performed and no indication for a repeat.</td></tr>
<tr><td>Type of indicator</td><td>:</td><td>Rate-based process indicator</td></tr>
<tr><td>Numerator</td><td>:</td><td>Number of cirrhotic patients with clinically apparent ascites had diagnostic abdominal paracentesis performed within (≤) 48 hours of admission</td></tr>
<tr><td>Denominator</td><td>:</td><td>Total number of cirrhotic patients with clinically apparent ascites admitted</td></tr>
<tr><td>Formula</td><td>:</td><td>Numerator x 100 %
Denominator</td></tr>
<tr><td>Standard</td><td>:</td><td>≥ 90%</td></tr>
<tr><td>Data Collection & Verification</td><td>:</td><td>1. Where: Data will be collected in Gastroenterology and Hepatology ward or wards that cater for the above condition.
2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.
3. How to collect: Data is suggested to be collected from admission & discharge record book/ patient's case note/ procedure book.
4. How frequent: 3 monthly data collection within department.
Validated summarised secondary data to be sent 3 monthly to Quality Unit of the respective hospital for monitoring.
PVF to be sent 6 monthly to Quality Unit of hospital.
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Discipline	:	**Gastroenterology and Hepatology**
Indicator 5	:	**Percentage of Chronic Hepatitis C patients who are fully assessed and initiated on anti-HCV therapy within (≤) 8 months of first consultation at Gastroenterology and Hepatology Outpatient Clinic**
Dimension of Quality	:	Efficiency
Rationale	:	1. Timely treatment in patients with Chronic Hepatitis C prevents long term liver complications and use of more health resources. 2. Chronic Hepatitis C patients who had completed assessments required for anti-HCV therapy and initiated on treatment.
Definition of Terms	:	**Assessment**: Depend on the patient and treatment characteristics.
Criteria	:	**Inclusion**: 1. Patients who are willing for treatment and eligible with current available treatment.

<table>
<tr><td></td><td></td><td>Exclusion:
1. Patients who refused anti-HCV therapy.
2. Patients who are enrolled into clinical trials.
3. Patients who have contraindications to anti-HCV therapy.
4. Patients who defaulted appointments for investigations and clinic follow-up.</td></tr>
<tr><td>Type of indicator</td><td>:</td><td>Rate-based process indicator</td></tr>
<tr><td>Numerator</td><td>:</td><td>Number of Chronic Hepatitis C patients who are fully assessed and initiated on anti-HCV therapy within (≤) 8 months of first consultation at Gastroenterology and Hepatology Outpatient Clinic</td></tr>
<tr><td>Denominator</td><td>:</td><td>Total number of Chronic Hepatitis C patients who received anti-HCV therapy</td></tr>
<tr><td>Formula</td><td>:</td><td>Numerator x 100 %
Denominator</td></tr>
<tr><td>Standard</td><td>:</td><td>≥ 90%</td></tr>
<tr><td>Data Collection & Verification</td><td>:</td><td>1. Where: Data will be collected in Gastroenterology and Hepatology Outpatient Clinic.
2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.
3. How to collect: Data is suggested to be collected from patient's case note/ appointment record book/ database of Hepatitis C patients.
4. How frequent: 3 monthly data collection within department.
Validated summarised secondary data to be sent 3 monthly to Quality Unit of the respective hospital for monitoring.
PVF to be sent 6 monthly to Quality Unit of hospital.
5. Who should verify:
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