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FACULTY OF PRE-HOSPITAL CARE
THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH

Review of the Diploma and Fellowship in Immediate Medical Care exam diets 2014 to 2019

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Contents

Introduction and background

1.1 Introduction

This document reports on the Diploma in Immediate Medical Care (DIMC) and Fellowship in Immediate Medical Care (FIMC) examinations conducted through the years 2014 to 2019. It is intended to be of interest to candidates sitting the DIMC and FIMC exams, to examiners, trainers and members of the public.

The Royal College of Surgeons of Edinburgh (RCSEd) produces and governs the DIMC and FIMC exams. The DIMC and FIMC are utilised by the Intercollegiate Board for Training in Pre-hospital Emergency Medicine (IBTPHEM) as the phase 1 and phase 2 national summative assessments for clinicians working in pre-hospital emergency medicine training programmes.

1.2 Governance of DIMC and FIMC exams

The pre-hospital care examination committee of the RCSEd incorporates the assessment committee of the IBTPHEM. The committee meets twice per year (January and July) and ensures governance overview of the provision of national pre-hospital exams. The committee is chaired by the Convener of pre-hospital exams and has clinical and administrative representation. The pre-hospital care examinations committee reports to the Faculty of pre-hospital care executive, Faculty of pre-hospital care advisory group, the IBTPHEM and the RCSEd examinations committee. All clinicians involved with the DIMC and FIMC, including the Convener and examiners, are volunteers. Examination department and Faculty of Pre-hospital Care staff are employees of the RCSEd.

The administrator for the DIMC and FIMC examinations is contactable on: fphc.exams@rcsed.ac.uk

The Convener of pre-hospital exams and chair of the IBTPHEM assessment committee is Phil Hyde until October 2019. Phil is contactable on: phil.hyde@rcsed.net

From October 2019, Jon Birks will be the pre-hospital exams Convener and chair of the IBTPHEM assessment committee. Jon is contactable on: jon.birks@rcsed.net

1.3 The pre-hospital emergency medicine (PHEM) curriculum

Both the DIMC and FIMC examination are mapped to the PHEM curriculum. The most up to date version of the PHEM curriculum is available through the Faculty of Pre-Hospital Care exams website, described in section 1.9.

The curriculum is divided into 6 themes and 4 cross cutting themes, as below. These themes are further divided into units and elements. Much of this report utilises this nomenclature and focuses at the level of units.

Theme 1 - Working in Emergency Medical Systems
Theme 2 - Providing pre-hospital emergency medical care
Theme 3 - Using pre-hospital equipment
Theme 4 - Supporting rescue and extrication
Theme 5 - Supporting safe patient transfer
Theme 6 - Supporting emergency preparedness and response

Cross cutting theme A - Operational Practice
Cross cutting theme B - Team resource management
Cross cutting theme C - Clinical governance
Cross cutting theme D - Good Medical Practice

1.4 Applications for DIMC and FIMC exams

The DIMC and FIMC are multi-professional exams open to appropriately experienced nurses, paramedics and doctors. For each exam, applicants may have trained through recognised PHEM training programmes or obtained alternative forms of pre-hospital training. Access to the DIMC and FIMC exam and the applicable regulations are demonstrated in figure 1.4a and b. Regulations to apply to sit the DIMC and FIMC exams are available through the Faculty of Pre-Hospital Care exams website, described in section 1.9.

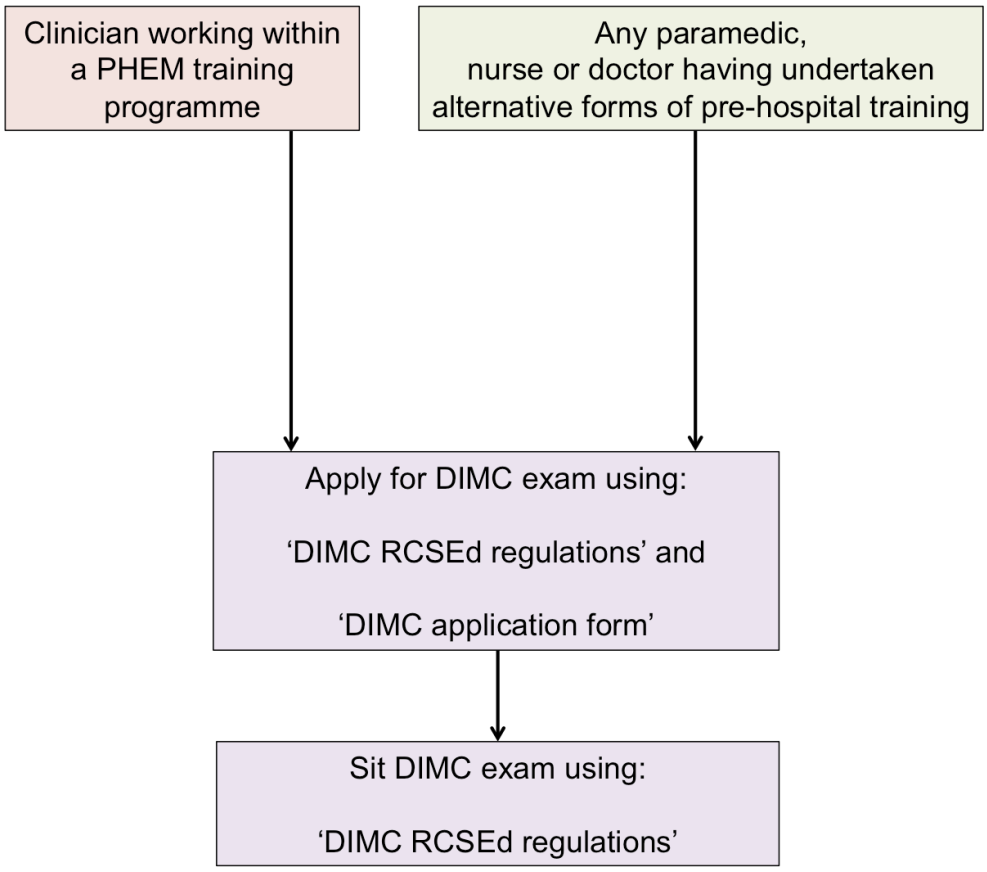

Figure 1.4a. Pathway and regulations to apply and sit the DIMC examination

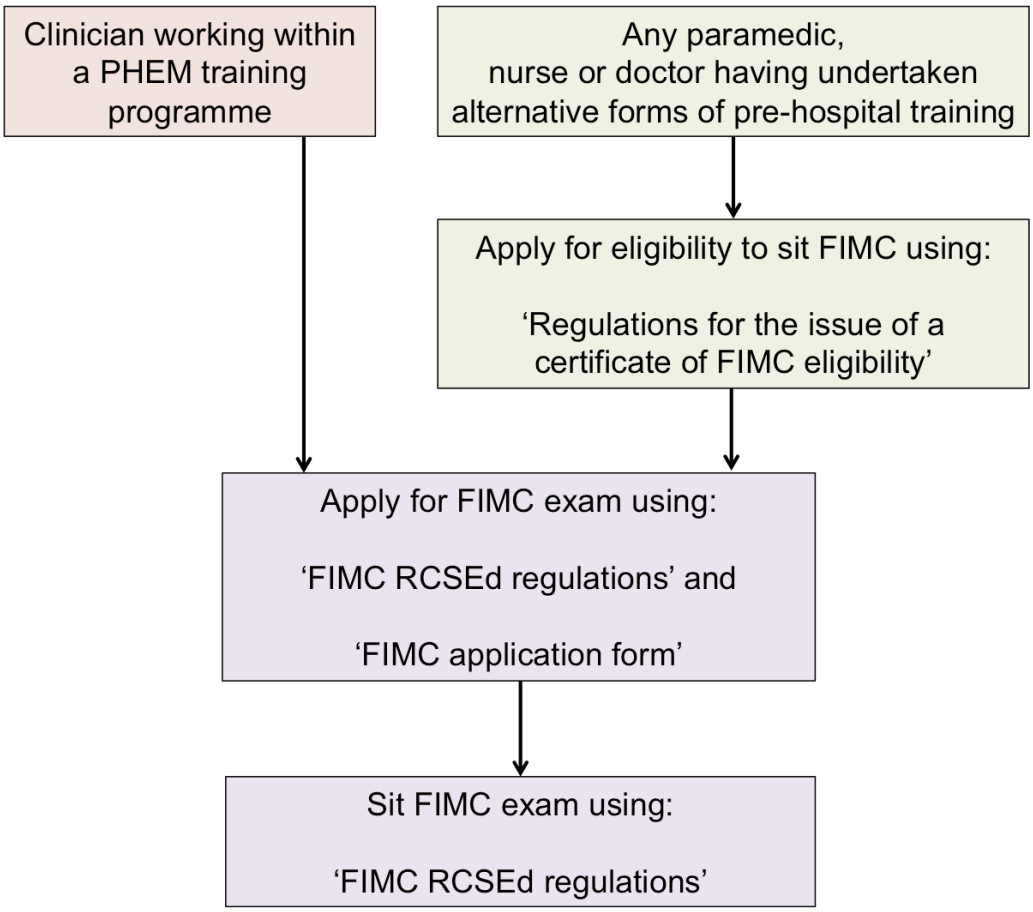

Figure 1.4b. Pathway and regulations to apply and sit the FIMC examination

1.5 Exam regulations

The current regulations for the DIMC and FIMC exams are available through the Faculty of Pre-Hospital Care exams website, described in section 1.9.

1.6 Training guide for PHEM trainees

The complete guide for trainees in Pre-hospital Emergency Medicine (PHEM) is available through the Faculty of Pre-Hospital Care exams website, described in section 1.9. The guide is called 'Sub-specialty training in PHEM curriculum assessment system'.

1.7 Examination preparation resources

In addition to this report, the following resources are available for candidates and trainers to use whilst preparing for the DIMC and FIMC exams:

- Single best answer questions from past papers
- Video of DIMC and FIMC OSPEs and simulations

These resources are available through the Faculty of Pre-Hospital Care exams website, described in section 1.9.

1.8 Applications to become an examiner in the DIMC or FIMC exams

The DIMC and FIMC are multi-professional exams assessed by a group of nurse, paramedic and doctor examiners. Examining within the RCSEd pre-hospital exams is important and time consuming work. The role of the examiner is much more than the simple invigilation of a written paper or the assessment of a practical exam. The examiner contributes to development of the content of all parts of the examination and, through the standard setting process, defines the level of performance expected from candidates.
Becoming an examiner for the RCSEd is a significant professional achievement and requires personal commitment to the examinations process as well as subject matter expertise. The examiner role is voluntary and annual; committing to support pre-hospital exams is therefore an active and on going process.
Being an examiner provides significant opportunity, most importantly to shape the standard of care provided to patients at a national level. In addition, the examination faculty represents an enormous multi-professional wealth and diversity of knowledge and much is learnt from our examiner peers. The ability to contribute to the examiners group, and therefore the clinical practice of future pre-hospital practitioners is both an honour and a privilege.

Examiners must hold the qualification that they are examining within. Training as an examiner requires 1 day of training and a further 1-2 days of facilitated observation of the exam. Following this initial training period, 1 day examiner training updates are required every five years.
The minimum time commitment for examiners is 2.5 days per year exam duties and a small number of exam questions written per year – guided by the Convener of pre-hospital exams. Many examiners volunteer very much more time than this, for which the Faculty of Pre-hospital Care is extremely grateful. Instructions for colleagues interested in volunteering to support the exam as examiners are available on the Faculty of Pre-Hospital Care exams website, described in section 1.9.

1.9 The Faculty of Pre-Hospital Care exams website

Resources discussed within this document are available on and through the Faculty of Pre-Hospital Care exams website:

https://fphc.rcsed.ac.uk/examinations

2. The Diploma in Immediate Medical Care Exam (DIMC)

2.1 The Diploma in Immediate Medical Care (DIMC) exam

The Royal College of Surgeons of Edinburgh (RCSEd) produces and governs the DIMC exam. The DIMC is utilised by the Intercollegiate Board for Training in Pre-hospital Emergency Medicine (IBTPHEM) as the phase 1 national summative assessment for clinicians working in pre-hospital emergency medicine training programmes.

The DIMC exam consists of 2 parts:

- A written paper (part A)
- A practical examination (part B)

DIMC candidates are expected to have a comprehensive, specialised, factual and theoretical knowledge within day-to-day pre-hospital emergency care clinical practice and an awareness of the boundaries of that knowledge. There is a focus within the DIMC examination on timely recognition, diagnosis and management of conditions and situations in the pre-hospital environment rather than on the use of facilities for investigation and treatment that may be available predominantly within a hospital. This examination includes pre-hospital emergency care for all patient age groups from newborns to the very elderly.
Full and detailed regulations regarding the DIMC exam are available though the Faculty of Pre-Hospital Care exams website, described in section 1.9.

2.2 The DIMC written exam (part A)

The DIMC written exam is composed of 180 single best answer (SBA) questions answered within a 180 minute duration. The SBA questions within the DIMC exam relate to elements of underpinning knowledge listed and described in the PHEM curriculum. The exam covers the whole of the PHEM curriculum phase 1a and 1b elements and aims to sample from each of the themes of the curriculum in the percentages described in table 2.2 (the proportions of questions in the table may vary to some degree).
The PHEM curriculum specifically applies to patients of all age groups (newborn, infants, children and adults). Across the whole exam approximately 75% of DIMC SBA questions relate to adult patients and 25% of questions relate to younger patients.
Sample written questions for the DIMC are available on the Faculty of Pre-Hospital Care exams website, described in section 1.9.

PHEM curriculum theme	Number of SBA questions in exam	% coverage of theme in exam
1. Working in Emergency Medical Systems	18	10
2. Providing pre-hospital emergency medical care	54	30
3. Using pre-hospital equipment	18	10
4. Supporting rescue and extrication	18	10
5. Supporting safe patient transfer	18	10
6. Supporting emergency preparedness and response	18	10
7. Cross cutting theme A - Operational Practice	9	5
8. Cross cutting theme B - Team resource management	9	5
9. Cross cutting theme C - Clinical governance	9	5
10. Cross cutting theme D -Good Medical Practice	9	5

Table 2.2. Sampling of single best answer (SBA) questions from the PHEM curriculum for DIMC and FIMC written exams

2.3 The DIMC practical exam (part B)

The DIMC practical exam is composed of objective structured practical exams (OSPES). The DIMC has 12 x 8 minute OSPE stations and 2 x 16 minute OSPE stations. The 16-minute OSPE stations always examine basic and advanced life support and trauma care. All DIMC OSPE stations are examined indoors.

For every OSPE station, 1 minute is provided for candidates to read information prior to entering the OSPE station. The OSPE station runs for its allotted duration (a further 7 or 15 minutes) and then candidates move onto their next OSPE station, to start the process again. The OSPE circuit is demonstrated in figure 2.3. Once started, the OSPE circuit runs continuously until all candidates have completed 14 OSPE stations.

Sample OSPE questions and videos are available through the Faculty of Pre-Hospital Care exams website, described in section 1.9.

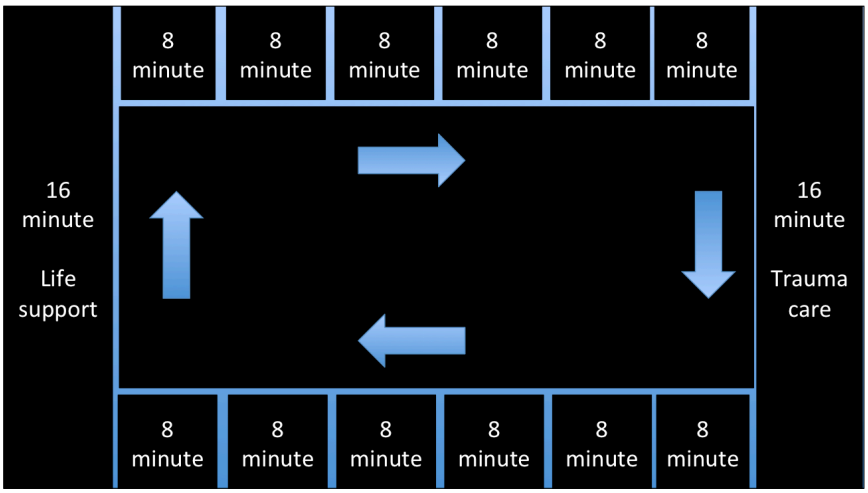

Figure 2.3. The DIMC OSPE circuit flows clock wise and involves 12 x 8 minute OSPE stations and 2 x 16 minute OSPE stations.

2.4 Numbers of candidates and pass rates for the DIMC during 2014-2019

550 candidates sat the DIMC exam from 2014 to 2019. 472 candidates passed the exam (83% pass rate). The candidate numbers and pass rates for nurses, paramedics and doctors sitting the DIMC exam over the past 6 years is demonstrated in table 2.4.
A full year by year breakdown of the DIMC results is provided in Annex A.

Professional group	Number of candidates who sat the DIMC exam	Number of candidates who passed the DIMC exam	Average percentage pass rate
Nurses	11	8	73%
Paramedics	142	95	67%
Doctors (non-PHEM trainees)	358	325	91%
Doctors - PHEM trainees	46	45	98%
TOTAL	550	472	83%

Table 2.4. Number of and percentage pass rate within the DIMC exam for nurses, paramedics and doctors for the period 2014-2019.

3. The Fellowship in Immediate Medical Care Exam (FIMC)

3.1 The Fellowship in Immediate Medical Care exam

The Royal College of Surgeons of Edinburgh (RCSEd) produces and governs the FIMC exam. The FIMC is utilised by the Intercollegiate Board for Training in Pre-hospital Emergency Medicine (IBTPHEM) as the phase 2 national summative assessment for clinicians working in pre-hospital emergency medicine training programmes.

The FIMC exam consists of 2 parts:

- A written paper (part A)
- A practical examination (part B)

The standard required is consistent with independent clinical practice with high levels of underpinning knowledge, technical expertise and clinical experience across all elements of the PHEM curriculum.
There is a focus within the FIMC examination on timely recognition, diagnosis and management of conditions and situations in the pre-hospital environment rather than on the use of facilities for investigation and treatment that may be available predominantly within a hospital. However, the FIMC candidate is expected to be able to undertake safe emergency transfer between hospitals and therefore be capable of interpreting the range of investigations typically found in the emergency department setting. This examination covers the full spectrum of pre-hospital emergency care and includes all patient age groups from new-borns to the very elderly.
Full and detailed regulations regarding the FIMC exam are available through the Faculty of Pre-Hospital Care exams website, described in section 1.9.

3.2 The FIMC written exam

The FIMC written exam is composed of 180 single best answer questions answered within a 180 minute duration. The exam covers the whole of the PHEM curriculum phase 1a, 1b and phase 2 elements and samples from each of the themes of the curriculum in the percentages described in table 2.2 (the proportions of questions in the table may vary to some degree). The SBA questions within the FIMC exam relate to elements of underpinning knowledge listed and described in the PHEM curriculum.
The PHEM curriculum specifically applies to patients of all age groups (newborn, infants, children and adults). Across the whole exam approximately 75% of FIMC SBA questions relate to adult patients and 25% of questions relate to younger patients.
Sample written questions for the FIMC are available through the Faculty of Pre-Hospital Care exams website, described in section 1.9.

3.3 The FIMC practical exam

The FIMC practical exam is composed of objective structured practical exams (OSPES). The FIMC has 12 x 8 minute OSPE stations and 2 x 24 minute OSPE stations. The 8-minute OSPE stations are examined indoors. The 24-minute OSPE stations may be examined indoors or outdoors.

For every 8-minute OSPE station, 1 minute is provided for candidates to read information prior to entering the OSPE station. The OSPE station runs for its allotted duration (a further 7 minutes) and then candidates move onto their next OSPE station, to start the process again. The OSPE circuit for 8-minute OSPE stations is demonstrated in figure 3.3. Once started, the OSPE circuit runs continuously until all candidates have completed 12 OSPE stations.

The FIMC 24-minute OSPE stations are full immersion simulations, which test integration of pre-hospital medical practice in simulated environments. They are run on a separate day to the 8-minute OSPE stations. One 24-minute OSPE station is always based around the pre-hospital management of a patient and the other 24-minute OSPE station is always based around the emergency inter-facility transfer of a patient. Candidates have 1 minute to read information prior to entering the OSPE station. The simulation then runs for its allotted duration (a further 23 minutes) and then the candidates are guided to a rest area for 10 minutes. Following 10 minutes rest, the candidates complete their second 24-minute OSPE station.

Sample OSPE questions and videos are available through the Faculty of Pre-Hospital Care exams website, described in section 1.9.

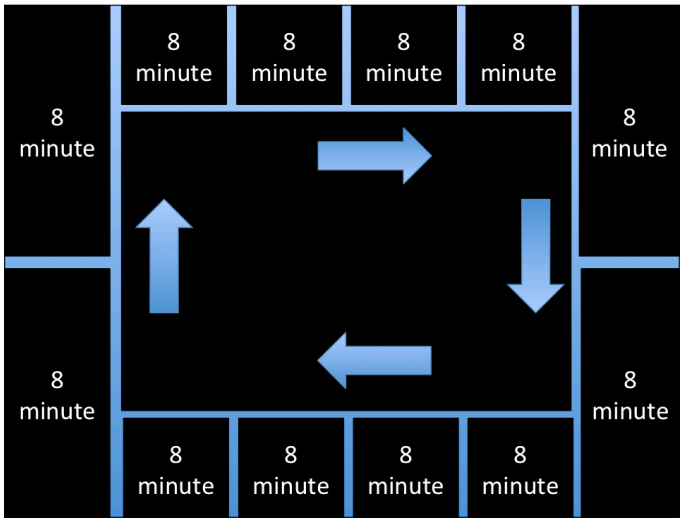

Figure 3.3 The FIMC OSPE circuit flows clock wise and involves 12 x 8 minute OSPE stations.

3.4 Numbers of candidates and pass rates for the FIMC during 2014-2019

The FIMC became a multi-professional exam in 2016. To date, no nurses or paramedics have sat the FIMC exam.

124 doctor candidates sat the FIMC exam from 2014 to 2019. 72 candidates passed the exam (58% pass rate). The candidate numbers and pass rates for doctors sitting the FIMC exam over the past 6 years is demonstrated in table 3.4.

A full year by year breakdown of the FIMC results is provided in Annex B.

Professional group	Number of candidates who sat the FIMC exam	Number of candidates who passed the FIMC exam	Average percentage pass rate
Doctors (non-PHEM trainees)	9	5	56%
Doctors - PHEM trainees	115	67	58%
TOTAL	124	72	58%

Table 3.4. Number of candidates and percentage pass rates within the FIMC exam for the period 2014-2019.

4. Standardised equipment and cognitive aides

4.1 Standardised equipment bag

Both the DIMC and FIMC OSPE examinations use a standardised equipment pack (the Sandpiper bag). During the examination, candidates are not expected to have learnt the position of the contents of the Sandpiper bags, examiners will point out the location of equipment. Candidates are expected to know how to use the equipment contained within the Sandpiper bags without guidance. An opportunity for all candidates to view and handle the Sandpiper bags is provided after the written exam within every diet. The contents of this pack are available on the Faculty of Pre-Hospital Care exams website, described in section 1.9.

Figure 4.1 The standardised Sandpiper bag

4.2 Standardised electronic equipment

Candidates within the DIMC and FIMC exams are expected to be able to understand and apply the generic principles of electronic equipment used to treat and support patient care. For example in the case of electronic patient monitoring, candidates are expected to apply the monitoring devices to the patient and achieve interpretation of pulse oximetry waveforms, waveform capnography, ECG traces and blood pressure. Candidates are not assessed on their ability to interact with the user interface of specific electronic devices. The examiners for each OSPE will manage the user interface of these devices.

The DIMC and FIMC exams use standardised electronic monitoring, near patient testing, ventilators and syringe drivers. The electronic equipment used within the exams are available on the Faculty of Pre-Hospital Care exams website, described in section 1.9.

4.3 Standardised cognitive aides

Both the DIMC and FIMC OSPE use a standardised drug dose aide memoire and standardised check lists. These cognitive aides are available on the Faculty of Pre-Hospital Care exams website, described in section 1.9.

AGE	WEIGHT = (2 X AGE) + 8		**Heart Rate**	**95-140**	
4 YEARS	**16KG**		**Respiratory Rate**	**25-30**	
			Systolic BP	**85-100**	
AIRWAY					
Cuffed ETT Diameter	**4.5** Microcuff		COETT Length	14cm	
Laryngoscope Blade	**Mac 2**		i-gel Size	2.0	
Bougie Size	10 Fr (YELLOW)		Tidal Volume (6ml/kg)	96ml	
PHEA – CARDIO. STABLE	DOSE	VOL.	**PHEA – SHOCK**	DOSE	VOL.
Ketamine 10mg/ml (2mg/kg)	32mg	3.2ml	Ketamine 10mg/ml (0.5-1mg/kg)	8-16mg	0.8-1.6ml
Rocuronium 10mg/ml (1mg/kg)	16mg	1.6ml	Rocuronium 10mg/ml (1mg/kg)	16mg	1.6ml
Fentanyl 50mcg/ml (0.5-2mcg/kg)	8-32mcg	0.2-0.6ml			
INFUSIONS			**SEDATION**	DOSE	VOL.
Ketamine (5-40mcg/kg/min)	10 mg/ml @0.5-3.8ml/hr		Midazolam **IV** 1mg/ml (0.1mg/kg)	1.6mg	1.6ml
Propofol (1-5mg/kg/hr)	1% Propofol @ 1.6-8ml/hr		Ketamine **IV** 10mg/ml (0.5mg/kg)	8mg	0.8ml
Midazolam (10-200mcg/kg/hr)	8mg in 25ml N/Saline @ 0.5-10ml/hr		**ANALGESIA**	DOSE	VOL.
Morphine (10-50mcg/kg/hr)	8mg in 250ml N/Saline @ 0.5-2.5ml/hr		Morphine **IV** 1mg/ml (0.1mg/kg)	1.6mg	1.6ml
Adrenaline (0.05-1mcg/kg/min)	1mg in 20mls N/Saline (50mcg/ml) @ 1-19.2ml/hr		Ketamine **IV** 10mg/ml (0.1mg/kg)	1.6mg	0.16
			*Ketamine **INasal** 10mg/ml (1mg/kg)*	16mg	1.6ml
			*Fentanyl **INasal** 50mcg/ml (1.5mcg/kg)*	24mcg	0.5ml
HAEMORRHAGE	DOSE	VOL.	Paracetamol **IV** *10mg/ml* (15mg/kg over 15mins)	240mg	24ml
Blood components (5ml/kg)	-	80ml	**IV FLUIDS**	VOLUME	
Tranexamic Acid 500mg/5ml (15mg/kg)	240mg	2.4ml	0.9% Saline (20ml/kg)	320ml	
Calcium Chloride 10% (0.1ml/kg)		1.6ml	Hypertonic Saline (3ml/kg)	48ml	
			10% Dextrose (2ml/kg)	32ml	
CARDIAC ARREST	DOSE	VOL.	**MEDICAL**	DOSE	VOL.
Adrenaline IV 1:10,000 (10mcg/kg)	**160mcg**	**1.6 ml**	Adrenaline **IM** 1:1000 (10mcg/kg)	160mcg	0.2ml
Amiodarone 30mg/ml (5mg/kg)	**80mg**	**2.7ml**	Salbutamol **IV** 500mcg/ml (15mcg/kg)	240mcg	0.5ml
Atropine 1mg/5ml (20mcg/kg)	**320mcg**	**1.6ml**	Hydrocortisone 100mg/10ml (4mg/kg max 100)	64mg	6.4ml
Calcium Chloride 10% (0.2ml/kg)	**320mg**	**3.2ml**	Chlorphenamine 10mg/ml	2.5-5mg	0.3-0.5ml
Magnesium 20% 200mg/ml (40mg/kg)	**640mg**	**3.2ml**	Diazepam 10mg/2ml (0.25mg/kg)	4mg	0.8ml
Sodium bicarbonate 8.4% (1-2ml/kg)	**16-32 mmol**	**16-32 ml**	Levetiracetam (20mg/kg)	320mg	
Adenosine 3mg/ml (100mcg/kg)	**1.6mg**	**0.5ml**	Cefotaxime 100mg/ml (50mg/kg) [Add 4.8ml Water per vial]	800mg	8ml
DC Shock (4 Joules/kg)	**64 J**		Co-amoxiclav 1.2g in 20ml (30mg/kg)	480mg	8ml
NEBULISERS	DOSE	VOL.	**TOXICITY**	DOSE	VOL.
Salbutamol **Neb.**	2.5mg	1.3ml	Naloxone **IV** 400mcg/ml (10mcg/kg)	160mcg	0.4ml
Ipratropium Bromide **Neb.**	250mcg	1ml			
Adrenaline **1:1,000 Neb.** (400mcg/kg)	5mg	5ml			

Figure 4.3 An example page from the drug dose aide memoire used within the DIMC and FIMC exams.

5. Assessment structures

5.1 Written exam

For the DIMC and FIMC written exam (part A), the number of questions correctly answered is added up. Candidates pass or fail Part A based on how their score compares to the pass mark. The pass mark in each assessment is determined in advance following a standard-setting exercise conducted by the panel of examiners. The panel use a modified Angoff method for standard setting.

5.2 DIMC and FIMC OSPE circuits

The performance of candidates in the DIMC and FIMC practical exam (Part B) is marked using a predetermined item checklist for each OSPE. Each checklist reflects the complexity and length of the OSPE station. For example, 8 minute stations have around 15 items and the 24 minute FIMC simulation stations have 50 items on the checklist. A team of examiners determines the contribution to the pass mark from each station using an appropriate Standard Setting method (Borderline regression or modified Angoff method, based on the number of candidates in each diet). The contributions to the pass mark from all of the examined OSPE stations are summed to obtain the pass mark for the whole assessment. None of the stations are weighted or carry more significance than any other. This means that a poor performance on one OSPE can be compensated by an excellent performance on another. Candidates are encouraged to approach each OSPE as a new opportunity to gain marks towards their overall total.

5.3 FIMC simulations

The two full immersion simulations in Part B of the FIMC exam involve a critically injured or ill adult or child in a simulated pre-hospital setting. The clinical equipment available for these simulations is identical to that used across the FIMC OSPEs and is standardised across examination diets and made available in advance (as per section 4 above). The expected clinical course is determined prior to the assessment and is related to specified elements of the curriculum. Each simulation is marked independently by two assessors using a marking sheet with marks available for underpinning knowledge, technical skills and non-technical skills relevant to the simulation and the expected clinical course. The marking sheets indicate whether the relevant elements were demonstrated in a manner which reflected pre-determined criteria for acceptable practice.

5.4 Non-technical skills

Wherever non-technical skills are assessed in the practical examinations for the DIMC and FIMC, the Aberdeen University established framework for observing and rating non-technical skills is used. This framework comprises four categories (Task Management, Team Working, Situational Awareness and Decision Making). Examiners are asked to make a binary decision regarding whether the candidate demonstrated the relevant non-technical skills at an acceptable level or not. This judgment is based on descriptors of behavioural markers for good and for poor practice (table 4.4).

The 24-minute FIMC simulations enable the fullest review of a candidates non-technical skills in pre-hospital context. Of the 50 marks available for each of the FIMC simulations, 15 are assigned to the components of non-technical skills as per table 5.4.

Category	Components	Behavioural markers for good practice	Behavioural markers for poor practice
Task Management	Planning and preparing Prioritising Providing and maintaining standards Identifying and utilising resources	• identifies resources that are available • allocates tasks to appropriate member(s) of • the team • ensures time is free for busy/critical periods • requests additional resources if needed	• fails to utilise available resources • overloads team members with tasks • does not recognise when task load is • unworkable • does not request necessary resources
Team Working	Co-coordinating activities with team	• confirms roles and responsibilities of team members • discusses care with colleagues • considers requirements of others before • acting • co-operates with others to achieve goals	• does not co-ordinate with other team members, teams or groups • relies too much on familiarity of team for getting things done – makes assumptions, takes things for granted • intervenes without informing/ involving others • does not involve team in tasks
	Exchanging information	• gives situation updates/reports key events • confirms shared understanding • communicates case plans and other relevant information to appropriate people • maintains clear case documentation	• does not inform team of plan or subsequent alterations • gives inadequate handover briefing • does not include relevant people in communications • fails to express concerns in a clear and precise manner
	Using authority and assertiveness	• makes requirements known with necessary level of assertiveness • takes over task leadership as required • gives clear orders to team members • states case and provides justification	• does not challenge senior colleagues • does not allow others to put forward their case • fails to attempt to resolve conflicts • does not advocate position when required
	Assessing capabilities	• calls for assistance when it is needed • asks new team member about their experience • notices that a team member does not perform a task to the expected standard • adapts level of monitoring to expertise of other team members	• does not ask if trainee/assistant can cope with task • allows team to accept care beyond level of expertise • does not pay attention to the performance of other members of the team • joins established team without ascertaining their capabilities • fails to respond to obvious cues of fatigue – person yawning, not remembering simple instructions, etc
	Supporting others	• acknowledges concerns of others • provides reassurance/encouragement	• asks for information at difficult/high workload time for someone else

		• debriefs and thanks team after a difficult case • anticipates when colleagues will need equipment/information	• does not offer assistance to team members • fails to recognise needs of others requiring task reallocation • uses a dismissive tone in response to requests from others
Situational Awareness	Gathering information	• obtains and documents patient information pre-operatively • conducts frequent scan of the environment • collects information from team to identify problem • watches procedures, verifying status required • cross-checks information to increase reliability	• reduces level of monitoring because of distractions • responds to individual cues without confirmation • does not alter physical layout of workspace to improve data visibility • does not ask questions to orient self to situation during hand-over
	Recognising and understanding	• increases frequency of monitoring in response to patient condition • informs others of seriousness of situation • describes pattern of cues and their meaning to other team members	• does not respond to changes in patient state • carries out inappropriate course of action • silences alarms without investigation
	Anticipating	• keeps ahead of the situation by providing care • reviews the effects of an intervention • sets and communicates intervention thresholds • takes action to avoid or mitigate potential	• does not consider potential problems associated with condition / care • fails to increase level of monitoring in keeping with patient condition • is caught unaware by clinical actions • does not foresee undesirable drug problems
Decision Making	Identifying options	• generates options for decisions • discusses various critical care techniques with team and patient • asks other team members for suggestions on a difficult case	• even though time is available jumps straight to one option without considering alternatives • fails to ask other team members for options, when appropriate • ignores suggestions from other team members
	Balancing risks & selecting options	• considers risks of different treatment options • weighs up factors with respect to patient's condition • assesses time criticality associated with possible options • implements chosen option	• does not find out about the risks associated with an unfamiliar condition/treatment/drug • does not preview courses of action with relevant people to assess their suitability • fails to review possible options with the team
	Re-evaluating	• re-assesses patient after treatment or intervention • reviews situation, if decision was to wait and see • continues to list options as patient's condition evolves	• fails to allow adequate time for intervention to take effect • fails to include other team members in re-evaluation. • is unwilling to revise course of action in light of new information

Table 5.4. Non-technical skills assessment framework for DIMC and FIMC OSPE exams

6. Quality assurance of DIMC and FIMC exams

6.1 Standard setting of written and OSPE questions

Every question within the DIMC and FIMC exams is reviewed and standard set by a group of examiners at least every 3 years.
For written exam questions, examiners work as individuals and consider what proportion of minimally competent candidates would select the correct answer, as the question is presented. These proportions are collated to provide a standard for the question. The examiners then discuss the question as a group and consider the content of the exam question, the on going relevance to pre-hospital care of the question, whether the range of answers provided is reasonable and whether the correct answer is the single best answer. Based on this review, a decision about the on going suitability of the question is made.
For OSPE questions, examiners work as individuals and consider what number of checklist components the minimally competent candidates would achieve in the station as a whole. These proportions are collated to provide a standard for the question. The examiners then discuss the question as a group and consider the content of the exam question, the on going relevance to pre-hospital care of the question and whether the checklist components are reasonable. Based on this review, a decision about the on going suitability of the question is made.

6.2 Assessment of the performance of the whole exam

Every DIMC and FIMC exam is different. In order to ensure fairness of each exam, an extensive analysis is carried out after candidates have sat the exam.
Following each examination, a statistical analysis of the overall reliability of the exam is carried out. The College psychometricians then statistically review the performance of every question. This item analysis is primarily carried out to establish whether any questions should be removed from the examination before candidates' scores are finalised. Every question is provided with performance data, enabling consideration of the fairness of the question, and patterns of candidate responses which might suggest a possible misleading question. The Convener draws together the item analysis and all feedback from the examiners and from candidates and with this information, every question in the exam is reviewed. Following this, in liaison with the College psychometricians, a decision about removing poorly performing questions from the exam is made. Following removal of these questions, candidates exam results are updated and a new overall pass mark for the exam is set.

6.3 Results checking

Following the exam review process described above, the pass marks for each component of the exam is determined and a thorough checking process of exam results is conducted within the exams department.

6.4 External review

Once per year an external reviewer attends the whole of an exam diet and formally feeds back to the college about the organization, delivery, atmosphere, candidate views and learning points for the exam. All feedback is used to improve the exam.

7. Results release and candidate feedback

7.1 Release of DIMC and FIMC results

The results of the DIMC and FIMC exams are released 4 weeks following the examination date. Individual emails are sent from the examinations department to each candidate detailing their numerical result against the expected standard and confirmation of pass or fail. The results can also be accessed through the Faculty of Pre-Hospital Care exams website, described in section 1.9.

7.2 Feedback regarding written exam performance

For both the DIMC and FIMC written exams, an individualized performance chart is provided to every candidate, broken down into themes and units. An example is provided in figure 7.2. This chart displays as a dark bar the number of points achieved by the candidate within all of the questions within each curriculum theme and within each unit (for theme 2). A red line shows the 'passing standard' for all the questions within the exam within that curriculum theme or unit. When the darker bar extends beyond the red line then the candidate has exceeded the passing standard for all the questions within that theme or unit. A lighter bar shows the additional points that were available within the exam.

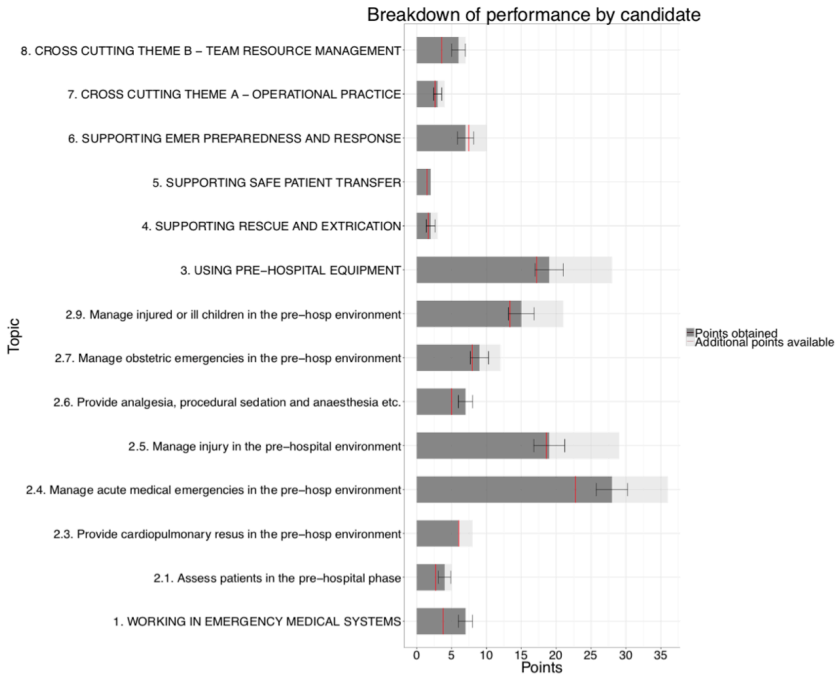

Figure 7.2. An example of the style of written feedback chart used for the DIMC and FIMC exams.

7.3 Feedback to unsuccessful OSPE candidates

For both the DIMC and FIMC exams, a feedback letter from the College is provided to each candidate who is unsuccessful in the OSPE component. This feedback is intended to inform the candidate's personal preparation for a future exam diet.

8. Future examinations

8.1 Future examination dates

Dates for future examinations are set until 2025, as below, and are also available through the Faculty of Pre-Hospital Care exams website, described in section 1.9.

22nd-24th January 2020
1st-3rd July 2020

20th - 22nd January 2021
30th June - 2nd July 2021

19th - 21st January 2022
29th June - 1st July 2022

25th – 27th January 2023
5th – 7th July 2023

24th – 26th January 2024
3rd – 5th July 2024

22nd – 24th January 2025
2nd – 4th July 2025

8.2 Exams week programme

For 2020 the exams programme described in table 8.2 will be used for the January and July exams week. The DIMC OSPE exam will be run as two different exams on the Thursday and on the Friday of exams week. DIMC candidates will sit either the Thursday OSPE exam or the Friday OSPE exam.

Day of exam week	Exam activity	DIMC exam	FIMC exam
Wednesday	**Written exam**	Morning	Morning
	Kit familiarisation	Lunch time	Lunch time
Thursday	**OSPE exam**	All day	Not applicable
	OSPE simulations	Not applicable	All day
Friday	**OSPE exam**	All day	All day

Table 8.2. Exams week programme for DIMC and FIMC in 2020

Annex A
Diploma of Immediate Medical Care 2014-2019

A.1 Required pass mark for the DIMC written and practical components 2014-2019

The percentage mark required to pass each component of the DIMC exam has remained stable from 2014-2019, as demonstrated in table A.1.

DIMC exam diet	Written exam required pass mark percentage %	Practical exam required pass mark percentage %	
March 2014	61	76	
September 2014	63	75	
January 2015	63	71	
July 2015	64	75	
January 2016	63	75	
July 2016	63	74	
January 2017	64	73	
July 2017	64	71	
January 2018	64	72	
July 2018	64	75 (day 1)	77 (day 2)
January 2019	65	74 (day 1)	68 (day 2)
July 2019	67	74 (day 1)	76 (day 2)

Table A.1. Required pass mark for the DIMC written and practical exam 2014 to 2019

A.2 Overall candidate numbers and pass rates for DIMC exam 2014-2019

The number of candidates sitting the DIMC per exam diet have almost tripled from 2014-2019. The average overall pass rate is 83%.

DIMC exam diet	Number of candidates sitting the exam	Number of candidates who passed the exam	Overall percentage pass rate %
March 2014	26	21	81
September 2014	32	29	91
January 2015	24	20	83
July 2015	40	34	85
January 2016	44	38	86
July 2016	44	37	84
January 2017	53	48	91
July 2017	42	38	90
January 2018	38	33	87
July 2018	61	43	71
January 2019	73	68	93
July 2019	73	63	86
TOTAL 2014 - 2019	**550**	**472**	**83**

Table A.2. Overall numbers of candidates sitting the DIMC exam and overall pass rates 2014 to 2019.

A.3 Number of nurse candidates and pass rates for DIMC exam 2014-2019

DIMC exam diet	Number of nurses sitting the exam	Nursing candidates as a percentage of total candidates %	Number of nurses who passed the exam	Percentage pass rate for nurses %
March 2014	3	11.5	3	100
September 2014	0	0	0	N/A
January 2015	0	0	0	N/A
July 2015	2	5	1	50
January 2016	1	2	0	0
July 2016	0	0	0	N/A
January 2017	0	0	0	N/A
July 2017	2	5	1	50
January 2018	1	2	1	100
July 2018	0	0	0	N/A
January 2019	0	0	0	N/A
July 2019	2	3	2	100
TOTAL 2014 - 2019	**11**	**2**	**8**	**73**

Table A.3. Number of nurses, percentage of total candidates that are nurses and number and percentage pass rate for nurses within the DIMC exam 2014-2019. (N/A = not applicable, as no candidates in that diet).

A.4 Number of paramedic candidates and pass rates for DIMC exam 2014-2019

DIMC exam diet	Number of paramedics sitting the exam	Paramedic candidates as a percentage of total candidates %	Number of paramedics who passed the exam	Percentage pass rate for paramedics %
March 2014	3	11.5	1	33
September 2014	7	22	6	86
January 2015	6	25	3	50
July 2015	10	25	7	70
January 2016	5	11	2	40
July 2016	16	36	11	69
January 2017	15	28	11	73
July 2017	5	12	4	80
January 2018	10	26	6	60
July 2018	18	30	10	55
January 2019	23	32	15	65
July 2019	24	33	19	79
TOTAL 2014-2019	**142**	**26**	**95**	**67**

Table A.4. Number of paramedics, percentage of total candidates that are paramedics and number and percentage pass rate for paramedics within the DIMC exam 2014-2019.

A.5 Number of doctor candidates (non-PHEM trainees) and pass rates for DIMC exam 2014-2019

DIMC exam diet	Number of doctors sitting the exam (non-PHEM trainees)	Doctor candidates (non-PHEM trainees) as a percentage of total candidates %	Number of doctors (non-PHEM trainees) who passed the exam	Percentage pass rate for doctors (non-PHEM trainees) %
March 2014	20	77	17	85
September 2014	25	78	23	92
January 2015	18	75	18	100
July 2015	22	55	20	91
January 2016	31	70	30	97
July 2016	22	50	20	91
January 2017	32	60	31	97
July 2017	32	76	30	94
January 2018	23	71	22	96
July 2018	37	60	27	73
January 2019	49	67	48	98
July 2019	47	64	39	83
TOTAL 2014-2019	**358**	**65**	**325**	**91**

Table A.5. Number of doctors (non-PHEM trainees), percentage of total candidates that are doctors (non-PHEM trainees) and number and percentage pass rate for doctors (non-PHEM trainees) within the DIMC exam 2014-2019.

A.6 Number of PHEM trainee doctors and pass rates for DIMC exam 2014-2019

DIMC exam diet	Number of PHEM trainee doctors sitting the exam	PHEM trainee doctor candidates as a percentage of total candidates %	Number of PHEM trainee doctors who passed the exam	Percentage pass rate for PHEM trainee doctors %
March 2014	0	0	0	N/A
September 2014	0	0	0	N/A
January 2015	0	0	0	N/A
July 2015	6	14	6	100
January 2016	7	16	6	86
July 2016	6	14	6	100
January 2017	6	11	6	100
July 2017	3	7	3	100
January 2018	4	10	4	100
July 2018	6	10	6	100
January 2019	5	7	5	100
July 2019	3	4	3	100
TOTAL 2014-2019	**46**	**8**	**45**	**98**

Table A.6. Number of PHEM trainee doctors, percentage of total candidates that are PHEM trainee doctors and number and percentage pass rate for PHEM trainee doctors within the DIMC exam 2014-2019. (N/A = not applicable, as no candidates in that diet).

Annex B
Fellowship of Immediate Medical Care 2014-2019

B.1 Pass mark for the FIMC written and practical components 2014-2019

Table B.1 demonstrates that the standard required within the FIMC written and practical examination has remained stable across the past 6 years.

FIMC exam diet	Written exam required pass mark percentage %	Practical exam required pass mark percentage %
July 2014	75	78
January 2015	67	78
July 2015	67	79
July 2016	69	79
January 2017	69	79
July 2017	68	73
January 2018	69	77
July 2018	67	73
January 2019	68	76
July 2019	67	75

Table B.1. Required pass mark to achieve a pass for the FIMC written and practical exam 2014 to 2019

B.2 Overall candidate numbers and pass rates for FIMC exam 2014-2019

The percentage pass rate for candidates sitting the FIMC has fluctuated over the past 6 years (table B.2), despite no alteration in the required standard within the exam and little alteration in the pass mark required (table B.1).

FIMC exam diet	Number of candidates sitting the exam	Number of candidates who passed the exam	Overall percentage pass rate %
July 2014	6	5	83
January 2015	3	1	33
July 2015	11	7	64
July 2016	16	5	31
January 2017	16	12	75
July 2017	19	13	68
January 2018	7	5	71
July 2018	18	9	50
January 2019	13	9	69
July 2019	15	6	40
TOTAL 2014 - 2019	**124**	**72**	**58**

Table B.2. Overall numbers of candidates sitting the FIMC exam and overall pass rates 2014 to 2019

B.3 Professional backgrounds and pass rates for FIMC exam 2014-2019

The FIMC became a multi-professional exam in 2016. To date, no nurses or paramedics have sat the FIMC exam.

B.4 Number of doctor candidates (non-PHEM trainees) and pass rates for FIMC exam 2014-2019

No doctors trained through alternative pathways chose to sit the FIMC exam from 2014 to 2017. The first doctors trained through alternative pathways began sitting the FIMC exam in 2018.

FIMC exam diet	Number of doctors sitting the exam (non-PHEM trainees)	Doctor candidates (non-PHEM trainees) as a percentage of total candidates %	Number of doctors (non-PHEM trainees) who passed the exam	Percentage pass rate for doctors (non-PHEM trainees) %
July 2014	0	0	N/A	N/A
January 2015	0	0	N/A	N/A
July 2015	0	0	N/A	N/A
July 2016	0	0	N/A	N/A
January 2017	0	0	N/A	N/A
July 2017	0	0	N/A	N/A
January 2018	0	0	N/A	N/A
July 2018	1	6	0	0
January 2019	6	46	4	67
July 2019	2	13	1	50
TOTAL 2014-2019	**9**	**7**	**5**	**56**

Table B.4. Number of doctors (non-PHEM trainees), percentage of total candidates that are doctors (non-PHEM trainees) and number and percentage pass rate for doctors (non-PHEM trainees) within the FIMC exam 2014-2019. (N/A = not applicable, as no candidates in that diet).

B.5 Number of PHEM trainee doctors and pass rates for FIMC exam 2014-2019

FIMC exam diet	Number of PHEM trainee doctors sitting the exam	PHEM trainee doctor candidates as a percentage of total candidates %	Number of PHEM trainee doctors who passed the exam	Percentage pass rate for PHEM trainee doctors %
July 2014	6	100	5	83
January 2015	3	100	1	33
July 2015	11	100	7	64
July 2016	16	100	5	31
January 2017	16	100	12	75
July 2017	19	100	13	68
January 2018	7	100	5	71
July 2018	17	94	9	53
January 2019	7	54	5	71
July 2019	13	87	5	38
TOTAL 2014 - 2019	**115**	**99**	**67**	**58**

Table B.5. Number of PHEM trainee doctors, percentage of total candidates that are PHEM trainee doctors and number and percentage pass rate for PHEM trainee doctors within the FIMC exam 2014-2019.