

Integrating clinical care and medical education during the 2026 Arbaeen mass gathering

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Abstract

The Arbaeen pilgrimage in Karbala, Iraq, creates substantial temporary healthcare demand while providing opportunities for education in mass-gathering medicine. During the 18th Annual Arbaeen Medical Mission, Imamia Medics International operated a multidisciplinary Medical Camp and Teaching Field Hospital from July 28 to August 4, 2026. During this period, 32,064 patient encounters were recorded, comprising 27,189 medical, emergency and specialty-care encounters, 2,525 eye-care encounters and 2,350 dental encounters. Clinical service was integrated with structured medical education. Forty-four medical students from two Iraqi universities participated in scheduled clinical rotations with supervised clinical exposure and structured assessment. Fourteen educational programmes were delivered through 15 teaching sessions, generating 172 participant-attendances and covering clinical medicine, procedural skills, emergency response, trauma, mass-casualty management and artificial intelligence. This experience demonstrates the feasibility of integrating high-volume mass-gathering healthcare with structured clinical education and workforce development through a Teaching Field Hospital model.

Keywords: Arbaeen; mass-gathering medicine; medical education; medical camp; field hospital; clinical rotations; medical training, emergency medicine; Iraq.

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Introduction

Mass gatherings place substantial demands on healthcare systems, including the management of acute illnesses, trauma, chronic disease exacerbations, environmental illnesses, and emergency preparedness. Religious gatherings further increase complexity because of the

wide range of participant ages, health statuses, and geographic origins.

Arbaeen, held annually in Karbala, Iraq, is one of the largest religious gatherings worldwide. Millions of pilgrims travel to Karbala, frequently undertaking long journeys on foot and facing significant physical and environmental stressors. Previous studies have reported respiratory and gastrointestinal illnesses, trauma, heat-related conditions, chronic disease exacerbations, and the need for coordinated surveillance and emergency response during Arbaeen.

Mass gatherings also offer important opportunities for health professional education. High-volume field environments provide learners with exposure to focussed assessment, triage, rapid clinical decision-making, teamwork, and resource-efficient care.

During its 18th Annual Arbaeen Medical Mission, Imamia Medics International (IMI) operated its clinical facility as both a Medical Camp and a Teaching Field Hospital, integrating multidisciplinary patient care with structured medical student rotations, workplace-based assessment, and professional training. This article describes the clinical and educational activities undertaken during the 2026 mission.

Methods and Results

Clinical care

The IMI Medical Camp and Teaching Field Hospital operated in Karbala at the Hussainia Abu Tiheen on Sidrah Street from the second half of July 28 through approximately noon on August 4, 2026. Services were delivered collaboratively by international and Iraqi healthcare professionals, supported by pharmacy, allied health, administrative, and operational teams.

Clinical services included general medicine, emergency care, specialty consultation, eye care, and dentistry. Specialist expertise included emergency and critical care, trauma, orthopaedics, cardiology, pulmonology, urology, endocrinology, gastroenterology, obstetrics and gynaecology, and paediatrics. Patients requiring care beyond the field facility's capabilities were stabilised and referred to local hospitals.

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Table-1: Clinical activity and predominant presentations

Service	Encounters	Predominant presentations/services
Medical, emergency and specialty care	27,189	Sore throat, congestion, leg/foot pain, body pain, abdominal pain, headache, back pain, blood-pressure and blood-glucose concerns; dehydration/heat illness, respiratory disease, infection/abscess, trauma, gastrointestinal disease, urinary retention/haematuria, hyperglycaemia/diabetic ketoacidosis, chronic-disease exacerbations, angina/myocardial infarction
Eye care	2,525	Dry eye, conjunctivitis, refractive problems and provision/assessment for corrective spectacles
Dental care	2,350	Emergency pain relief, infection management, drainage, endodontic procedures, extraction, fillings, scaling and oral-hygiene education
Total	32,064	

A total of 32,064 patient encounters were recorded: 27,189 (84.8%) medical emergency and specialty-care encounters, 2525 (7.9%) eye-care encounters, and 2350 (7.3%) dental encounters. Table-1

General medical presentations included common ambulatory illnesses, chronic disease management, and conditions related to the physical demands of extended travel and walking. Emergency services also managed cases of heat exhaustion, heat stroke, respiratory diseases, infections and abscesses, musculoskeletal complaints, gastrointestinal diseases, trauma, acute urinary retention, haematuria, hyperglycaemia, diabetic ketoacidosis, and exacerbations of hypertension, diabetes, and asthma. Acute cardiovascular cases included angina and myocardial infarction.

Eye care addressed both immediate and long-term health needs. In addition to managing dry eye, conjunctivitis, and refractive errors, approximately 10% of eye-care patients were identified with cataract, glaucoma, or diabetic retinopathy and were referred for local follow-up.

Dental services prioritized urgent treatment and pain management. Interventions comprised infection control, drainage of purulent collections, root canal therapy, pulpotomy, pulpectomy, extractions, fillings, scaling, and the appropriate prescription of antibiotics and analgesics. Oral hygiene education, including instruction on brushing

and flossing techniques, was also provided.

IMI Teaching Field Hospital and Clinical Rotations

At the IMI Medical Camp and Teaching Field Hospital, education was deliberately embedded within clinical operations and our Arbaeen programme. From July 29 through August 4, 44 medical students from two Iraqi universities participated in scheduled clinical rotations: 20 from the University of Warith Al-Anbiyaa and 24 from Karbala University.

Students participated in supervised clinical encounters and, rather than serving solely as observers, were engaged in focussed history-taking, physical examination, clinical reasoning, case presentation, communication, teamwork, and identification of patients requiring escalation of care. The high-volume environment required efficient assessment and prioritization, while ensuring appropriate supervision and patient safety.

A structured assessment framework evaluated attendance, punctuality, clinical knowledge, history-taking, physical examination, clinical reasoning, communication, professionalism, teamwork, practical skills, and participation in educational activities. Assessment methods comprised direct observation, case-based questioning, and supervised clinical interaction. Detailed findings from the assessment conducted are under separate analysis and are not included in this report.

Workshops and Professional Training

Formal teaching sessions supplemented bedside and workplace-based education. The educational programme during Arbaeen included 14 distinct courses and workshops delivered across 15 sessions, resulting in 172 participant attendances. These attendances represent cumulative session participation rather than 172 unique individuals. Table-2

The educational programme deliberately integrated core clinical competencies with topics specifically relevant to mass-gathering healthcare. Subjects such as respiratory failure, electrocardiography, obstetric emergencies, orthopaedic imaging, suturing, and point-of-care ultrasound addressed practical skills applicable across diverse healthcare settings.

First aid, initial trauma assessment, adult and paediatric emergency response, and both foundational and advanced mass-casualty management addressed competencies essential for major gatherings, disasters,

Table 2. Formal educational activities conducted during the mission

Educational programme	Faculty	Participants
Common Medical Errors	Dr Qasim Jaffry	12
Respiratory Failure, From Basic to Advanced: A Problem-based Approach	Dr Fakhir Raza Haidri	12
Electrocardiogram (ECG) 101 – Session 1	Dr Ammar Ali	15
Electrocardiogram (ECG) 101 – Session 2	Dr Ammar Ali	10
Obstetric Emergencies: Maternal Collapse for the Clinician	Dr Amna Eusaph	15
Approach to Orthopaedic X-rays for the Clinician	Dr Gohar Naqvi	12
Suturing Techniques Workshop	Dr Amna Eusaph	12
Certification in First Aid	Dr Ridha Salah	12
Initial Trauma Assessment in Mass Gathering Medicine	Dr Osama Khadum	15
Certification in Mass Casualty Management Foundations	Dr Firas Faisal	8
Certification in Adult Emergency Response	Dr Mehdi Rizvi	6
Certification in Paediatric Emergency Response	Dr Mehdi Rizvi	6
Certification in Advanced Mass Casualty Management	Dr Mehdi Rizvi	12
AI in Healthcare	Dr Kashif Riaz	10
POCUS and Ultrasound Workshop	Dr Sehrish Fatima	15
Total participant-attendances		172



Sharing smiles: 2,350 dental patients seen



Life-saving emergency care for thousands



Eyecare & restoring vision: 2,525 seen



Teaching & Training: Suturing Technique Hands-on Workshop



IMI's 18th Annual Arbaeen Medical Mission team helped 32,064 patients and trained nearly 250 medical students at IMI's Medical Camp & Teaching Field Hospital from 28 July - 4 August 2026.

and healthcare surge events. The progression from foundational to advanced mass-casualty management was designed to familiarize participants with both individual patient emergency care and the broader organizational principles necessary when casualty numbers or severity exceed available resources.

The session on common medical errors introduced a focus on patient safety and quality of care, while the programme on artificial intelligence in healthcare expanded the curriculum to encompass emerging technological developments influencing modern medical practice.

Point-of-care ultrasound training further connected educational content to the practical realities of field medicine, where portable diagnostic tools facilitate rapid clinical decision-making in settings with limited access to conventional imaging.

Discussion

The 18th Annual Arbaeen Medical Mission demonstrates that high-volume clinical care and structured medical education can be effectively delivered in parallel within a mass-gathering environment.

Over 32,000 patient encounters were managed during approximately one week. The clinical profile encompassed both routine ambulatory needs and the unique stresses associated with pilgrimage. Respiratory symptoms were prevalent, while leg, foot, back, and generalized body pain were attributed to prolonged walking and physical exertion. Emergency teams were also prepared for dehydration, extreme heat-related illnesses, trauma, metabolic emergencies, and acute cardiovascular disease.

Additionally, the occurrence of hypertension, diabetes, and asthma exacerbations underscores the necessity of chronic disease preparedness during mass gatherings. Factors such as travel, heat, physical exertion, disrupted sleep, and changes in medication or dietary routines can de-stabilise pre-existing conditions and often require emergency interventions.

Specialty services further extended the impact of short-term care. Approximately 1 in 10 eye-care patients were identified as having cataract, glaucoma, or diabetic retinopathy requiring follow-up, illustrating how temporary services can detect significant chronic diseases. Dental services also combined emergency treatment with preventive education.

The educational component constituted a second major feature of the mission. High patient volume alone does

not guarantee meaningful learning; without structured approaches, students may remain passive observers. The Teaching Field Hospital model, therefore, incorporated scheduled rotations, supervision, defined assessment domains, and formal teaching.

The involvement of 44 students from two Iraqi medical universities further enhanced local capacity-building. International clinicians contributed clinical and educational expertise, while Iraqi professionals and students provided essential knowledge of local language, culture, healthcare systems, and referral pathways. This approach fostered a bidirectional learning environment rather than a solely visiting-service model.

Formal workshops further expanded this approach. Fourteen educational topics delivered across 15 sessions resulted in 172 participant attendances spanning clinical medicine, procedural skills, emergency response, mass-casualty preparedness, and emerging technologies. The inclusion of point-of-care ultrasound and artificial intelligence demonstrated that field-based education can extend beyond basic emergency care.

The IMI Medical Camp and Teaching Field Hospital model has applicability beyond Arbaeen. Iraq, Pakistan, and other countries frequently manage large religious gatherings, public events, disasters, and sudden surges in healthcare demand. Temporary healthcare facilities can therefore be structured as both service delivery sites and supervised environments for developing clinical competence, interdisciplinary teamwork, and emergency preparedness.

Limitations: Several limitations should be acknowledged. Clinical figures represent patient encounters rather than de-duplicated individuals, although repeat visits were uncommon. Detailed diagnosis-specific frequencies, referral outcomes, and subsequent hospital outcomes were not included and may require future analysis. Educational findings are limited to programme structure and participation, with detailed student performance analysis being conducted separately. Training figures reflect cumulative session attendance rather than unique learners, as a few participants attended multiple sessions.

Conclusion

The 18th Annual Arbaeen Medical Mission integrated large-scale clinical service with structured medical education. From July 28 to August 4, 2026, the IMI Medical Camp and Teaching Field Hospital recorded 32,064 patient encounters across medical, emergency, specialty, eye, and dental services.

Concurrently, 44 medical students from two Iraqi universities completed supervised clinical rotations incorporating structured assessment, while 14 educational programmes delivered through 15 sessions generated 172 participant attendances.

This experience indicates that well-designed mass-gathering medical facilities can fulfill roles beyond immediate patient care. By integrating clinical services, local academic partnerships, structured supervision, and professional training, the IMI Medical Camp and Teaching Field Hospital model offers a potentially reproducible approach to healthcare capacity development and mass-gathering preparedness.

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