

Focus On....Managing Health Services Support to Military Operations.

Medical Lessons from OPERATION MOSHTARAK Phase 2

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Abstract

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Introduction

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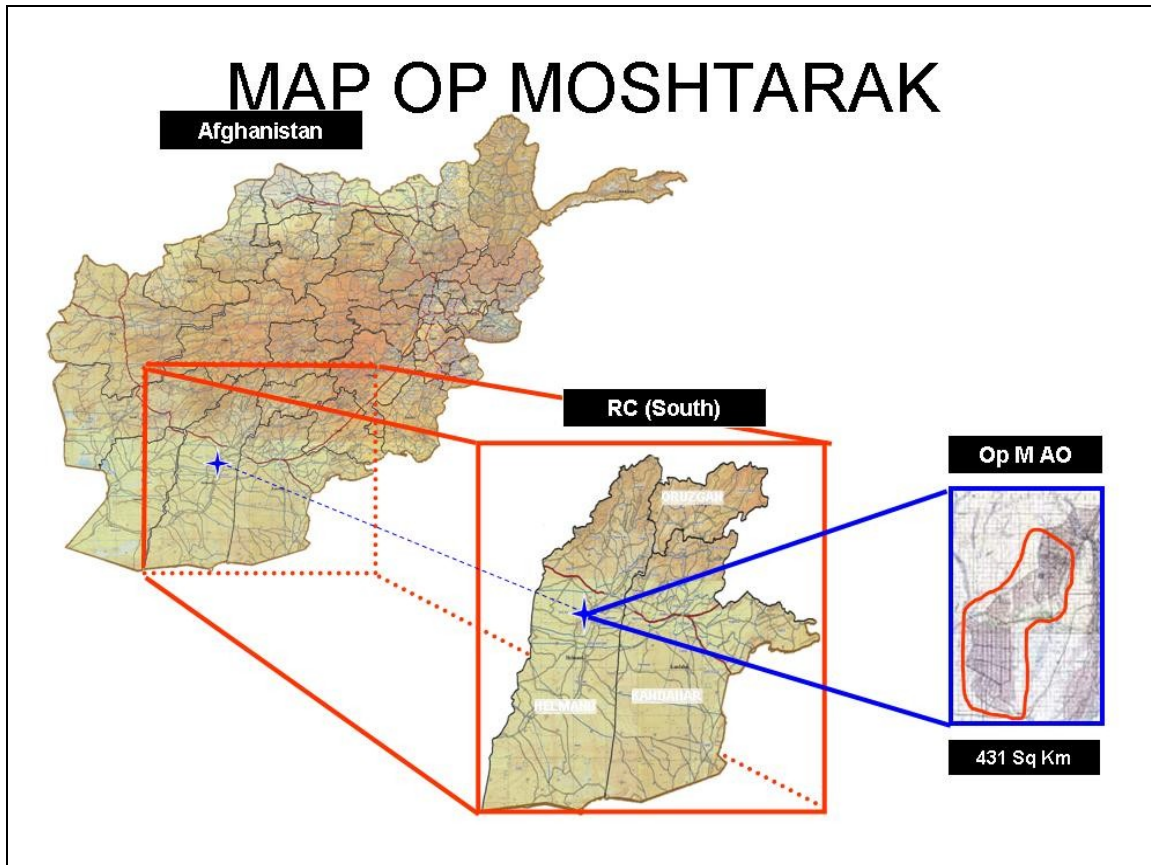
Operational Context

The dynamic of ISAF operations in Afghanistan changed when General McChrystal took command in the Summer of 2009. This led to a fundamental change in strategic philosophy and the introduction of ‘population-centric counter insurgency operations’. This included the introduction of ‘partnering’ as the core style of engagement with Afghan security forces rather than mentoring and training.

Nad Ali is a district in Helmand province in Southern Afghanistan under the responsibility of Regional Command (South). The area of operations for OP MOSHTARAK comprised the towns of Marjah and Nad Ali. By the middle of 2009, the

threat posed by insurgent forces in the area was clearly destabilizing attempts at expanding GIRoA influence from the provincial centre Lashkar Gah. This is shown in Figure 1.

Figure 1 Map of OP MOSHTARAK Area of Operations



The military operational concept was designed to secure Central HELMAND under the title Operation MOSHTARAK. The operational plan followed the SHAPE, CLEAR, HOLD, BUILD (SCHB) framework within the new doctrine for counter-insurgency operations. However it was designed from the 'Build' backwards. The operation was dependant on building strategic and political consent from all stakeholders, most

especially the Afghans. This was based upon a district development plan both designed and resourced by the Afghans, which would be supported by security operations.

The security operation was designed as an Afghan/ISAF partnership based upon the premise that security during the hold and build phase would be led by the Afghan police. The operation would not start until there was a plan to deliver sufficient security forces, ISAF, Afghan National Army, Afghan National Police, in a phased manner across the SCHB construct. This depended upon US and UK strategic allocation of resources, Afghan Ministry of Defence (MOD) and Ministry of Interior (MoI) re-assignment of security forces across Afghanistan and commitment to the plan from all tiers of Afghan government including across government ministries.

There were 3 operational units; Taskforce Leatherneck –US Marine Corps, Taskforce Helmand – UK Army and Taskforce Stryker –US Army. The tactical plan saw an escalation of interdiction operations during the SHAPE phase followed by the insertion of a large Combined force (ISAF and ANA) to a number of helicopter landing sites (HLS) on the night of 12/13 Feb 2010. These forces would then extend their tactical influence and achieve link-up with ground forces over the next few days. Opposition freedom of manoeuvre would be disrupted by the seizure of Canal 56, essentially isolating the two separate Task Force areas and preventing movement of opposition forces. The tactical plan is shown in Figure 2.

Figure 2 Tactical Plan



Medical Planning

Medical planning started on the Mission Rehearsal Exercise with a review of the previous analysis and confirmation that a surge of forces to RC(S) to conduct a deliberate theatre level operation was likely to require an increase in medical forces. The rotation of headquarters provided an opportunity to review the baseline operational staffwork concerning medical support.

The Medical Annex to the new RC(S) operation order established a number of new principles shown below:

- KAF R3 and BSN R3 are Evacuation Hospitals
- KAF R3 supports KAF, TFK, TFU, TFS
- BSN R3 supports TFH and TFL (and FARAH below 33rd parallel)
- FSTs/ TK R2E provide Damage Control Surgery but all patients (Cat A&B) require a bed in KAF R3/BSN R3
- RC(S) reserve is based on regulation of patients within RC(S)
- A Major Incident occurs when RC(S) is unable to absorb all casualties in RC(S) and requires assistance from HQ ISAF in regulation of casualties
- Provinces should be resourced to absorb all casualties from planned Tier 1 ops.
- RC(S) should be resourced to all absorb all casualties from planned Tier 2 ops.
- Deliberate plans should not be dependant on use of R2E/FST capabilities for casualty regulation (may be needed to meeting clinical timelines).
- Medical planning should include ANSF within PAR
- Medical planning should include CIVCAS in historical proportion to ISAF casualties

These explained the RC(S) approach to medical planning and reinforced the point that medical planning should shift from capability planning to capacity planning. Role 3 ICU was considered to be the critical capacity in the medical system.

The next challenge was to shape the context for medical support and to ensure both NATO and national chains of command understood the requirement to augment ISAF to support this operation. The key event was the CENTCOM Surgeon's conference in the second week of November. This provided the opportunity to share the RC(S) view of medical support to central HELMAND operations with all higher headquarters. There was agreement that RC(S) would require medical augmentation, but not how this might happen. These discussions provided the basis upon which to build the next phase of negotiation – how much was needed and who might provide it.

Casualty Estimation

It was clear that any argument for medical augmentation was going to hinge upon the Casualty Estimate. The only reliable source of comparable data was from the UK surge operation, Operation PANJAY PALANG was conducted in July 2009 and therefore this was considered to be the source of baseline ratios for casualty estimation. Whilst the previous casualty estimate had come to the conclusion that more resources were required, there was no institutional memory that could explain the methodology behind the analysis.

The new CJTF6 staff de-constructed the previous analysis and then re-built the casualty estimate spreadsheet based on the following methodology:

- What is the relationship between PAR and force elements?

- What is the relationship between Force Elements and operational activity?
- What is the relationship between operational activity and SIGACTS – S,C,H,B?
- What is the relationship between SIGACTS and casualties?
- What is the relationship between casualties and Urgency Cat A,B,C?
- What is the relationship between Urgency and medical capability?
- What is the relationship between medical capability and bed occupancy? – by type of PAR?
- What is the relationship between ISAF/ANSF/Civ MEDEVACs?
- What is the average/(range) of admissions per day
- What is the average/(range) of beds available per day - % of time in green, amber, red, black?
- Estimate J5/J35: determination of the requirement?
- Forecast J3: can the existing capacity meet demand? Daily ‘are there sufficient empty beds?’

This analysis was a collective effort between RC(S), US Task Force Medical (South), KAF Role 3, UK Joint Force Support (Afghanistan) medical staff and the UK Role 3 staff at Camp Bastion. This served both to ensure coherence of the logic and also to ensure collective ownership of the product. The results were presented in a variety of formats and against a range of operational scenarios.

Whilst the precise tactical employment of forces was still being developed by CJ35, the revised analysis confirmed the need to augment RC(S) medical resources for the operation. A formal staff paper was constructed that linked the Casualty Estimate to the additional Role 3 capacity required. It also established the need for additional MEDEVAC and TACEVAC capacity including FW and confirmed the centrality of the ANA Kandahar Regional Military Hospital to caring for ANSF and high dependency civilian casualties. It also made provision for the handover of minor ANA casualties to the ANA Garrison Clinic at Shorabak near Camp BASTION. This paper provided the first formal request for additional personnel and equipment to the UK Role 3 at Camp BASTION and started the debate between in-theatre and out-of-theatre solutions.

RC(S) conducted a review of aviation support which include a review of MEDEVAC. This showed that the volume of patient movement between medical facilities was having a disruptive effect on MEDEVAC coverage and that TACEVAC should be considered as a separate RW aeromedical evacuation taskline. Further discussions led to the development of the concept of TACEVAC 'pull', or patient retrieval, to complement the more urgent TACEVAC push from Role 2 units. A CONOP was developed that enabled the use of the UK CCAST personnel on a general support helicopter or a US ICU team on a similar helicopter who could deploy from each of the Role 3s to collect a high dependency patient and bring them back to the R3 under high level medical supervision. The Patient Evacuation Co-ordination Cell, PECC, is the mission essential component of the CJMed Branch. After a full review of the C2 structure for control and co-ordination of MEDEVAC in RC(S), it was decided that the PECC should be re-structured and

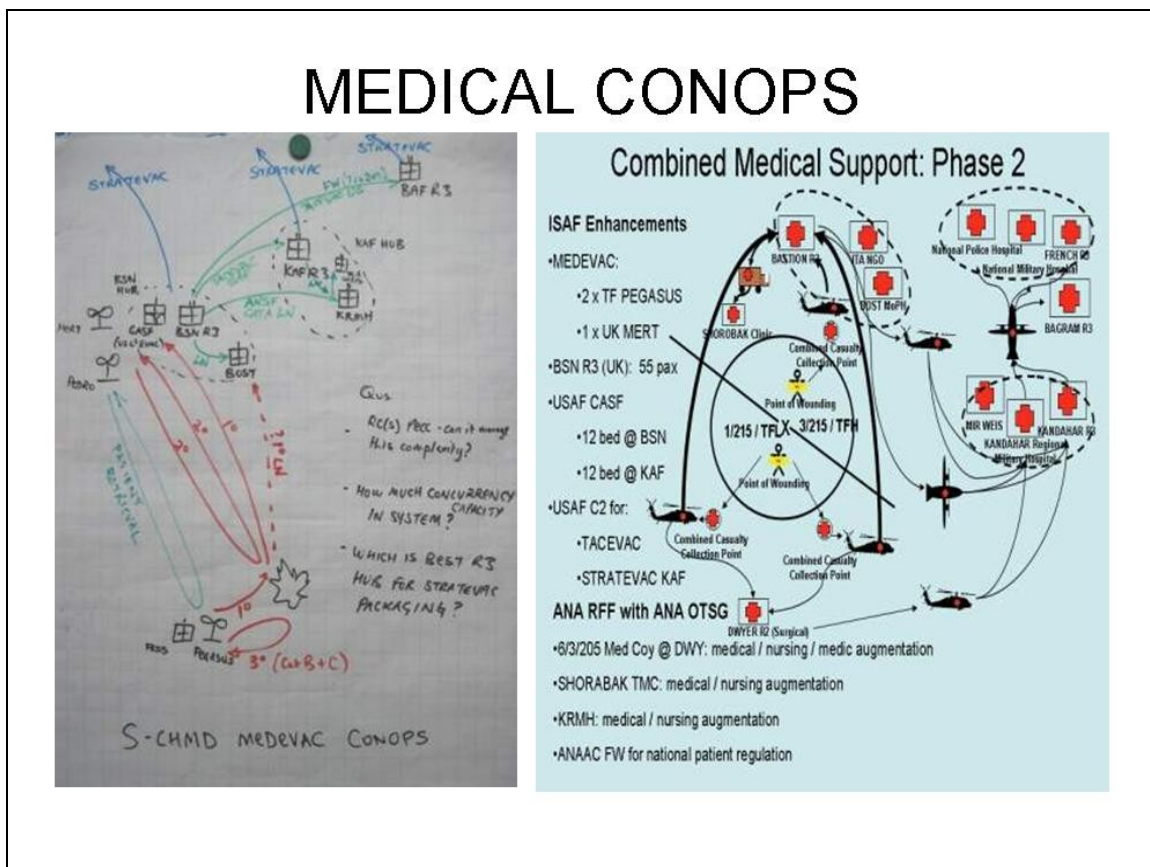
augmented to enable 24 hour working of the Med Ops and Evacuation Co-ordination desks with an additional desk officer for the peak period of 0600-2000. The PECC in the CJOC was expanded by one desk.

Concurrently there was a full internal review of the RC(S) CJMed Branch structure and processes. Overall the CJMed Branch review led to an agreed increase in establishment from 12 to 17 personnel. At the same time there was full review of the RC(S) medical Standing Operating Procedures (SOPs – external instructions) and the internal Standing Operating Instructions (SOIs). Whilst this is now a substantial document, it does fully describe the external and internal workings of the medical system in RC(S).

The next stage was to develop a holistic concept of medical support that encompassed all potential victims of conflict (ISAF, ANSF, Afghan civilians). This needed to be designed with our Afghan partners and mirrored the wider approach taken by COM RC(S) to ensure Afghan ownership of the plan. Casualties would move from point of wounding to a secure HLS under TF control to enable MEDEVAC using TF PEDRO, TF PEGASUS or TF JAGUAR IRT (MERT) balancing operational and clinical requirements under direction from the RC(S) CJOC. The primary receiving hospital would be UK R3 BSN with the FRSS/STP at DWYER as a secondary receiving MTF for Cat B+C patients. After initial treatment, ANSF patients would be transferred to the ANA clinic at Camp SHORABAK or the ANA Kandahar Regional Military Hospital. LN patients would be transferred to the ITA NGO hospital, Afghan civilian hospital in BOST or the MIR WEIS Afghan civilian regional hospital Kandahar (via KRMH) according to clinical need. A

USAF Contingency Aeromedical Staging Facility (CASF) was planned to deploy to increase aeromedical evacuation preparation capacity at both UK R3 BSN and NATO R3 at KAF to enable re-distribution of ISAF, ANSF and LN casualties within RC(S), enable direct STRATEVAC of ISAF casualties from KAF R3 and theatre-wide re-distribution of ANSF and LN through RC(C) French R3. The ‘white board’ version and the final published version of the medical concept of operations (CONOPS) is shown in Figure 3.

Figure 3 Medical CONOPS



We held two ‘tabletop’ briefings, one in the UK R3 BSN and the second in the conference room of KRMH to introduce the CONOPS for the RC(S) medical support

plan and to allow discussion by all relevant RC(S) stakeholders. It also served as a development opportunity for our Afghan partners.

The Corps Surgeon of 205 Corps and the Commander of the KRMH both shared with me the responsibility of presenting the RC(S) medical support plan at the Combined Team briefings both to subordinate commanders and also to senior ISAF and Afghan representatives. This cemented the relationship between RC(S) and Afghan senior medical staff and provided a foundation upon which the mentors and RC(S) CJMed staff supported the ANA medical staff to develop their own plan. Images from the combined team briefing are shown at Figure 4.

Figure 4 Combined Team Briefing

COMBINED TEAM BRIEFING



The RC(S) Medical Plan for Op MOSHTARAK was published as a standalone RC(S) Order on 12 Jan 10. This confirmed the provisional agreements made by all of the external contributing organisations and also directed the mechanism for the final refinement of attribution of names against the medical augmentation requirement.

The medical plan now moved from the J5 planning stage to the J35 refinement stage. A RC(S) Medical Execution Checklist was created and posted to the RC(S) CJMed Wise page. This enabled the RC(S) medical community to track progress on all of the outstanding issues affecting the OP MOSHTARAK medical support plan.

We planned two formal Rehearsal of Concept (ROC) drills, one for MEDEVAC and one for TACEVAC. Both were attended by over 30 people and provided a very effective opportunity for frank discussion surrounding the complexity of managing both types of medical support across a number of different taskforces and destination facilities. These discussions highlighted issues over reports and returns, contingency plans, management of detainees and medical rules of eligibility that were resolved and communicated as amendments to the plan through the RC(S) Daily Consolidated Order. We considered the need for a MASCAL plan and came to the conclusion that this concept doesn't apply. There are 3 escalations of response to an increase in medical demand; the first is by casualty regulation within the region, the second is by requesting out-of-region TACEVAC and the third is requesting additional medical personnel to increase capacity in the region. An image of the TACEVAC Roc drill is at Figure 5.

Figure 5 TACEVAC ROC drill.

TACEVAC ROC DRILL



We established a medical battle rhythm that was driven by the medical rounds in each of the two R3 hospitals. These were conducted 12 hourly and informed a hospital evacuation co-ordination meeting. The evacuation plan was then confirmed by UK and US national FW aeromedical evacuation planners and any gaps were passed to HQ RC(S). Monitoring of the plan was achieved by a 6 hourly bed state report which listed the evacuation plan for each hospital patient. We also introduced a daily RC(S) medical conference call run through Adobe Connect software and hosted on the NATO Mission Secret system to ensure medical command oversight of the tactical activity, medical workload and evacuation plans.

The formal staff paper provided the background for detailed negotiations between various owners of medical capability both within and without Afghanistan. RC(S) only formally commands one medical unit in RC(S), the Kandahar Role 3, and has not authority to re-distribute staff between medical units. The USMC Marine Expeditionary Brigade agreed to the employment of a US Navy surgical team in the UK Role 3 at 48 hrs notice to be re-deployed. The US theatre medical command, 30 MEDCOM, agreed to the re-assignment of a number of clinical staff in US facilities across Afghanistan and to the early deployment of elements of the 31 Combat Support Hospital that was due to arrive later. US augmentation personnel for the UK Role 3 were taken through a specific induction package prior to the increased capacity being declared at Full Operational Capability (FOC). US AFCENT agreed to the deployment of a Contingency Aeromedical Staging Facility (CASF) which would operate in a non-doctrinal manner by splitting between the UK Role 3 at BASTION and the KAF Role 3. The USAF also provided 4 Critical Care Air Transport Teams (CCATT), 6 Aeromedical Evacuation Crews and 3 Aeromedical Evacuation Liaison Teams (which included an AFCENT LNO to RC(S)). The UK provided a third Medical Emergency Response Team (for MEDEVAC), forward based the STRATEVAC Critical Care Air Support Team (CCAST) and additional national role-specific medical personnel for the UK Role 3. Task Force Pegasus increased MEDEVAC capacity by 3 tasklines for the first 24 hours and then providing an enduring additional taskline for the remainder of the operation. This included assignment of a 2 CH-47 Taskline to the patient retrieval task at 4 hours notice to move. We also conducted a rehearsal for TACEVAC assistance to the ANA to move casualties from KRMH to the National Military Hospital in Kabul . The ANA agreed to a medical uplift. This included

additional medical staff at the Garrison Medical Centre near the UK Role 3 at Bastion in order to take minor ANA patients prior to return to duty. A medical team deployed to FOB Dwyer to provide primary care support to ANA reinforcements prior to their deployment to the field. Finally additional surgical staff were provided to the Kandahar Regional Military Hospital.

The final refinement of the tactical plan included a review of medical risk and capacity requirements. It was assessed that the greatest risk during the aviation insertion was a mid-air collision. This was considered to be less than a normal training exercise because of the current experience of the pilots and the level of medical cover was much greater than would be provided for training. Although there was a risk of insurgents hitting a helicopter with ground to air weapons, again, the preparatory assessment of HLS sites was greater than usually conducted for aviation operations elsewhere in the ISAF mission. The C2 arrangements for MEDEVAC were adjusted for this phase so that each Air Mission Commander had launch authority from the RC(S) for one MEDEVAC taskline in order to reduce notification times and quicken MEDEVAC response. We also considered the difference between the Casualty Estimate as a forecast of activity compared to the need for the medical staff to rehearse the response to a 'worst-case' scenario. Our assessment was that we had appropriately designed the medical support plan for the scenario of a two brigade divisional air assault operation against a battalion in a defensive position protected by a protected minefield surrounded by an in-place civilian population.

We introduced a refinement to the medical rules of eligibility to restrict entry of Afghan civilians into the ISAF medical system. By default, ISAF will provide MEDEVAC and hospital care, if there is no suitable Afghan hospital, to Afghan civilians with Life, Limb or Eyesight (LLE) threatening medical emergencies. MRE AMBER was introduced to restrict care of Afghans only to those with LLE emergencies resulting from conflict.

On the augmented medical system, RC(S) hosted a series of assurance visits and briefings. The RC(S) Combined Team briefed the medical plan to both the ISAF Medical Director and the ANA Surgeon General in Kabul in late Jan 10. This was followed by a visit to the Helmand medical facilities by the ISAF Medical Director and IJC Deputy Medical Director, and a visit to the Kandahar combined team medical facilities by the RC(S) Director of Support.

The health thematic staff in HELMAND PRT held a series of meetings with the HELMAND Director of Public Health and NGO representatives to de-conflict civilian and military healthcare activities in support of the military population. It was clear that the DoPH did not want any direct support from ISAF, though was grateful for our assistance with MEDEVAC for the most seriously injured. The ICRC was planning to keep its own clinics open during the operation and the implementing NGO would re-open clinics in NAD ALI and MARJAH as soon as the security situation allowed. He certainly did not want MEDCAPs or other non-urgency direct patient care activities undertaken by ISAF medical staff. This resulted in a framework for ISAF medical engagement in support of the civilian sector during each stage of Shape, Clear, Hold and Build.

Executing The Plan

COM RC(S)'s decision brief took place on 10 Feb 10 and the medical plan was confirmed at full operating capability (FOC). The aviation insertion took place on the night of 12/13 Feb 10. This achieved the aim of dislocating the coherence of the opposition response. Over the next few days, ground forces gradually expanded the area under Combined Team control and established link-up with follow-on forces moved by ground. Progress was deliberate and measured due to the density of IEDs and pockets of determined resistance sited in well constructed defensive positions.

One of the most significant events was a civilian casualty incident on 14 February causing 12 civilian deaths and a number of injured. This resulted in very high level scrutiny of the operation. It emphasized the value of ensuring Afghan commitment to the operation during the planning phase as all partners in the Combined Team provided an integrated STRATCOM message in response.

The transition from Clear to Hold occurred during the first week of March 2010. Major presentational events were set up in order to influence the battle of perceptions.

COMISAF and the Helmand Provincial Governor, Governor Mangal visited on 25 Feb and President Karzai visited on 7 March. At the time of writing this paper (March 2010), progress in stability remained fragile with contested freedom of movement over the main

routes in the Marjah area and few civilian representatives of the Afghan government actually managing the delivery of basic services to the population.

Medical Events

Overall the medical plan worked well with no medical facility overwhelmed by casualties. As expected, the UK Role 3 BSN functioned as a clearing hospital and evacuation hospital. The CASF uplift was certainly the ‘game changer’ facilitating access to USAF aeromedical evacuation capacity. The UK and US worked well to share the TACEVAC workload from BSN to KAF substantially decreasing the demand for helicopters to undertake this task. Both nations conducted STRATEVAC direct from BSN. The CASF facilitated the move of US detainees from BSN to Bagram thus keeping US detainees within the national chain but still enabling clearance of BSN beds. The CASF also accepted minor patients for holding prior to return to unit. The previous co-ordination with the Helmand PRT eased access to the civilian sector enabling direct MEDEVAC of Afghan civilians to the Italian Emergency Hospital in Lashkar Gah during daylight hours. Afghan civilians, previously treated by ISAF, were transferred into the Ministry of Public Health Hospital, Bost Hospital in Lashkar Gah. There were two interesting medical ‘quirks’. One was the potential clash with the Global Polio Eradication Programme ‘Days of Tranquility’ in Helmand province which was alleviated by discussion with WHO and Afghan MoPH representatives in Kandahar and Kabul. The second was the management of two ICRC requests for safe passage for ‘war wounded’

from Marjah to hospitals in Lashkar Gah that was facilitated through co-ordination between CJ35 staff and the two ISAF taskforces.

The operation highlighted the surface to air threat from small arms and RPGs to MEDEVAC aircraft. It was known that this would be a risk but there were a significant number of hits. This emphasized the need for collaboration between the medical staff and operations staff in the CJOC to balance the risk to MEDEVAC aircraft with the clinical urgency of the patient.

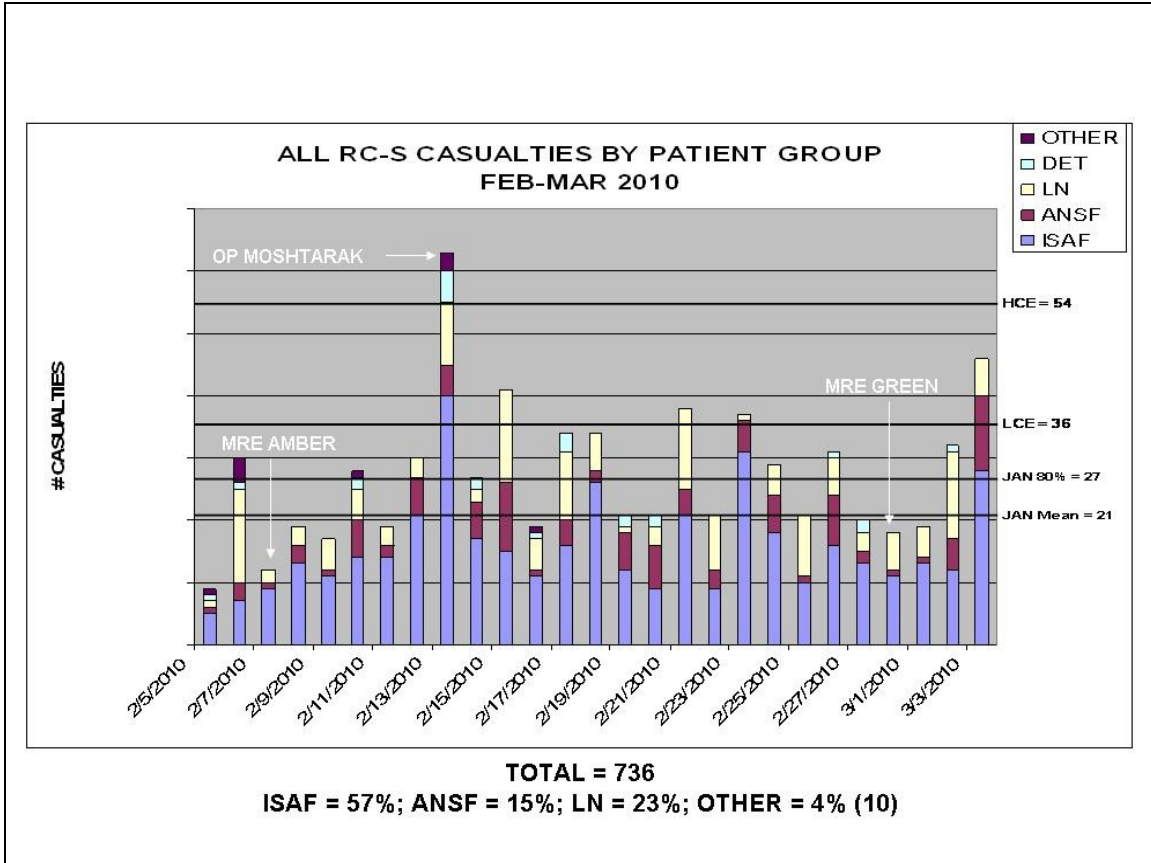
Medical Activity

We made a positive effort to prospectively capture data on medical activity during this operation as we realized the limitation of the data supporting the casualty estimation process during the planning of this operation.

The distribution of casualties over time during this operation is shown in Figure 6. A total of 736 casualties were MEDEVAC'd from the Op MOSHTARAK area of operations.

The proportion by patient population matched previous data. There was a peak on day 1. The higher casualty estimate was exceeded on Day 1 and the lower casualty estimate was exceeded on 4 of the 19 days after D Day. The casualty estimate was based on 5 days for the Clear – it actually went on for much longer.

Figure 6 All RC-S Casualties by Patient Group



The proportion of Cat A, B and C of live casualties (43%, 29% and 27%) of all population groups was very similar to the predicted (44%, 32% and 24%). No prediction of KIA/DOW was made during the casualty estimate. Op MOSHTARAK was not the only source of casualties during the period of the Clear phase of the operation and indeed, the majority of casualties MEDEVAC'd in RC(S) came from outside the Op MOSHTARAK AO.

The UK Role 3 also prospectively collected hospital activity data. The USAF HH60 personnel recovery helicopters delivered the majority of MEDEVAC casualties to UK R3

BSN with the US Army 'Dust-off' MEDEVAC aircraft doing the second largest number. Whilst the majority of injuries are caused by IEDs during normal framework operations, gunshot wounds predominated for the first two days of Op MOSHTARAK. It was decided to capture surgical time (hours of surgical activity) rather than duration of surgery per patient because of the increasing need to have more than one surgical team operating per patient on severely injured cases. Finally the proportion of admissions by category mirrors the same proportion of MEDEVAC casualties.

Conclusions

The planning of the medical support for this operation followed the doctrinal medical planning process. The key issue was the requirement for augmentation of medical treatment and evacuation capacity in Helmand. The process followed the policy, plan, refine, execute, assess framework.

In summary, there are no unique lessons learned; just confirmation of well established principles applied to the specific circumstances of Op MOSHTARAK. The casualty estimate was an essential precondition to proving the case for additional medical resources. The requirement then needed to be 'socialised' and supported with formal operational staffwork. It was essential to engage with the Afghan Army medical services and civilian health to integrate them into the plan to care for the whole population at risk. The MEDEVAC and TACEVAC ROC drills were a vital contribution to mutual

understanding across all medical stakeholders and to refine aspects of the plan. The medical augmentation plan delivered the additional capacity required. The specific practical co-ordination measures of an execution checklist and a daily conference call ensured that all key members of the RC(S) medical team shared situational awareness. This also identified specific areas that required additional CONPLANS. Finally, by prospectively capturing data, we are able to use this operation to further refine the underlying evidence for our casualty estimation ratios.

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