Advancing the Art and Science of Medical Plans

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Medical Battle Preparation Map

At SOCPAC, MAJ Tim Christison, Chief of Medical Plans and myself, have experimented with new techniques for both plans and operational battle management using old concepts and new technologies that have proven to be very valuable. Both techniques employ visual information which most neuroscientists and cognitive researchers agree are the most powerful means to organize and make sense of information (a picture is worth a thousand words).

The first planning tool, mind-mapping, involves the use of an old technique which dates back to Porphyry of Tyre, an ancient Greek philosopher who famously wrote Introduction to Categories – introducing the world to the subject of logic and classification of objects into groups.[1] Early visual mapping techniques have also been seen in notes by Leonardo DaVinci.[2] He used words and pictures in combination to illustrate ideas and inventions on single pages.[3] In the 1970s British author Tony Buzan developed the modern version of mind-mapping[4] that is growing rapidly among the Fortune 1000 thanks largely to advances in software.[5] Mind-mapping can also be found in several books on speed-reading and advanced comprehension.

The use of mind-mapping techniques has several intellectual and practical advantages of which we will cover a few. First, visualizing information has shown to be a powerful way to organize, spur creative thinking, and allow one to view complex problems as a whole. The later benefit is especially important in plans development – particularly when collaborating with others to prevent planning in a vacuum. We use mind-mapping techniques regularly in our office for brainstorming, meeting notes, and as an organizational "dashboard;" however, we'll limit this discussion to two applications – Annex Q development and battle management.

Recently, we did a significant re-write of Annex Q for OEF-P using MindManager 8 (MM8),[6] a commercial-off-the-shelf (COTS) mind-mapping program. When viewed on a computer, the application allows the entire operations order (OPORD) to be viewed in a single frame and allows rapid access to all parts therein. The technology also allows the efficient use of hyperlinks, embedded documents, references, AAR notes, and contact notes unlike any other program available. It is at once an OPORD, a SOP, an AAR collector, a continuity guide, and it can be transformed into an execution management tool. (Reference OEF-P Map above) The software also allows the map to be rapidly exported into MS Word, Powerpoint, Project, and other formats for different uses. The Word export feature, for example, allows use of a JOPES-formatted template. Thus, an "old-fashioned" OPORD can be rapidly published if necessary.
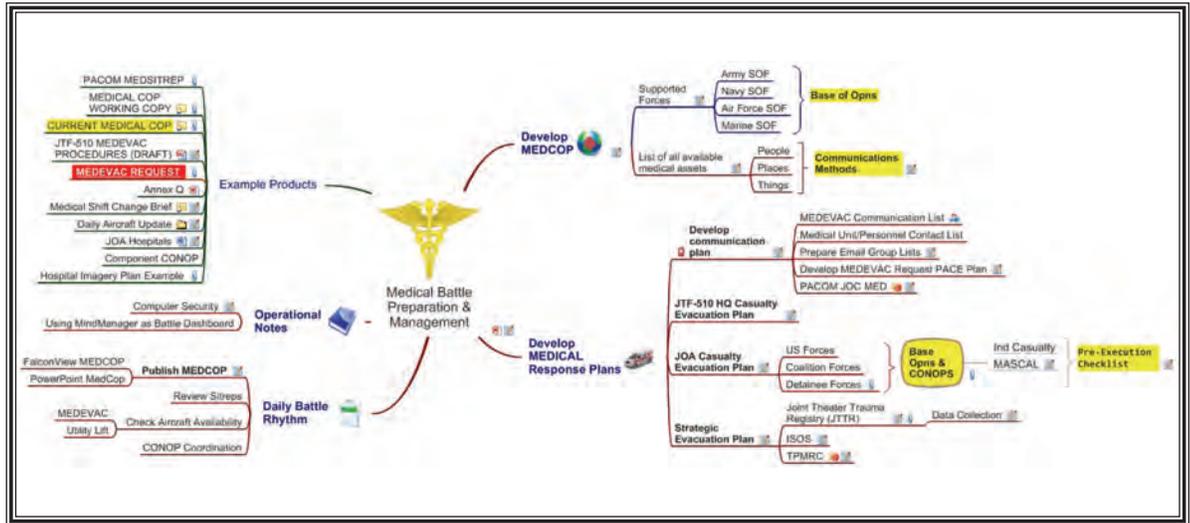
The second application of this software was first used during a computer-based exercise and recently refined again during a forward-deployed exercise. We created a "battle management dashboard" whereby all applicable and related information was harnessed in a single space (See Medical Management Map on next page). There are some unique and practical capabilities with MindManager that make it useful. For example, we used MM8 maps to develop our operations SOP and a host of other reference material. These maps were then saved as sub-maps and stored in MM8s map library as "map parts." When we launched into the exercise we were able to quickly assemble a custom management tool by attaching "parts" from the library. In addition to hyperlinking to portal locations, websites, and other software, we attached emails, reports, and other pertinent documents as needed. The software also allows one to embed or attach bookmarks, comments (think MS Outlook notes), and notes (think MS Word) to each topic. This combination of tools makes for a very efficient, yet thorough, shift
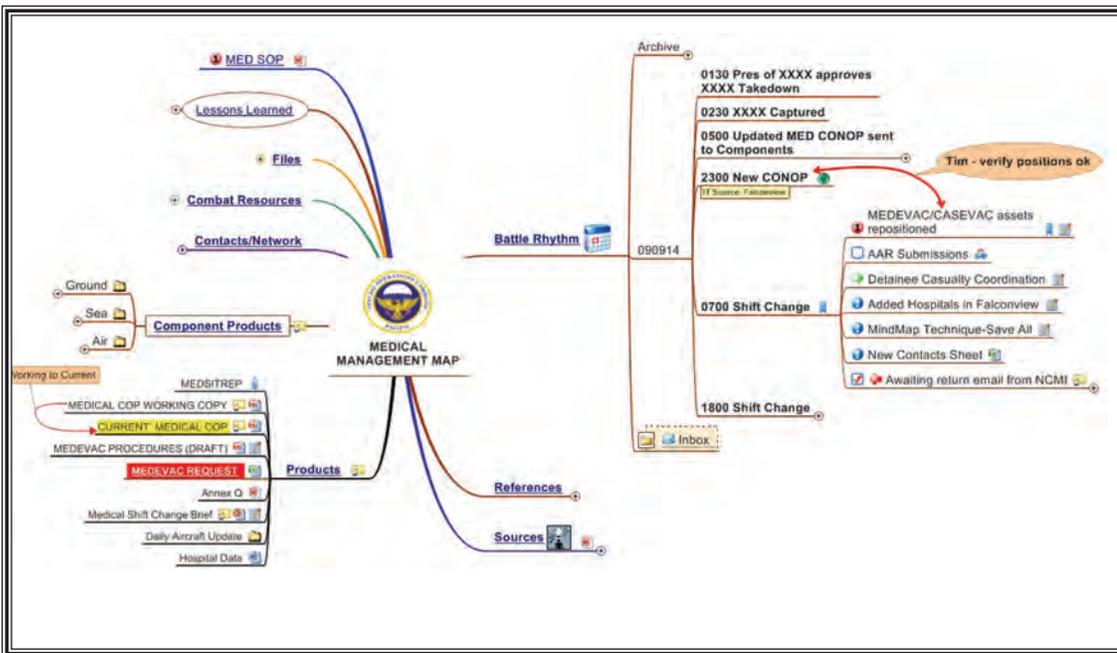
Medical Battle Mangement Map Example

turnover even when the previous person on duty is not present. It's a capability that needs to be seen to fully appreciate its simplicity and effectiveness.

The second planning tool is using FalconView (FV) software for rapid development and dissemination of medical planning information. This package is one of the many applications within the Portable Flight Planning System (PFPS), but has, at least at SOCPAC, been underutilized for CONOP development. Although the Joint Medical Assessment Tool (JMAT) is being pushed and promoted to all medical planners across the DoD, we find FV more useful for SOF medical planning.

The program is incredibly feature-rich. Like the mind-mapping software it would take many pages to explain its full range of capabilities. (Air planners and some within Intelligence are our most skilled users.) For any geographic planning, FalconView replaces the old map and acetate overlays plus much more. For the past many years, planners have widely used PowerPoint to depict maps and overlay-type information, but this is time-consuming, can create large file sizes, and is an inefficient, poor reference for detailed planning. During the most recent exercise, we used FV to develop the joint operations area (JOA) medical capabilities map using a series of separate overlays depicting hospital locations, airfields, HLZs, units locations, MEDEVAC/CASEVAC flight paths/times/distances, and even ground routes across a vast area. (See FalconView MEDCOP Example) We also used a feature called "Skyview" to select a map site and conduct a ground-level virtual 360-deg look at the terrain – very helpful for selecting potentl HLZs. Additionally, we embedded crucial information into each map icon and hyperlinked to more thorough data and imagery. These overlays, pushed down as "mission packages," were highly appreciated by our subordinate component planners. This process allowed them to develop detailed plans rapidly and more easily, and in a format compatible with their own operations planners. Our SOCJF-COM observer/trainer considered the visual continuity between all medical players and the operations planners a key, mission-critical planning tool.[7]

The use of MindManager and FalconView greatly enhanced our battle management, situational awareness, and dissemination of medical plans. The use of mind-mapping techniques originated in our office and has since evolved into a pilot program at SOC-PAC to include Joint Special Operations Task Force-Philippines. Additionally, the technology is avail-
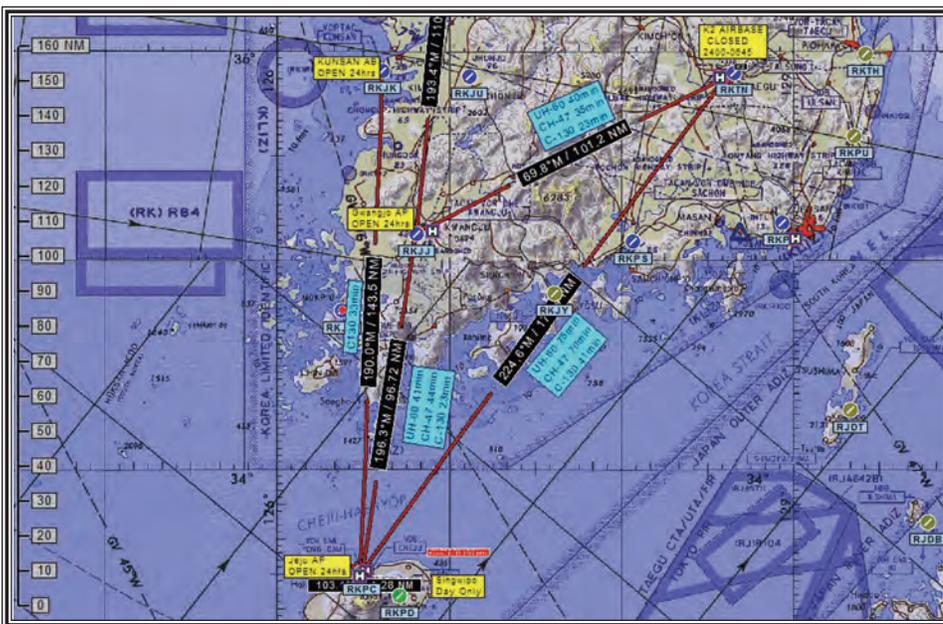
FalconView MEDCOP Example

able now for real-time, simultaneous development of plans and orders in the form of mind-maps along with imbedded chat and video.[8] Harnessing this power within USSOCOM could dramatically improve the way we develop and execute plans and share information. It's my opinion that it is simpler, easier, and more effective than Sharepoint and other collaboration platforms. An additional key advantage is, since this is a COTS program, user proficiency can be very high. Several staff members at SOCPAC now use MindManager or other mind-mapping software at home.

FalconView has proven to be a giant leap from geographic planning and information-sharing using PowerPoint. Although there is still some utility in the later, FV-based plans are far more efficient, precise, and useful since they are cross-compatible with other planners. Additionally, sharing FV-based information requires very little bandwidth since only overlays can be transmitted and they are small files. Future plans for the software are even better; According to our resident SOF IT software expert, FalconView is expected to be renamed "X-Plan" with even more capability, cross-database compatibility, and Google-Earth-like features.

Medical planners need to embrace the forefront of technology to advance our craft. Joint Pub 3-13 states "The Joint campaign should fully exploit the informational differential, that is … (the) ability to effectively employ information on the strategy, operational and tactical situation which advanced U.S. technologies provide our forces." Furthermore, our "Annex Qs" (or more abbreviated CONOPs)

should assist in visualizing and describing an operation, assist subordinates in comprehending the plan, and provide quick reference to information and instructions during execution. During the deployed exercise, our observer/trainer noted the benefits of using MM8 & FV: "The integration of these two programs (Mind Mapping & Falcon View) provided "real time planning", the end result established a fluid environment that decreased the time required to validate plans." These programs help advance the practice of our craft and are worthy of further discussion, experimentation, and training for USSOCOM medical planners.

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