



# Department of Defense Healthcare Management System Modernization (DHMSM) Program

## *Attachment 20: Global, Operational, and Dental Use Cases with Usability Scenarios*

DHMSM Program Management Office  
DoD Healthcare Management Systems (DHMS) Program Executive Office

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# 1 Overview

This document describes three groups of use case scenarios (Global, Operational, and Dental Services) and four usability scenarios. The Request for Proposals (RFP) Sections L (Instructions, Conditions, and Notices to Offerors or Respondents) and M (Evaluation Factors for Award) Sub-factor 3.1 (DoD Operational Healthcare Environment) references the three groups of use case scenarios. Sub-factor 3.2 (Product Usability) references the four usability scenarios. All use case and usability scenarios conceptually fall within the continuum of care which spans from accession to separation from the military. The four Operational Medicine scenarios occur within this continuum between the two Global use case scenarios. Usability scenarios 1-3 are embedded within the “Operational Medicine: First Responder” scenario and usability scenario 4 is embedded within the “Global: Warrior Moves Through Accession and Recruit In-Processing” scenario (see Figure 1-1).

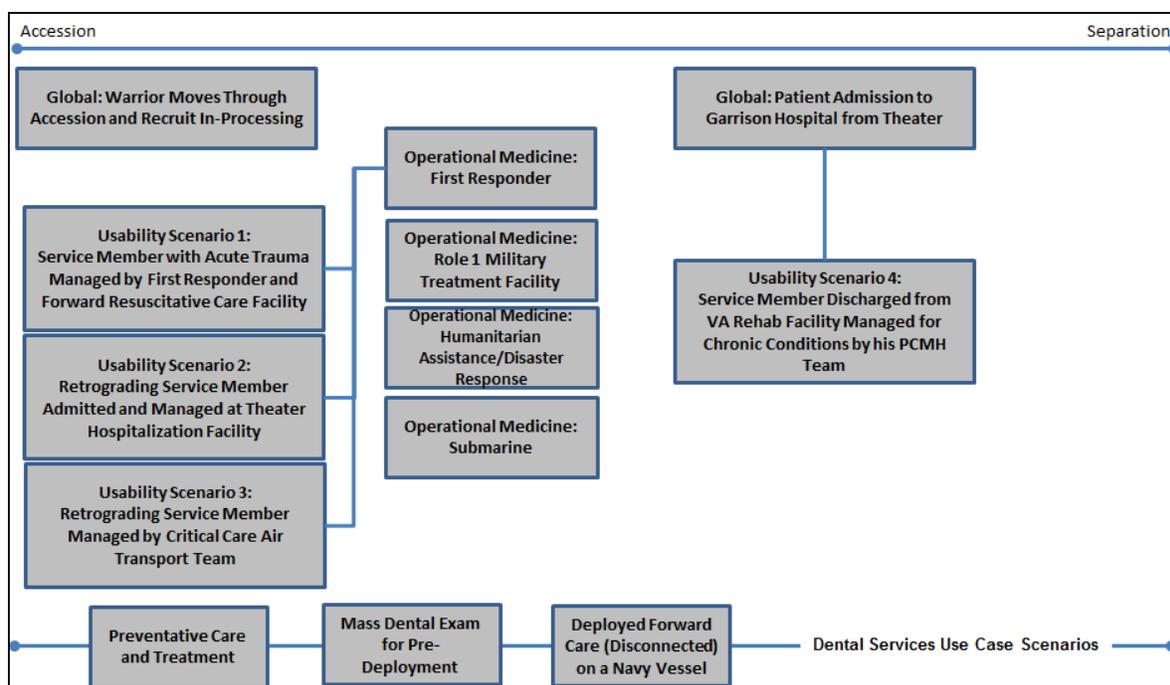


Figure 1-1 Use Case – Usability Scenario Alignment

The use case scenarios are formatted as structured Use Case Descriptions (UCDs) and related Cross Functional Diagrams (CFD). The CFDs follow standard Business Process Modeling Notation (BPMn) and are depicted as Department of Defense Architecture Framework (DoDAF) Operational Viewpoint-6c (OV-6c) Event Trace Descriptions. The UCD is structured to address the description, actors, key stakeholders, background information, assumptions, steps (in the business process), data/information exchange, associated processes, and related CFDs (OV-6cs). The “Associated Processes” section describes any related business processes and refers specifically to embedded usability scenarios where applicable. The “Related OV-6cs” section describes which CFDs accompany the UCD. For all except two of the Dental Services scenarios there is a single CFD for each UCD. The CFDs are structured to express the As-Is cross-functional workflow (actors and steps in the process) and at a high level the data managed at related activities.

The UCD and the CFD together comprise the full context of each use case scenario, tied together by the steps in the UCD and the activities in the CFD. Each activity in the CFD refers to the related step or steps in the associated UCD. For use case scenarios with embedded usability scenarios each related activity in the UCD is clearly notated as being associated with a specific usability scenario.

The use case scenarios are not intended to specifically depict or represent the functional requirement; rather they are intended to highlight the nuances of the Military Health System (MHS) mission with attention to the transitions of care for the purpose of source selection evaluation.

The usability scenarios decompose a specific step or series of steps within the associated use cases into roles and tasks for the purpose of assessing the human-computer interface of the EHR.

## 2 Global Use Case Scenarios

The two global use case scenarios provide a sample of the MHS mission focusing on 1) the medical processing of an applicant for service in the Armed Forces from initial contact with the Field Recruiter through the gaining Unit’s medical in-processing, and 2) the arrival of a patient from theater to a garrison hospital through discharge.

### 2.1 Global: Warrior Moves Through Accession and Recruit In-Processing

See Appendix 1: Business Process Models (DoDAF OV-6c) for Global: Warrior Moves Through Accession and Recruit In-Processing Business Process Model

Table 2-1 Global: Warrior Moves Through Accession and Recruit In-Processing Use Case Description

<b>UCD TYPE: AS-IS</b> <b>PROJECT: DEFENSE HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION (DHMSM)</b> <b>PROCESS: GLOBAL – WARRIOR MOVES THROUGH ACCESSION AND RECRUIT IN-PROCESSING</b>	
<b>Description</b>	Definition: The main business goal / objective for the use case.
	This use case describes an elaborate high level user interaction through the typical user’s point of view, documenting the medical processing of an applicant for service in the Armed Forces from (1) initial contact with a Field Recruiter (2) through a military entrance processing facility and (3) through the gaining unit’s medical in-processing (typically a recruit training center) in order to establish a reliable and accurate “birth to present” accession medical record.
<b>Actors</b>	Definition: Active participants in the use case.
	<ul style="list-style-type: none"> <li>Applicant Bailey: A non-prior Service Member applying for acceptance and formal affiliation to the DoD</li> <li>Field-based Recruiter: Helps facilitate an applicant’s in-processing and ensure a smooth integration into their respective company/station.</li> <li>Military Entrance Processing Station (MEPS)-based Recruiter: Facilitates MEPS processing and review</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Recruit Bailey:</b> Active Duty Service Member (ADSM) who is serving in the Armed Forces during the Accession &amp; Recruit In-Processing and Basic Training</li> <li>• <b>Private Bailey:</b> ADSM who has completed the Accession &amp; Recruit In-Processing and Basic Training</li> <li>• <b>MEPS Medical Staff (a.k.a. Healthcare Provider):</b> Authorized personnel who provide preventive, curative, or rehabilitative health care services, includes but not limited to: Physicians, Nurses, Physician Assistants (PA), Corpsmen, Medics, and Technicians</li> <li>• <b>Service Medical Waiver Review Authority (SMWRA):</b> Approves or rejects medical waivers</li> </ul>
<p><b>Stakeholders</b></p>	<p>Definition: Individuals affected by the use case but are not active participants (e.g., Commanders).</p> <ul style="list-style-type: none"> <li>• Recruiting Commanders</li> <li>• MEPS Chief Medical Officer (CMO)</li> <li>• United States Military Entrance Processing Command (USMEPCOM) Commander</li> <li>• Training Commanders</li> <li>• MHS Healthcare Providers</li> <li>• Military Medical Evaluation Board Providers</li> <li>• Military Service Veterans</li> <li>• Veterans Benefits Administration (VBA) Under Secretary for Benefits</li> <li>• Other Non-DoD Federal Agency Entrance Administrators (e.g., National Oceanic &amp; Atmospheric Administration)</li> </ul>
<p><b>Background</b></p>	<p>Definition: The context of the use case.</p> <p>Applicant Bailey is volunteering for military service. Before he is permitted to take the Oath of Enlistment, he has to undergo evaluations to deem that he is fit for service. At the recruiter’s office, Applicant Bailey and the recruiter complete the medical prescreen history and collect copies of actual medical treatment records. Once completed, the recruiter provides the medical history information to the designated Military Entrance Processing Station (MEPS) for physician review to authorize further medical processing.</p>
<p><b>Assumptions</b></p>	<p>Definition: The conditions necessary for the goal of the use case to be achieved.</p> <ol style="list-style-type: none"> <li>1. Current data collection and documentation processes are mostly paper-based using standardized forms, photographs, notes, &amp; laboratory results.</li> <li>2. The medical prescreen is intended to be a complete “birth to present” health record, with additional attention to DoD-specific conditions of concern. This includes, but is not limited to, conditions that preclude accession, or are career-field limiting, or contribute to first-term attrition.</li> <li>3. Medical conditions identified may or may not disqualify an applicant for military service depending on Service-specific criteria. A waiver process is used to make determinations of suitability for military service.</li> <li>4. Applicant Bailey’s medical history is documented in a civilian provider’s record(s). This includes paper-based records and Electronic Health Records (EHR).             <ol style="list-style-type: none"> <li>a. Past medical history data and documentation is gathered and evaluated from a variety of sources such as:                 <ul style="list-style-type: none"> <li>▪ Military (e.g., AHLTA/Clinical Data Repository (CDR))</li> <li>▪ Non-Military (e.g., Veteran Health Information System and Technology Architecture (VistA)/Health Data Repository (HDR), Medicaid, TRICARE, Social Security</li> </ul> </li> </ol> </li> </ol>

	<p>Administration, Department of Labor, US Citizenship and Immigration Services (USCIS))</p> <ul style="list-style-type: none"> <li>▪ Private Sector (e.g., healthcare providers / institutions, medical insurance issuers, pharmacies / pharmacy benefit managers)</li> <li>▪ Private-Public (e.g., health information networks (e.g., Regional Health Information Organizations (RHIOs)/Regional Health Information Exchanges (RHIEs)), medical data clearinghouses, &amp; record locator services)</li> <li>▪ Health Information Exchange (HIE) Systems: Support directed inquiries to specific external medical information when the healthcare event is disclosed. HIE systems may also support broadcast queries to a broader catchment area to help identify previously undisclosed healthcare encounters</li> </ul> <ol style="list-style-type: none"> <li>5. All external-source medical records must be matched to Applicant Bailey's accession medical record. ID-arbitration processes append, associate, or link external medical information to Applicant Bailey's medical record for review and consideration in his accession medical profile.</li> <li>6. The Field-based Recruiter is the collection point for the supporting medical data. He collects Applicant Bailey's medical information and private sector medical record(s). The record gathering process may need to be augmented by clinical staff. Current EHR accessibility for the MEPS personnel is as follows:             <ol style="list-style-type: none"> <li>a. MEPS Physicians and MEPS Medics / Medical Technicians, HQ USMEPCOM / J-7 Physicians and Medical Analysts, and Service Medical Waiver Review Authorities have full access to DoD EHR</li> <li>b. Applicant and Civilian medical professionals have limited access to DoD EHR</li> </ol> </li> <li>7. Applicant Bailey's medical data will be partitioned separately from the DoD EHR active / archived patient records (e.g., records of current Service Members, Military Family Members who are TRICARE beneficiaries, other eligible DoD employee-patients, and combatant-patients); accession medical records will have different user access controls.</li> <li>8. Most applicants will not be in Defense Enrollment Eligibility Reporting System (DEERS) and will not have a Common Access Card (CAC). Some applicants will be in DEERS but not have a CAC. A small number of applicants will be in DEERS and have a CAC.</li> <li>9. MEPS will also medically process non-DoD Federal examinees</li> <li>10. Operational prerequisites must be met in order to schedule an accession exam (e.g., verified personal data, parental / guardian consent (for minors), and request for medical examination).</li> <li>11. The Privacy Act Statement acknowledgment, blanket release of information consent, drug and HIV testing acknowledgments, are achieved and of record prior to any accession medical processing</li> <li>12. The Commander of the USMEPCOM is the authoritative source for accession medical records and information (IAW DoDI 1336.08). The DoD/USMEPCOM will manage a personnel procurement database system currently called USMIRS (United States MEPCOM Integrated Resource System).</li> <li>13. USMIRS will request/receive data from the DoD EHR, which is the DoD resource/repository for the accession medical data.</li> </ol>
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	<ol style="list-style-type: none"> <li>14. Secure messaging will be used for communication amongst the MEPS and Applicant Bailey, Field Recruiter, MEPS-based Recruiter, J-7/HQ Staff, and Service Medical Waiver Review Authorities.</li> <li>15. The DoD EHR will have a section for clinical notes and communication that is not part of the official EHR and is not subject to Privacy Act release requests.</li> <li>16. Biometric signatures must meet established DoD standards</li> <li>17. Use of biometrics to facilitate positive identity verification is fully operational.</li> <li>18. MEPS Medical Staff will need to request HQ / J-7 authorization before ordering certain consults / tests / studies.</li> </ol>
<p><b>Steps</b></p>	<p>Definition: The sequence of interactions between actors and the system necessary to successfully meet the goal of the use case.</p> <p><b>Applicant Meets with Field-based Recruiter</b></p> <ol style="list-style-type: none"> <li>1. Applicant Bailey provides Field-based Recruiter with complete medical history, current medication list, current height and weight, along with copies of applicable medical evaluation and treatment records.</li> <li>2. Applicant Bailey attests in writing to the accuracy and completeness of the record and authorizes any healthcare providers / institutions and medical insurance issuers to furnish a complete transcript of the Applicant’s medical record.</li> <li>3. Field-based Recruiter contacts the MEPS Medical Staff with any questions or concerns.</li> <li>4. Field-based Recruiter submits the medical prescreen information and copies of actual treatment and evaluation records to the MEPS-based Recruiter who reviews and submits the record to the MEPS for the MEPS Medical Staff to review.</li> </ol> <p><b>MEPS Medical Staff Reviews the Applicant Medical Prescreen Record</b></p> <ol style="list-style-type: none"> <li>5. MEPS Medical Staff reviews the medical prescreen history information and determines (1) whether additional information is needed, (2) whether higher level review is needed, and (3) whether further medical processing is or is not authorized.</li> <li>6. MEPS Medical Staff notifies the MEPS-based Recruiter that Applicant Bailey needs to send additional information for the medical prescreen.</li> <li>7. The Field-based Recruiter notifies Applicant Bailey.</li> <li>8. Applicant Bailey and the Field-based Recruiter attempt to track down the requested information.</li> </ol> <p><b>Field-based Recruiter Sends Additional Medical History Information</b></p> <ol style="list-style-type: none"> <li>9. Field-based Recruiter submits the additional information to the MEPS-based Recruiter who reviews and submits to the MEPS Medical Staff.</li> <li>10. MEPS Medical Staff logs the additional medical evaluation and treatment records and prepares the file for the MEPS CMO review.</li> </ol> <p><b>MEPS Medical Staff or Recruiter Request for SMWRA-Physician Review on Medical Prescreen – Courtesy Prescreen Review (CPR)</b></p> <ol style="list-style-type: none"> <li>11. During the medical prescreen review, the MEPS Medical Staff identifies that Applicant Bailey has condition(s) that fail to meet accession standards (often referred to as “disqualifying conditions”).</li> <li>12. MEPS Medical Staff believes the Service Medical Waiver Review Authority (SMWRA) will approve Applicant Bailey’s medical waiver and authorizes the process to continue.</li> <li>13. MEPS Medical Staff sends an email to the SMWRA requesting a Courtesy</li> </ol>

	<p>Prescreen Review (CPR).</p> <p><b>MEPS Accession History and Physical (H&amp;P)</b></p> <p>14. MEPS-based Recruiter places a request for a physical examination.</p> <p>15. Upon presentation for physical, the MEPS Medical Staff reviews Applicant Bailey's accession medical record the day before the projected/scheduled examination.</p> <p>16. Admin checks Applicant Bailey in and positively identifies him using biometrics (e.g., fingerprint, facial recognition).</p> <p>17. The MEPS Medical Staff performs the following actions:</p> <ul style="list-style-type: none"> <li>a. Conducts Medical briefing.</li> <li>b. Interviews Applicant Bailey and documents review of his medical history and behavioral health screening.</li> <li>c. Collects Vital Signs including: <ul style="list-style-type: none"> <li>▪ Heart rate, respiratory rate, blood pressure measurements are obtained</li> <li>▪ Height and weight measurements are obtained</li> <li>▪ Body Mass Index (BMI) is calculated</li> <li>▪ Body part measurements are captured for Service-specific body fat determinations</li> </ul> </li> </ul> <p>18. The MEPS Medical Staff performs a Physical Exam, including a Review of Systems:</p> <ul style="list-style-type: none"> <li>a. Eyes.</li> <li>b. Ears, Nose, Mouth and Throat.</li> <li>c. Cardiovascular.</li> <li>d. Respiratory.</li> <li>e. Gastrointestinal.</li> <li>f. Genitourinary.</li> <li>g. Musculoskeletal.</li> <li>h. Integumentary / breast. <ul style="list-style-type: none"> <li>▪ Body art, tattoos, piercings, gauging, brandings are identified and documented</li> </ul> </li> <li>i. Psychiatric / Behavioral Health.</li> <li>j. Endocrine.</li> <li>k. Hematological / Lymphatic.</li> <li>l. Allergic / immunological.</li> </ul> <p>19. MEPS Medical Staff performs the following laboratory tests, as ordered:</p> <ul style="list-style-type: none"> <li>a. Routine blood testing (sample collected)</li> <li>b. Alcohol breathalyzer screening.</li> <li>c. Urine drug testing.</li> <li>d. Audiology screening.</li> <li>e. Vision testing.</li> </ul> <p>20. MEPS Medical Staff takes photos of Applicant Bailey's tattoos and attaches them to his record.</p> <p>21. MEPS Medical Staff completes Applicant Bailey's medical record, including but not limited to: summary of clinically significant medical history and physical findings (e.g., problem list, diagnosis(es), medical processing status, medical standards evaluation (qualification status), and accession-PULHES profile determination).</p> <ul style="list-style-type: none"> <li>▪ P — Physical capacity and stamina</li> <li>▪ U — Upper extremities</li> <li>▪ L — Lower extremities</li> <li>▪ H — Hearing and ears</li> <li>▪ E — Eyes</li> <li>▪ S — Psychiatric</li> </ul> <p><b>Service Medical Waiver Review and Consideration for Medical Waiver(s)</b></p>
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	<p>22. SMWRA determines Applicant Bailey meets standards.                  23. The MEPS-based Recruiter scans Applicant Bailey’s accession medical record and uploads it into the Recruiting Service data system.                  24. SMWRA approves Applicant Bailey’s medical waiver.</p> <p><b>Interval History Update and Physical Inspect</b></p> <p>25. Field-based Recruiter presents Applicant Bailey for a Physical Inspect.                  26. MEPS Medical Staff reviews Applicant Bailey’s medical record to authorize further medical processing and schedules the physical exam, if needed.</p> <p><b>Recruit In-Processing at Recruit Training Center (RTC)</b></p> <p>27. Recruit Bailey reports for training at the RTC.                  28. Routine medical and dental care is provided during recruit training and documented in the EHR accordingly.                  29. Recruit Bailey suffers minor injuries during training and medical care is rendered by the healthcare provider in the field and / or at the RTC MTF. Treatment provided is documented in the EHR.                  30. After completion of recruit training, Private Bailey leaves the RTC to his duty assignment.</p>
<p><b>Data Objects/ Exchange</b></p>	<p>Definition: Data objects documented on associated Cross Functional Diagrams (CFD) for each workflow on the Use Case Description (UCD).</p> <p><b>Applicant Meets with Recruiter</b></p> <ul style="list-style-type: none"> <li>• Dial a Doc / Medic</li> <li>• Email a Doc / Medic</li> <li>• Applicant’s Medical Package</li> </ul> <p><b>MEPS Medical Team Reviews the Applicant Medical Prescreen Record</b></p> <ul style="list-style-type: none"> <li>• Problem List Summary</li> <li>• Accession Medical Processing Plan</li> <li>• Applicant’s Medical Package</li> </ul> <p><b>MEPS Medical Staff or Recruiter Request for SMWRA-Physician Review on Medical Prescreen – Courtesy Prescreen Review (CPR)</b></p> <ul style="list-style-type: none"> <li>• CPR Request</li> </ul> <p><b>Field Recruiter Sends Additional Medical History Information</b></p> <ul style="list-style-type: none"> <li>• Problem List Summary</li> <li>• Applicant’s Medical Package</li> </ul> <p><b>Service Medical Waiver Review and Consideration for Medical Waiver(s)</b></p> <ul style="list-style-type: none"> <li>• Problem List Summary</li> <li>• Updated Medical Record</li> <li>• Accession Medical Processing Plan</li> <li>• Applicant’s Medical Package</li> </ul> <p><b>Interval History Update and Physical Inspect</b></p> <ul style="list-style-type: none"> <li>• Problem List Summary</li> <li>• Applicant’s Medical Package</li> </ul> <p><b>Recruit In-Processing at Recruit Training Center (RTC)</b></p> <ul style="list-style-type: none"> <li>• Electronic Health Record</li> </ul>

<b>Associated Process(es)</b>	Definition: Known process(es) that are influenced and/or affected by the use case.
	<ul style="list-style-type: none"> <li>• Medical readiness for recruit training</li> <li>• MEPS administrative systems and processes</li> </ul>
<b>Related OV-6cs</b>	Definition: List of OV-6c documents relevant to Use Case
	<ul style="list-style-type: none"> <li>• Global: Warrior Moves Through Accession and Recruit In-Processing</li> </ul>

## 2.2 Global: Patient Admission to Garrison Hospital from Theater

See Appendix 1: Business Process Models (DoDAF OV-6c) for Global: Patient Admission to Garrison Hospital from Theater Business Process Model

Table 2-2 Global: Patient Admission to Garrison Hospital from Theater Use Case Description

<b>UCD TYPE: AS IS</b> <b>PROJECT: DEFENSE HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION (DHMSM)</b> <b>PROCESS: GLOBAL – ADMISSION TO GARRISON HOSPITAL FROM THEATER</b>	
<b>Description</b>	Definition: The main business goal / objective for the use case.
	This use case describes a high level user interaction through the typical user’s point of view, documenting Private Bailey’s arrival from theater to patient care unit to discharge.
<b>Actors</b>	Definition: Active participants in the use case.
	<ul style="list-style-type: none"> <li>• Private Bailey: Active Duty Service Member (ADSM) sent to CONUS due to injuries suffered from an IED</li> <li>• Critical Care Air Transport Team (CCATT): Transports Private Bailey to Role IV Military Treatment Facility (MTF)</li> <li>• Nurse: Administer medications, wound care, and numerous other personalized interventions. Coordinates care in collaboration with other military healthcare professionals</li> <li>• Physician: Provides preventive, curative, or rehabilitative health care services</li> <li>• Laboratory Technician: ADSM who operates medical laboratory equipment</li> <li>• Radiology Technician: ADSM who operates radiology equipment</li> <li>• Pharmacy: Compounds and dispenses medications</li> <li>• Consulting Provider: Behavioral Health specialist who provides recommendations to the Physician</li> <li>• Case Manager: Plans and monitors services between services and facilities on behalf of Private Bailey</li> <li>• Veteran Affairs (VA) Physician: Provides rehabilitative health care services at the VA Polytrauma Rehabilitation Facility</li> <li>• Transport Team: Team that transports Private Bailey to VA facility</li> </ul>
<b>Stakeholders</b>	Definition: Individuals affected by the use case but are not active participants, e.g. Commanders.
	<ul style="list-style-type: none"> <li>• Unit Commander</li> <li>• Veterans Health Administration (VHA)</li> <li>• Veterans Benefits Administration (VBA)</li> <li>• Private Bailey’s family</li> </ul>

<p><b>Background</b></p>	<p>Definition: The context of the use case.</p>
	<p>*This Use Case follows the <b>Operational Medicine: First Responder Use Case*</b>                  After suffering injuries from an Improvised Explosive Device (IED) in Theater, Private Bailey was returned to CONUS for further evaluation and treatment at a Garrison hospital.</p>
<p><b>Assumptions</b></p>	<p>Definition: The conditions necessary for the goal of the use case to be achieved.</p>
	<ol style="list-style-type: none"> <li>1. Private Bailey’s comprehensive medical information is in the DoD EHR. Information includes the data collected and documented (e.g., medical history, physical exam, immunization record) during the MEPS accession, Recruit/Specialty training and Pre-Deployment processes.</li> <li>2. Private Bailey’s notes from Theater operations are documented and visible to Role IV MTF in the Theater EHR.</li> </ol> <p>*Note: Please see DHMSM Operational Medicine Use Cases to understand what and how information was captured.</p> <ol style="list-style-type: none"> <li>3. DoD Theater and Garrison EHRs are fully operational.</li> <li>4. Tele-medicine technology is in place to perform a remote exam, write orders, and document results as well as progress notes. This includes support for Tele-medicine enabled medical devices.</li> <li>5. CCATT information is able to be communicated verbally to receiving team with a possible documentation availability lag.</li> <li>6. CCATT provides data electronically to EHR, for example: ventilator settings, hemodynamic monitoring, IV drip administration.</li> <li>7. Data from both Theater and Garrison is available to care teams via the EHR.</li> <li>8. Prior to transfer, a provider with admitting privileges must accept Private Bailey for admission to the hospital. They may or may not write/stage admission orders in the EHR prior to Private Bailey’s arrival.</li> <li>9. Private Bailey is medically stable enough to go the ward.</li> <li>10. At a Role IV MTF, physicians have access to the EHR to write orders.</li> <li>11. DoD EHR communicates with an electronic medication dispensing machine.</li> <li>12. Medication administration uses barcoding technology and an electronic medication dispensing system.</li> <li>13. Clinicians have access to clinical decision support tools and knowledge available from internal and external sources.</li> <li>14. DoD has the ability to view VHA care documentation when Private Bailey returns to active duty.</li> <li>15. Discharge medications ordered for active duty members and DoD beneficiaries by VHA providers can be filled by DoD pharmacies.</li> <li>16. Lab orders: need for “now” labs are noted by the nurse/corpsman/clerk and patient specific labels are made.</li> </ol>
<p><b>Steps</b></p>	<p>Definition: The sequence of interactions between actors and the system necessary to successfully meet the goal of the use case.</p>

	<p><b>Transport Private Bailey to Garrison Hospital</b></p> <ol style="list-style-type: none"> <li>1. Private Bailey has an amputation and is brought from Theater to Garrison by CCATT.</li> <li>2. Private Bailey is transported to the nursing station for admission.</li> <li>3. Private Bailey is taken to an assigned bed.</li> <li>4. A CCATT team member completes the assessment and care documentation in the EHR using Private Bailey information collected while Private Bailey was transported from Theater to Garrison.</li> <li>5. CCATT provides a verbal report to the Nurse who provides Private Bailey's care for the shift.</li> </ol> <p><b>Nursing Assessment</b></p> <ol style="list-style-type: none"> <li>6. Nurse completes a full nursing history and physical exam, which includes documenting Private Bailey care notes, and a nursing care plan in the EHR.</li> <li>7. Nurse reviews, validates, and updates (if necessary) the following information collected from the Theater and Garrison EHRs:             <ol style="list-style-type: none"> <li>a. <b>Patient Information:</b> <ul style="list-style-type: none"> <li>▪ Past medical history to include problems, treatments, illnesses, and surgeries (review of systems)</li> <li>▪ General health and social history (especially influenza and pneumococcal immunization history)</li> <li>▪ Family medical history</li> <li>▪ List of implantable or external medical devices, if any</li> <li>▪ Transport medication information including when last given and when due again (in the current time zone)</li> <li>▪ Current infused medications</li> <li>▪ Prescriptions prior to injury, if any</li> <li>▪ Over-the-counter and dietary supplements</li> <li>▪ Known drug, food, or environmental allergies</li> <li>▪ Possible occupational exposures</li> <li>▪ History of multi-drug resistant organisms or suspected infectious diseases</li> <li>▪ Activities of Daily Living (ADLs) evaluation including, but not limited to sleep &amp; learning needs</li> <li>▪ Next of Kin contact (especially regarding restrictions)</li> <li>▪ Military unit assignment before the injury occurred</li> </ul> </li> <li>b. <b>Sensitive Psycho-social evaluation</b> <ul style="list-style-type: none"> <li>▪ Depression/suicide/homicide/abuse/neglect</li> <li>▪ Deployment history</li> <li>▪ Circumstances of injury</li> <li>▪ Spiritual distress screening</li> <li>▪ Alcohol / tobacco / illicit substance use screen</li> </ul> </li> <li>c. <b>Physical exam</b> <ul style="list-style-type: none"> <li>▪ The collection of subjective and objective data related to the following systems: Eyes / Ears / Nose / Throat (EENT), Cardiac, Pulmonary, Skin, Neurological, GI/GU, musculoskeletal exam</li> <li>▪ Vitals signs to include: temperature, respiratory rate, heart rate, blood pressure, oxygen saturation, height, weight, and pain scale</li> <li>▪ Invasive devices/current interventions (e.g., IV, urinary catheter, dressings)</li> </ul> </li> </ol> </li> <li>8. Nurse uses collected subjective and objective data to complete an assessment identifying existing, suspected, and potential problems for Private Bailey. This includes risks for falls, skin breakdown, and neurological changes.</li> <li>9. Nurse develops and documents nursing care plan.</li> <li>10. Nurse initiates appropriate interventions and care pathways.</li> </ol>
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	<p>11. Nurse enters consults per local protocol.</p> <p><b>Preparation for Physician Arrival</b></p> <p>12. Nurse verifies that all of Private Bailey’s relevant information is complete and entered into the EHR, if time permits.</p> <p>13. Nurse reviews the admission orders, compares to CCATT orders, and identifies gaps. Admission orders reviewed are either orders following hospital protocols or written by admitting physician.</p> <p>14. Nurse contacts the Physician to indicate that Private Bailey has arrived on the unit and recommends additional orders as a result of completed assessment.</p> <p>15. Private Bailey is experiencing acute pain unrelieved by medications currently available from admission orders (whether written by physician or standing orders entered by nurse).</p> <p>16. Nurse recommends IV narcotic and Physician concurs.</p> <p>17. Physician orders stat narcotic within EHR which is acknowledged by the Nurse.</p> <p>18. Nurse obtains medication from electronic medication dispensing machine and uses barcode technology in the administration of medication to Private Bailey in accordance with local policy.</p> <p>19. Nurse documents the administration of the medication into the EHR in accordance with hospital protocol.</p> <p><b>Physician Meets Private Bailey</b></p> <p>20. Physician arrives to see Private Bailey, reviews the information from the nurse and CCATT (if available), and reviews updates in EHR.</p> <p>21. Physician completes history and performs physical examination and records it in the EHR.</p> <p><b>Physician Determines Care Plan</b></p> <p>22. Physician formulates assessment of Private Bailey and develops a care plan for Private Bailey. Physician documents the care plan in the EHR.</p> <p><b>Physician Adjust Medications and Creates Orders</b></p> <p>23. Physician reviews all current and prior orders.</p> <p>24. Physician discontinues and adjusts the dose and route of administration of several existing medications and establishes new orders for several others.</p> <p>25. Physician orders laboratory tests now and daily.</p> <p>26. Physician orders a portable chest x-ray now and daily.</p> <p>27. Physician orders the following consults:</p> <ul style="list-style-type: none"> <li>a. Nutrition</li> <li>b. Total Parenteral Nutrition</li> <li>c. Physical Therapy</li> <li>d. Respiratory Therapy</li> <li>e. Ophthalmology</li> <li>f. Neurology</li> <li>g. Wound Care</li> <li>h. Case Management</li> <li>i. Behavioral Health</li> </ul> <p><b>Nurse Receives Orders</b></p> <p>28. Nurse accesses the EHR to review new orders (e.g., medications, labs, consults, treatments), acknowledges them, and may re-time them based on Private Bailey’s care needs and unit policies / culture.</p> <p>29. Pharmacist reviews orders, allergies, and contraindications. Pharmacist also validates current orders for release from electronic medication dispensing machine.</p>
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	<p>30. Nurse references the Medication Administration Record (MAR) for due, nearly due, and overdue medications. When a medication is due, the nurse removes the medication(s) from the electronic medication dispensing cabinet and compares them to the MAR in the EHR for correct medication; route, dose, time, patient, and reason allergies are reviewed. Unfamiliar medications are reviewed in an available reference.</p> <p>31. Medications are reviewed or independently verified by a nurse in accordance with local policy. Review and verification are documented in the EHR. Medications are taken into room. Private Bailey's identification is verified using positive identification (Private Bailey stating his name and date of birth (DOB)) or passive identification (hospital band if unable to communicate). Medications are validated against the MAR by scanning the barcode prior to administration. Documentation and any variance are captured in EHR.</p> <p>32. Nurse tracks required treatment / interventions from physician or nursing care plan to plan Private Bailey's care activities and document successful completion or variances in the EHR</p> <p>33. Nurse communicates with consulting services to coordinate care, discuss recommendations, and reinforce education / recommendations made by consulting provider(s).</p> <p><b>Laboratory Technician Receives Lab Orders</b></p> <p>34. The laboratory technician is notified, receives labels, verifies patient identity per protocol, draws specimen(s), and labels the container(s) at the bedside.</p> <p>35. Laboratory Technician documents the completion of the task in the EHR.</p> <p>36. Specimens are transported to laboratory.</p> <p>37. Laboratory staff is alerted that there are new samples to process and verifies samples against existing orders.</p> <p>38. Samples provided are processed per protocol.</p> <p>39. Results are validated.</p> <p>40. Ordering provider is notified by phone of any critical values.</p> <p>41. Final results are made available in EHR.</p> <p><b>Radiology Receives X-ray Orders</b></p> <p>42. Physician orders a chest x-ray during the admission orders.</p> <p>43. Order is received by the Radiology Technician who notes receipt of the order, marks the order "in process" in the EHR, and proceeds to Private Bailey's bedside to take the radiograph.</p> <p>44. Once the radiograph is taken, the Technician uploads the digital images to the radiology information system for review and interpretation.</p> <p>45. The Radiologist on call uses Tele-radiology capability to remotely review the radiograph and inputs his / her radiology report into the Radiology Information System.</p> <p>46. Both the digital radiograph and the radiology report are uploaded into the EHR.</p> <p><b>Behavioral Health Consult</b></p> <p>47. Consulting Provider receives consult request via EHR, acknowledges and reviews Private Bailey's documentation in the EHR.</p> <p>48. Consulting Provider interviews Private Bailey at the bedside and performs a comprehensive behavioral health assessment.</p> <p>49. Consulting Provider documents assessment, findings, interventions, treatments, follow up care, patient education, and orders into the EHR.</p> <p>50. Primary Physician adjusts orders based on recommendations.</p> <p>51. Primary Physician and nurse reinforce consultant recommendations with Private Bailey and his family.</p> <p><b>Private Bailey is Transferred to VA Polytrauma Rehabilitation Facility</b></p>
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	<p>52. DoD Physician determines Private Bailey is ready to transition from acute care to rehabilitation and contacts VA Polytrauma Rehabilitation Facility</p> <p>53. VA Physician accepts transfer and receives provider-to-provider report while reviewing Private Bailey's information in the EHR.</p> <p>54. DoD orders a transfer to VA Polytrauma Rehabilitation Facility and the medications and care to be provided en route (e.g., IV fluids, medications, monitoring, type of transport service—Advanced Cardiovascular Life Support (ACLS) or Basic Life Support (BLS) capabilities).</p> <p>55. Case Manager meets Private Bailey and reviews EHR documentation.</p> <p>56. DoD Physician generates a summary of care that includes history of present illness, procedures, hospital course, and medications Private Bailey should be taking after leaving the facility.</p> <p>57. Case Manager coordinates transfer, to include: communicating with VA bed supervisor regarding bed availability, coordinating activities with the transport team, copies/prints any reports/data not captured within EHR.</p> <p>58. Case Manager calls in report to receiving facility using EHR.</p> <p>59. Private Bailey is transferred and admitted to VA Polytrauma Rehabilitation Facility.</p> <p><b>Return to Duty</b></p> <p>60. After a period of recovery, Private Bailey is subsequently discharged from the VA facility and transported to his duty station for ongoing outpatient care by his medical home team, specialists, and case management.</p> <p>61. All of Private Bailey's relevant information is provided to the DoD EHR from the VA EHR in its entirety.</p> <p>62. Private Bailey receives his discharge medications from a DoD pharmacy.</p>
<p><b>Data Objects/ Exchange</b></p>	<p>Definition: Data objects documented on associated OV-6c for each workflow on the Use Case Description (UCD).</p> <p><b>Transport Private Bailey to Garrison Hospital</b></p> <ul style="list-style-type: none"> <li>• Electronic Health Record</li> </ul> <p><b>Nursing Assessment</b></p> <ul style="list-style-type: none"> <li>• Electronic Health Record</li> <li>• Referral(s)</li> </ul> <p><b>Preparation for Physician Arrival</b></p> <ul style="list-style-type: none"> <li>• Order(s)</li> <li>• Electronic Health Record</li> </ul> <p><b>Physician Determines Care Plan</b></p> <ul style="list-style-type: none"> <li>• Order(s)</li> </ul> <p><b>Physician Adjust Medications and Creates Orders</b></p> <ul style="list-style-type: none"> <li>• Order(s)</li> <li>• Referral(s)</li> </ul> <p><b>Nurse Receives Orders</b></p> <ul style="list-style-type: none"> <li>• Order(s)</li> <li>• Electronic Health Record</li> <li>• Medication Administration Record (MAR)</li> </ul> <p><b>Laboratory Technician Receives Lab Orders</b></p> <ul style="list-style-type: none"> <li>• Order(s)</li> </ul>

	<ul style="list-style-type: none"> <li>• Electronic Health Record</li> </ul> <p><b>Radiology Receives Lab Orders</b></p> <ul style="list-style-type: none"> <li>• Order(s)</li> <li>• Electronic Health Record</li> <li>• Images</li> </ul> <p><b>Behavioral Health Consult</b></p> <ul style="list-style-type: none"> <li>• Referral(s)</li> <li>• Order(s)</li> <li>• Electronic Health Record</li> </ul> <p><b>Private Bailey is Transferred to VA Polytrauma Rehab Facility</b></p> <ul style="list-style-type: none"> <li>• Electronic Health Record</li> <li>• Referral(s)</li> </ul> <p><b>Return to Duty</b></p> <ul style="list-style-type: none"> <li>• VA Electronic Health Record</li> <li>• Electronic Health Record</li> <li>• VA Prescription</li> </ul>
<b>Associated Process(es)</b>	<p>Definition: Known processes that are influenced and/or affected by the use case.</p> <p>The section covering “Private Bailey is Transferred to VA Polytrauma Rehabilitation Facility” provides the high-level workflow linkage to Usability Scenario 4. Usability Scenario 4 further decomposes this workflow down into EHR specific tasks, per role.</p>
<b>Related OV-6cs</b>	<p>Definition: List of OV-6c documents relevant to Use Case</p> <ul style="list-style-type: none"> <li>• Global: Patient Admission to Garrison Hospital from Theater</li> </ul>

### 3 Operational Medicine Scenarios

This section addresses four Operational Medicine scenarios intended to represent a sample of the care provided within an operational theater of combatant commands, globally deployed, performing military and humanitarian operations.

#### 3.1 Operational Medicine: First Responder

See Appendix 1: Business Process Models (DoDAF OV-6c) for Operational Medicine: First Responder Business Process Model

Table 3-1 Operational Medicine: First Responder Use Case Description

<b>UCD TYPE: AS-IS</b> <b>PROJECT: DEFENSE HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION (DHMSM)</b> <b>PROCESS: OPERATIONAL MEDICINE – FIRST RESPONDER</b>	
<b>Description</b>	Definition: The main business goal / objective for the use case.
	This use case describes the process for First Responder treatment and transport to a Role 1 and Role 3 Military Treatment Facility (MTF) after sustaining a battlefield injury in an operational/theater environment. The use case is complete when Private Bailey is moved out of the operational/theater environment to a Role 4 MTF.
<b>Actors</b>	Definition: Active participants in the use case.
	<ul style="list-style-type: none"> <li>Private Bailey: Active Duty Service Member (ADSM)</li> <li>First Responder: US Navy Hospital Corpsman</li> <li>Clearing Team: Unit squad members, who provide transport via High Mobility Multipurpose Wheeled Vehicle (HUMVEE) and security protection.</li> <li>Trauma Nurse: A Registered Nurse (RN) assigned to a Role 1 MTF. This MTF provides triage stabilization treatment and evacuation.</li> <li>Hospital Corpsmen/Medic: Assigned to a Role 1 MTF to assist attending Trauma Nurse/Physician Assistant (PA)/Physician</li> <li>Front Desk Medical Technician: Responsible for the daily administrative tasks in a Role 1 MTF</li> <li>Medical Evacuation (MEDEVAC) Team: Pilot, Co-Pilot, Crew Chief, Flight Medic</li> <li>Combat Support Hospital (CSH) Trauma Team: Consists of Physicians, Nurses, Medics/Hospital Corpsman</li> <li>Patient Administrator: A military medical technician who handles all patient administrative tasks</li> <li>Critical Care Air Transport Team (CCATT): Transports Private Bailey to Role 4 facility</li> </ul>
<b>Stakeholders</b>	Definition: Individuals impacted by the use case but are not active participants, e.g. Commanders.
	<ul style="list-style-type: none"> <li>Unit Commanders</li> <li>Medical Commander</li> <li>Theater Commander</li> </ul>
<b>Background</b>	Private Bailey and his platoon were conducting a dismounted combat operation. While on patrol Private Bailey was struck with an Improvised Explosive Device (IED) and sustained

	several critical injuries.
<b>Assumptions</b>	Definition: The conditions necessary for the goal of the use case to be achieved.
	<ol style="list-style-type: none"> <li>1. First Responder with specialized combat medical training provides immediate life-saving care in all settings to include traumatic injury/wound treatment, administering narcotics, starting IVs, suturing, and other sustainment care. Navy Hospital Corpsmen are just one type of First Responders.</li> <li>2. In an operational/theater environment, a Role 1 MTF provides triage, stabilization treatment, and evacuation. There are no surgical or patient holding capabilities. At the Role 1 MTF, the Trauma Nurse/PA/assigned medics or hospital corpsman perform stabilization care.</li> <li>3. The front desk medic (usually handles all administrative tasks) requests a MEDEVAC using a 9 Line Message to the Patient Evacuation Coordinating Cell (PECC). Due to the severity of the injury the MEDEVAC will transport to the CSH.</li> <li>4. Role 3 MTF provides trauma surgery, intensive care, routine medical and surgical care, laboratory, radiology, pharmacy, and emergency department services with 50-75 inpatient beds in a combat zone</li> <li>5. Role 4 MTF performs more complex/comprehensive medical and surgical care outside the combat zone. A Role 4 MTF is usually a permanent or semi-permanent facility, with the following: <ol style="list-style-type: none"> <li>a. At least 8 operating room (OR) tables</li> <li>b. General, orthopedic, gynecologic, urologic, and oral surgery services</li> <li>c. Dental and optometry services</li> <li>d. Outpatient specialty and primary care services</li> <li>e. Up to 476 inpatient beds, 96 Intensive Care Unit (ICU) beds, 320 Intensive Care Ward (ICW) beds, and 40 Minimum Care Ward (MCW) beds</li> </ol> </li> </ol>
<b>Steps</b>	Definition: The sequence of interactions between actors and the system necessary to successfully meet the goal of the use case.
	<ol style="list-style-type: none"> <li>1. Private Bailey suffers a penetrating injury to his right leg with suspected open femur fracture and a right penetrating eye injury due to IED</li> <li>2. Corpsman looks for point of entry to control bleeding</li> <li>3. Corpsman controls bleeding and dresses the wound</li> <li>4. Corpsman starts IV normal saline, left arm</li> <li>5. Corpsman completes full field patient assessment</li> <li>6. Corpsman covers the injured eye with an eye shield, and dresses the wound</li> <li>7. Corpsman administers 2 grams IM Cefotetan for the open combat wounds, provides 0.3 mg Ketamine IV push (IVP) and splints the fracture</li> <li>8. Private Bailey is placed in a HUMVEE and transported to a Role 1 MTF</li> <li>9. Private Bailey arrives at the Role 1 MTF for stabilization care performed by the RN and assigned medic</li> <li>10. Front Desk Medical Technician calls for a MEDEVAC to transport Private Bailey to CSH</li> <li>11. Medic starts to transcribe the encounter into the clinical application and it fails to operate and shuts down</li> <li>12. Medic transcribes everything on to a Standard Form (SF) 600, a paper form</li> <li>13. Corpsman assigned to the Clearing Team as a medical asset, contacts Private Bailey's military unit informing them of the situation</li> <li>14. After Private Bailey is received at the Role 1 MTF, the Corpsman starts entering the treatment into the Operational Environment Mobile Computing Capability (OEMCC). The battery on the OEMCC device fails and the rest of the encounter is manually recorded on the Department of Defense (DD) Form 1380 Field Medical Card. The actual encounter is entered into the OEMCC once the hand held device is fully</li> </ol>

	<p>charged.</p> <ol style="list-style-type: none"> <li>15. MEDEVAC arrives and Private Bailey is loaded for transport. Only stabilization and maintenance care is rendered during flight.</li> <li>16. Private Bailey arrives at the Role 3 MTF (CSH) and is transported into the trauma receiving area</li> <li>17. Private Bailey is re-evaluated by the CSH Trauma Team and is brought to surgery</li> <li>18. Patient Administrator enters treatment rendered into the CSH clinical application. While in surgery a request for aeromedical evacuation is entered into the U.S. Transportation Command (USTRANSCOM) Regulating and Command &amp; Control Evacuation System (TRAC2ES)</li> <li>19. After surgery, Private Bailey is moved to the ICU</li> <li>20. 24 hours later, Private Bailey is cleared for transport to Landstuhl Regional Medical Center (LRMC), a Role 4 Outside Continental United States (OCONUS) MTF</li> <li>21. Private Bailey is transported to MEDEVAC aircraft for transport to Camp Victory and then loaded on a waiting C-17 aircraft for transport to LRMC. Only stabilization and maintenance care is rendered.</li> <li>22. Private Bailey arrives at Ramstein Air Base and is transported to LRMC</li> <li>23. Private Bailey develops gas gangrene of the right leg, necessitating amputation</li> <li>24. Private Bailey is stabilized in the LRMC ICU and then transported by Critical Care Air Transport Team (CCATT) to a Continental United States (CONUS) garrison hospital (Role 4)</li> </ol>
<p><b>Data Objects/ Exchange</b></p>	<p>Definition: Data objects documented on associated OV-6c for each workflow on the Use Case Description (UCD).</p> <ul style="list-style-type: none"> <li>• Patient Health Record</li> <li>• Patient Health Record             <ul style="list-style-type: none"> <li>○ SF 600                 <ul style="list-style-type: none"> <li>▪ Symptoms</li> <li>▪ Diagnosis</li> <li>▪ Treatment</li> <li>▪ Treating Organizations</li> <li>▪ Patient Demographics</li> </ul> </li> </ul> </li> <li>• Patient Health Record –             <ul style="list-style-type: none"> <li>○ Electronic Mobile Device</li> </ul> </li> <li>• Patient Health Record             <ul style="list-style-type: none"> <li>○ DD Form 1380 – Field Medical Card                 <ul style="list-style-type: none"> <li>▪ Injuries</li> <li>▪ Location of Injury</li> <li>▪ Vitals</li> <li>▪ Medication Administered</li> <li>▪ Treatment Rendered</li> </ul> </li> </ul> </li> </ul>
<p><b>Associated Process(es)</b></p>	<p>Definition: Known processes that are influenced and/or affected by the use case.</p> <ul style="list-style-type: none"> <li>• Steps 1-5 &amp; 14-15: Provide the high-level workflow linkage to Usability Scenario 1. Usability Scenario 1 further decomposes this workflow down into EHR specific tasks, per role.</li> <li>• Step 18: Provides the high-level workflow linkage to Usability Scenario 2. Usability Scenario 2 further decomposes this workflow down into EHR specific tasks, per role.</li> <li>• Step 22: Provides the high-level workflow linkage to Usability Scenario 3. Usability Scenario 3 further decomposes this workflow down into EHR specific tasks, per role.</li> </ul>
<p><b>Related OV-6cs</b></p>	<p>Definition: List of OV-6c documents relevant to Use Case</p> <ul style="list-style-type: none"> <li>• Operational Medicine: First Responder</li> </ul>

## 3.2 Operational Medicine: Role 1 Military Treatment Facility

See Appendix 1: Business Process Models (DoDAF OV-6c) for Operational Medicine: Role 1 Military Treatment Facility Business Process Model.

Table 3-2 Operational Medicine: Role 1 Military Treatment Facility Use Case Description

<b>UCD TYPE: AS-IS</b> <b>PROJECT: DEFENSE HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION (DHMSM)</b> <b>PROCESS: OPERATIONAL MEDICINE - ROLE 1 MILITARY TREATMENT FACILITY</b>	
<b>Description</b>	Definition: The main business goal/objective for the use case.
	This use case describes the process for a routine sick call at a Role 1 Military Treatment Facility (MTF). The use case is complete when the Patient is diagnosed, treated, and returned to duty.
<b>Actors</b>	Definition: Active participants in the use case.
	<ul style="list-style-type: none"> <li>• Patient: Active Duty Service Member (ADSM)</li> <li>• Medical Clinic Staff: Assists with all medical examinations, lab draws, lab transportation and administrative documentation</li> <li>• Physician Assistant (PA): Assigned to a Role 1 MTF as the healthcare provider</li> <li>• Medic/Corpsmen: Assigned to a Role 1 MTF to assist attending Trauma Nurse/Physician Assistant (PA)/Physician</li> <li>• Role 3 MTF Combat Support Hospital (CSH) Lab personnel: Receive lab specimens and conduct the required test as prescribed by the PA</li> </ul>
<b>Stakeholders</b>	Definition: Individuals affected by the use case but are not active participants, e.g. Commanders.
	<ul style="list-style-type: none"> <li>• Unit Commanders</li> <li>• Medical Commander</li> <li>• Platoon Commander</li> </ul>
<b>Background</b>	ADSM is assigned to Phoenix Base and experiences abdominal pain.
<b>Assumptions</b>	Definition: The conditions necessary for the goal of the use case to be achieved.
	<ol style="list-style-type: none"> <li>1. In an operational environment, a Role 1 MTF provides triage, stabilization treatment and evacuation. There is no surgical or patient holding capability.</li> <li>2. This Role 1 MTF does not have a clinical application.</li> <li>3. Role 3 MTF provides trauma surgery, intensive care, routine medical and surgical care, laboratory, radiology, pharmacy, and emergency department with 50-75 inpatient beds in a combat zone</li> </ol>
<b>Steps</b>	Definition: The sequence of interactions between actors and the system necessary to successfully meet the goal of the use case.
	<ol style="list-style-type: none"> <li>1. Patient enters the Phoenix Base Role 1 MTF complaining of abdominal pain</li> <li>2. Standard Form (SF) 600 is started using the Subjective, Objective, Assessment, Plan (SOAP) format. Vitals are taken and recorded.</li> <li>3. PA examines the Patient</li> <li>4. PA orders lab and urine test using paper lab orders</li> <li>5. Corpsman draws blood and has the Patient complete urine test</li> <li>6. Medic collects all samples and paper orders and transports them to the Role 3 MTF by ground vehicle 1 mile away</li> </ol>

	<ol style="list-style-type: none"> <li>7. Based on food consumption, PA prescribes Biltricide, places the Patient on 24 hour bed rest, and orders him to return to the clinic the next day</li> <li>8. Next day the PA stops by the Role 3 MTF to pick up lab results</li> <li>9. Patient returns to the Role 1 MTF and PA confirms his original diagnosis of tapeworm</li> <li>10. Patient is ordered to return at 30 and 60 day intervals for stool specimens</li> <li>11. PA documents final results and patient treatment onto original SF600</li> <li>12. PA visits the Role 3 MTF to enter the encounter in the outpatient clinical application</li> </ol>
<b>Data Objects/ Exchange</b>	Definition: Data/information necessary for: Communication among team, management of the patient/process, decision support at the point of care, downstream use (e.g. outcome measures [HEDIS, ORYX, & PBAM], population health metrics, performance metrics, & compliance).
	<ul style="list-style-type: none"> <li>• Patient Health Record</li> <li>• Paper Lab Orders</li> <li>• Patient Instructions</li> <li>• Prescription</li> </ul>
<b>Associated Process(es)</b>	Definition: Known processes that are influenced and/or affected by the use case.
	Not Applicable
<b>Related OV-6cs</b>	Definition: List of OV-6c documents relevant to Use Case
	<ul style="list-style-type: none"> <li>• Operational Medicine: Role 1 Military Treatment Facility</li> </ul>

### 3.3 Operational Medicine: Humanitarian Assistance/Disaster Response (HA/DR)

See Appendix 1 Business Process Models (DoDAF OV-6c) for Operational Medicine: Humanitarian Assistance/Disaster Response Business Process Model

Table 3-3 Operational Medicine: Humanitarian Assistance/Disaster Response Use Case Description

<b>UCD TYPE: AS-IS</b> <b>PROJECT: DEFENSE HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION (DHMSM)</b> <b>PROCESS: OPERATIONAL MEDICINE – HUMANITARIAN ASSISTANCE/DISASTER RESPONSE</b>	
<b>Description</b>	Definition: The main business goal/objective for the use case.
	This use case describes the process for management of patients due to a disaster requiring both civilian and military treatment. The use case is complete when the patient is moved from a military care setting and back to civilian care
<b>Actors</b>	Definition: Active participants in the use case.
	<ul style="list-style-type: none"> <li>• Patient: Civilian victim of a disaster</li> <li>• Non-Governmental Organization (NGO)/Humanitarian Aid Physician: Doctor who transfers care of the patient to a military medical treatment facility</li> <li>• United States Department of Health and Human Services (HHS) Medical Providers: HHS triage Nurse/PA/Physician</li> <li>• Medical Evacuation (MEDEVAC) Team: Transports the Patient to an MTF.</li> </ul>

	<p>Team includes: Pilot, Co-Pilot, Crew Chief, and Flight Medic. The first three plan, fly and recover the MEDEVAC flight. The flight medic renders stabilization and maintenance care during the MEDEVAC.</p> <ul style="list-style-type: none"> <li>• United States Naval Ship (USNS) COMFORT Military Treatment Facility (MTF) Military Trauma Team: Consists of Physicians, Nurses, Medics/Hospital Corpsmen</li> <li>• Patient Administrator: A Military Medical Technician who handles all patient administrative tasks</li> </ul>
<b>Stakeholders</b>	<p>Definition: Individuals affected by the use case but are not active participants, e.g. Commanders.</p>
	<ul style="list-style-type: none"> <li>• USNS COMFORT Ship's Master</li> <li>• MTF Commander</li> <li>• Combatant Commander</li> <li>• Department of State</li> </ul>
<b>Background</b>	<p>An earthquake occurs in a foreign nation and a civilian local national, who does not speak English, is injured due to falling debris. Care for the injured is initially provided by a NGO Physician and care is transferred to an MTF.</p>
<b>Assumptions</b>	<p>Definition: The conditions necessary for the goal of the use case to be achieved.</p>
	<ol style="list-style-type: none"> <li>1. NGO Physicians are trained to provide immediate life-saving care in all settings to include traumatic injury/wound treatment, administering narcotics, starting IVs, suturing, and other sustainment care in austere settings such as natural disasters.</li> <li>2. In an operational environment, a Role 1 MTF provides triage, stabilization treatment and evacuation. There is no surgical or patient holding capability. At the Role 1 facility the trauma Nurse (RN)/Physician Assistant/assigned medics or hospital corpsman perform stabilization care.</li> <li>3. Role 3 MTF provides trauma surgery, intensive care, routine medical and surgical care, laboratory, radiology, pharmacy, and emergency department services with 50-75 inpatient beds in a combat zone</li> <li>4. USNS COMFORT, a Role 3 MTF, includes the following:             <ol style="list-style-type: none"> <li>a. 12 operating rooms</li> <li>b. Casualty Receiving Ward</li> <li>c. Post Anesthesia Care Unit (PACU)</li> <li>d. 2 Intensive Care Units</li> <li>e. Burn Unit</li> <li>f. 1,000 patient beds</li> </ol> </li> </ol>
<b>Steps</b>	<p>Definition: The sequence of interactions between actors and the system necessary to successfully meet the goal of the use case.</p>
	<ol style="list-style-type: none"> <li>1. Patient is brought by family to the nearest humanitarian aid field hospital</li> <li>2. NGO Physician stabilizes the Patient</li> <li>3. NGO Physician contacts military authority to assess the possibility of transferring care to the military</li> <li>4. Patient is brought to the HHS triage personnel for assessment for transfer</li> <li>5. Patient is airlifted via MEDEVAC to USNS COMFORT MTF</li> <li>6. Patient arrives on USNS COMFORT MTF</li> </ol>

	<p>7. Patient is taken to surgery</p> <p>8. Patient has a prolonged stay (3-4 days) onboard the USNS COMFORT</p> <p>9. Patient Administrator documents all medical encounters are written on a paper temporary medical record</p> <p>10. Patient is transported to a 100 bed intermediate rehabilitation field hospital from the USNS COMFORT MTF back to the host country for follow on care. A hard copy of his medical record and CD-ROM of radiographs are provided to the NGO</p> <p>11. Patient's family is located and they are reunited at the rehabilitation field hospital</p>
<b>Data Objects/Exchange</b>	<p>Definition: Data objects documented on associated OV-6c for each workflow on the Use Case Description (UCD).</p>
	<ul style="list-style-type: none"> <li>• Patient Health Record – Hard Copy</li> <li>• Patient Health Record – Compact Disk</li> </ul>
<b>Associated Process(es)</b>	<p>Definition: Known processes that are influenced and/or affected by the use case.</p>
	<p>Not Applicable.</p>
<b>Related OV-6cs</b>	<p>Definition: List of OV-6c documents relevant to Use Case</p>
	<p>Operational Medicine: Humanitarian Assistance/Disaster Response</p>

### 3.4 Operational Medicine: Submarine

See Appendix 1: Business Process Models (DoDAF OV-6c) for Operational Medicine: Submarine Business Process Model

Table 3-4 Operational Medicine: Submarine Use Case Description

<p><b>UCD TYPE: AS-IS</b>  <b>PROJECT: DEFENSE HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION (DHMSM)</b>  <b>PROCESS: OPERATIONAL MEDICINE – SUBMARINE</b></p>	
<b>Description</b>	<p>Definition: The main business goal/objective for the use case.</p>
	<p>This use case describes the process for treatment onboard an underway submarine by an Independent Duty Hospital Corpsman (IDC). The submarine's medical clinic consists of an IDC only. The IDC will diagnose and treat all medical conditions onboard a submarine. If the service member needs to be evacuated from the submarine, the IDC will coordinate transport with the Submarine Commander and Chief of the Boat (COB) before sending a 9-Line Medical Evacuation (MEDEVAC) form. The use case is complete when the Patient is moved from the submarine to the closest healthcare facility.</p>
<b>Actors</b>	<p>Definition: Active participants in the use case.</p>

	<ul style="list-style-type: none"> <li>• Patient: Active Duty Service Member (ADSM)</li> <li>• Healthcare Provider: Independent Duty Hospital Corpsman (IDC)</li> <li>• Submarine Commander: Senior Officer onboard the submarine and is responsible for mission success</li> <li>• Chief of the Boat (COB): Senior Enlisted Leader onboard the submarine and advises the Commander on all enlisted issues</li> <li>• Type Commander (TYCOM): Performs vital administrative, personnel, and operational training functions for a "type" of weapon system (e.g., naval aviation, submarine warfare, surface warships) within a fleet organization.</li> <li>• Submarine Force Commander (SUBFORCOM): This could be from the Atlantic or Pacific regions.</li> <li>• Medical Evacuation (MEDEVAC) Team: Transports the Patient to an MTF. Team includes: Pilot, Co-Pilot, Crew Chief, and Flight Medic. The first three plan, fly and recover the MEDEVAC flight. The flight medic renders stabilization and maintenance care during the MEDEVAC.</li> <li>• Healthcare Facility: This could be military or civilian healthcare facility</li> </ul>
<b>Stakeholders</b>	<p>Definition: Individuals affected by the use case but are not active participants, e.g. Commanders.</p>
	<ul style="list-style-type: none"> <li>• Fleet Commander</li> <li>• Submarine Force Commander</li> </ul>
<b>Background</b>	<p>An ADSM is a sailor on board a USN Submarine. The boat is underway and has been placed on an alert status, where open communication with the vessel is contained to the boat. During the cruise the ADSM reports to sickbay complaining of chest pain.</p>
<b>Assumptions</b>	<p>Definition: The conditions necessary for the goal of the use case to be achieved.</p>
	<ol style="list-style-type: none"> <li>1. Alert status for a submarine can last up to 90 days</li> <li>2. Once the submarine is placed on alert status, no communication outside is permitted</li> <li>3. To open the lines of communication the Submarine Commander needs permission to stand down from alert status from the TYCOM</li> <li>4. Once the TYCOM approves this request then the submarine has open communication links and is able to request a MEDEVAC</li> <li>5. Depending on the location it could be days before MEDEVAC occurs</li> </ol>
<b>Steps</b>	<p>Definition: The sequence of interactions between actors and the system necessary to successfully meet the goal of the use case.</p>
	<ol style="list-style-type: none"> <li>12. Patient reports to sickbay complaining of chest pains</li> <li>13. IDC performs patient exam and starts IV antibiotic therapy, nebulizer/albuterol treatments and relieves the Patient of all watchstanding duties</li> <li>14. Patient is assigned bed rest with 48 hour monitoring by the IDC</li> <li>15. IDC accesses the outpatient clinical applications and documents patient data and treatment</li> <li>16. Patient is frequently checked on by the IDC during bed rest</li> <li>17. Patient is reexamined 48 hours later with no improvement. Patient is placed on oxygen via nasal cannula.</li> <li>18. IDC accesses outpatient clinical applications and updates treatment</li> <li>19. IDC confers with Submarine Commander and COB, they discuss transporting patient off submarine</li> </ol>

	<p>20. Submarine Commander agrees to transport patient and requests to come off alert status from TYCOM</p> <p>21. TYCOM approves request</p> <p>22. Submarine is now off alert status and is able to communicate. MEDEVAC message is sent from submarine to Commander Naval Submarine Pacific (COMNAVSUBPAC) using COMNAVSURFPACFORM 6000.</p> <p>23. MEDEVAC arrives to transport patient within 48 hours from submarine</p> <p>24. Patient is transported with a copy of Form 600 to closest treatment facility</p> <p>25. At the treatment facility the patient is diagnosed with viral pneumonia</p> <p>26. Patient rejoins submarine once it returns to homeport and medical treatment and diagnosis is updated in the outpatient clinical application</p>
<p><b>Data Objects/Exchange</b></p>	<p>Definition: Data objects documented on associated OV-6c for each workflow on the Use Case Description (UCD).</p>
	<ul style="list-style-type: none"> <li>• Patient Health Record             <ul style="list-style-type: none"> <li>○ Form 600                 <ul style="list-style-type: none"> <li>▪ Symptoms</li> <li>▪ Diagnosis</li> <li>▪ Treatment</li> <li>▪ Treating Organization</li> <li>▪ Patient Demographics</li> </ul> </li> </ul> </li> <li>• COMNAVSURFPAC Form 6000             <ul style="list-style-type: none"> <li>○ Location of Vessel</li> <li>○ Patient Illness</li> <li>○ Emergent Need</li> <li>○ Command Information</li> <li>○ Patient Information</li> </ul> </li> </ul>
<p><b>Associated Process(es)</b></p>	<p>Definition: Known processes that are influenced and/or affected by the use case.</p>
	<p>Not Applicable.</p>
<p><b>Related OV-6cs</b></p>	<p>Definition: List of OV-6c documents relevant to Use Case</p>
	<p>Operational Medicine: Submarine</p>

## 4 Usability Scenarios

The four usability scenarios below relate to steps outlined in the sequence of interactions from the use case scenarios “Operational Medicine: First Responder” and “Global: Warrior Moves Through Accession and Recruit In-Processing”. Refer to the UCDs and CFDs of these use case scenarios to identify which steps are decomposed into the roles and tasks listed below.

### 4.1 Usability Scenario 1: Service Member with Acute Trauma Managed by First Responder and Forward Resuscitative Care Facility

While on ground patrol, Private Bailey suffers a penetrating injury to his right leg with an open femur fracture and a right penetrating eye injury, due to an IED. The First Responder (i.e., Corpsman), embedded with the Active Duty Service Member’s unit, provides basic tactical field care (Role 1 care). He covers the injured eye with an eye shield, dresses the wound, provides 2 grams of IM Cefotetan for the open combat wounds, starts an IV, provides 0.3 mg ketamine IV push (IVP) for analgesia, and splints the fracture. He calls for tactical evacuation and documents Private Bailey’s status and the care provided, using a handheld computer device. Private Bailey is transported by ground to a Role 2 care facility and is then air evacuated by helicopter to a CSH (Role 3) facility.

At the CSH facility, Private Bailey is evaluated by the surgical staff. He has mild tachycardia and is in obvious pain. The physician reviews prior IV fluid and pain medication administration and orders a 500 mL IV bolus of Hextend. The physician also orders a head, abdominal, and lower extremity CT scan. Private Bailey is transferred to the CT scanner and the radiology technician performs the requested scans. Upon return to the trauma bay, the nurse conducts a pre-operative patient assessment. The physician orders Cefotetan 2 grams IV, and the nurse administers the medication.

**Usability Tasks:** The tasks identified below describe human-system interactions only.

#### 1. Medical technician (Corpsman)

- 1.1. Accesses the clinical algorithm for penetrating eye trauma via a handheld device, identifies the need for antibiotic administration, and determines that Private Bailey has no allergy to the medication.
- 1.2. Enters vital signs and clinical assessment, treatments rendered, and changes in the casualty’s status using a handheld device.

#### 2. Physician

- 2.1. Accesses Private Bailey’s medical record and reviews his vital sign trend, the Corpsman’s medical entry, and fluids and medications received since the point of injury.
- 2.2. Enters orders for head, abdominal, and lower extremity Computerized Tomography (CT) scans.

#### 3. Radiology technician

- 3.1. Receives and acknowledges the order for the head, abdominal, and lower extremity CT scans.
- 3.2. Acknowledges accomplishment of the head, abdominal, and lower extremity CT scans, verifies image quality, uploads the image to Private Bailey’s record, and sends a message to the remote radiologist providing tele-support.

#### 4. Nurse

- 4.1. Confirms and updates the patient's full medical history (i.e., patient historical data), and pays particular attention to any complications following previous operations, enters current vital signs and pertinent physical exam findings, evaluates vitals/assessment trends from point of injury, and ensures that the preoperative checklist is complete.
- 4.2. Acknowledges the order for Cefotetan, confirms that Private Bailey has no contraindications to receiving Cefotetan, and documents the administration of medication.

#### Use Case Description (UCD) Tie-Ins:

Operational Medicine: First Responder

### 4.2 Usability Scenario 2: Retrograding Service Member Admitted and Managed at Theater Hospitalization Facility

After the initial surgical intervention, the injured Private Bailey is evacuated from the CSH facility to the Role 4 Theater Hospitalization facility (Landstuhl Regional Medical Center, Germany). He is admitted to the Surgical Intensive Care Unit (SICU) in stable condition, but over the next 24 hours he becomes febrile, tachycardic, tachypneic and demonstrates mental status changes. A second intravenous catheter, arterial catheter, and a foley catheter are inserted. He is initially treated with intravenous crystalloid and antibiotics. As his condition declines, he is intubated and his blood pressure is sustained with a dopamine infusion at 25 mcg/kg/min. He is started on intravenous Propofol at 0.005 mg/kg/min to maintain a desired level of sedation. An arterial blood gas is obtained. The skin on his right leg is noted to have a brownish-red discoloration with associated subcutaneous emphysema. A CT scan of the right leg reveals gas in the tissues. Private Bailey is transported to the operating room for debridement, and eventually a decision is made to amputate his leg.

**Usability Tasks:** The tasks identified below describe human-system interactions only.

#### 1. Physician

- 1.1. Documents the care plan with a consideration of the ICU septic shock protocol embedded templates, and with additional clinical-decision support.
- 1.2. Uses protocol driven order set to select orders for ventilator management (e.g., ventilator acquired pneumonia prevention protocol), arterial blood gases, antibiotics, dopamine infusion starting at 5 mcg/kg/min, to be titrated to maintain a systolic blood pressure of greater than 65 mm Hg, Propofol at 0.005 mg/kg/min to be titrated to maintain adequate sedation, daily awakenings, and enteral feedings.

#### 2. Respiratory Therapist

- 2.1. After reviewing an active order for arterial blood gasses, the RT confirms Private Bailey's identification and views his blood gas analyzer data from blood gas testing and bedside blood gas analysis.
- 2.2. The RT reviews the lab results and recommends to the provider in the SICU new ventilator settings and reviews the updated Physician order.
- 2.3. Reviews additional physician orders and schedules bronchodilator therapy and arterial blood gas analysis every 4 hours.
- 2.4. Updates the RT's section of multi-disciplinary care plan, makes recommendations for ventilators settings, ventilator and airway management, and participates in ventilator associated pneumonia prevention (using clinical decision support tool), and identifies

respiratory therapy need to support the scheduled patient's movement to the radiology department for a CT scan.

### **3. Nurse**

- 3.1.** Confirms no contraindications to administering medication (i.e., drug allergy, drug interactions, out-of-range dosing, or expired medication), and administers medication.
- 3.2.** Documents Private Bailey's pain level and continuously updates his hourly vital signs, drip rates, ins & outs, line/tubes/drains, urine output, mental status, to identify trends in his hemodynamic state, including auscultated lung sounds and cardiac rhythm, circulation checks, neurological checks, wound checks, pain and sedation levels.
- 3.3.** Documents her communication of concern of hypovolemia to the physician and notes physician's verbal order to administer a 500 cc intravenous crystalloid bolus.
- 3.4.** Reviews and implements protocols (ventilator acquired pneumonia prevention, sepsis, ICU, sedation, etc.), based on clinical decision support recommendations and education and experience. Documents basic nursing care and initiates nursing interventions using nursing initiated orders.

### **4. Laboratory technician**

- 4.1.** Receives and scans the barcoded sample and acknowledges the order for the arterial blood gas.
- 4.2.** Verifies that the result is in Private Bailey's record, wherein she is notified of a critical value by the Laboratory Information System (LIS); she notifies the attending physician that Private Bailey has a critical value and documents the required read back in the LIS.

### **5. Case Manager / Social Worker**

- 5.1.** Reviews consult and develops care plan.
- 5.2.** Documents transition of care to gaining MTF.

### **Use Case Description (UCD) Tie-Ins:**

Operational Medicine: First Responder

## **4.3 Usability Scenario 3: Retrograding Service Member Managed by Critical Care Air Transport Team**

Private Bailey's post-operative condition in the Landstuhl Regional Medical Center SICU is judged to be sufficiently stabilized for further evacuation to a Role 4 facility in CONUS. A CCATT, comprised of a critical care physician, critical care nurse and a respiratory technician, are tasked to provide critical care during aeromedical evaluation for Private Bailey, as well as for two other patients, while onboard a C-17 from Ramstein Air Base in Germany en route to Joint Base Andrews outside of Washington, DC. The team uses portable EHRs that contain complete records of patient data (from the enterprise EHR) for all their patients on the flight.

While en route, Private Bailey is on intravenous propofol 0.005 mg/kg/min to maintain a desired level of sedation. He is also receiving intravenous morphine 4 mg/hr for pain management, intravenous vecuronium 0.8–1.2-µg/kg/min for paralysis, and intravenous dopamine 10 mcg/kg/min for blood pressure support. He experiences increased pain secondary to aircraft vibration. His dose of intravenous morphine is increased to 8 mg/hr based on the sedation protocol ordered by the physician. Several hours later the team receives an alarm that the SpO<sub>2</sub> has declined below 90%, without a change in inspired oxygen concentration, and Private Bailey

becomes tachycardic and hypotensive. The nurse suction Private Bailey and then obtains a blood gas and performs a “bedside” blood gas analysis.

**Usability Tasks:** The tasks identified below describe human-system interactions only.

### 1. Respiratory therapist

- 1.1. Accesses prior vital signs and oxygen settings and observes trends directly from the portable EHR.
- 1.2. Views clinical algorithm for titrating inspired oxygen concentration.
- 1.3. Synchronizes portable EHRs with enterprise EHR post-flight.
- 1.4. Documents in flight ventilator settings, Private Bailey’s responses, and respiratory treatments

### 2. Nurse

- 2.1. Documents the nursing care plan using standard protocols amended for Private Bailey’s characteristics and updates the care plan started at Landstuhl. Verifies preparatory tasks accomplished by the Landstuhl care team.
- 2.2. Documents en route nursing interventions, medication administration, vital signs, intravenous drip titration per protocols, safety interventions, bedside arterial blood gas testing & results, and observed trends.
- 2.3. Documents the summary of en route care and completes handoff with the healthcare team using a standardized checklist.

### 3. Physician

- 3.1. Reviews Private Bailey’s current assessment and prior assessments, procedures, and tests at Landstuhl and orders adjustments to ventilator settings based on a clinical algorithm.
- 3.2. Documents the narrative summary of en route course of care and accomplishes handoff to the receiving healthcare team using a standardized checklist.

### Use Case Description (UCD) Tie-Ins:

Operational Medicine: First Responder

## 4.4 Usability Scenario 4: Service Member Discharged from VA Rehab Facility Managed for Chronic Conditions by his PCMH Team

After a period of recovery, Private Bailey is subsequently discharged from a VA facility and returned to his duty station. He presents to his DoD home station primary care team for a follow up evaluation. He is having problems with phantom limb pain, for which he currently takes Citalopram 20 mg daily. He is experiencing a new onset of migraine type headaches and reports taking over-the-counter medication on a daily basis.

He has a history of Post-Traumatic Stress Disorder which triggers the primary care team to request a same day electronic behavioral health consult. Later that day, the administrative technician opens an encounter with the behavioral health clinic and the medical technician obtains Private Bailey’s consent for the consult. The behavioral health provider conducts a televisit with Private Bailey and completes the encounter. The behavioral health provider decides to add Nortriptyline 25 mg twice daily to the therapeutic regimen. The primary care provider reviews the specialist’s additions to the care plan. The case manager assists the primary care provider’s follow-up with Private Bailey to see how the new treatment regimen is working and to coordinate his/her appointments/follow-up. The case manager also researches

both military and civilian organizations that assist Private Bailey's family members with his diagnoses.

**Usability Tasks:** The tasks identified below describe human-system interactions only.

**1. Administrative technician**

- 1.1. Enrolls Private Bailey into the clinic.
- 1.2. Opens a new encounter and verifies demographic information.
- 1.3. Opens a new encounter for host site visit for virtual behavioral health evaluation.

**2. Medical technician**

- 2.1. Calculates Private Bailey's body mass index, adjusting for the weight difference caused by the amputation and prosthesis, and responds to prompts for overdue preventive services to include administering the required post deployment screening instruments and ordering a blood sample and tuberculosis skin test (also known as the PPD test).
- 2.2. Orders influenza vaccine per clinic protocol.
- 2.3. Documents Tylenol and Motrin as part of medication reconciliation, with drug interaction checking against medications prescribed by both VA and DoD pharmacies.
- 2.4. Confirms that Private Bailey's consent for the virtual behavioral health consultation is noted within the medical record.
- 2.5. Documents encounter data to include vital signs, height, weight, and mental health screening results.
- 2.6. Documents actions for the behavioral health care plan (e.g., education) at the conclusion of the virtual encounter.

**3. Nurse**

- 3.1. Accesses the narrative summary from the VA rehab facility and the comprehensive care plan that has been continuously updated from the point of injury; identifies recommended screenings based on Private Bailey's characteristics.
- 3.2. Accesses results of screening instruments and observes the clinical alert for priority behavioral health evaluation.
- 3.3. Orders acute virtual behavioral health consultation per clinic protocol.

**4. Primary Care Provider**

- 4.1. Accesses standard treatment guidelines for migraine headaches and tailors a plan for Private Bailey to include accounting for current use of Citalopram and possible medication interactions.
- 4.2. Accesses the care plan for phantom limb pain and traumatic brain injury from VA, and using recent evidence based algorithms, updates the plan and generates a consult to physical therapy to increase the frequency of PT sessions and a trial of transcutaneous electrical nerve stimulation (TENS).
- 4.3. Orders Nortriptyline 25 mg twice daily and the system checks for possible interactions with medications prescribed by both VA and DoD pharmacies, as well as over-the-counter medications (i.e., Tylenol and St. John's Wart).
- 4.4. Acknowledges the notification of the behavioral health provider's evaluation and accesses the behavioral health provider's additions to the care plan.

**5. Pharmacist/Pharmacy Technician**

- 5.1. Activates the prescription for a 1-month supply of Nortriptyline 25 mg.
- 5.2. System checks the inventory and alerts the technician, if the requested amount is greater than the quantity on hand.

- 5.3. System screens the drugs against Private Bailey's profile (includes VA and Network prescriptions) and notifies the technician if there are any drug-drug, drug-allergy, or dosing alerts.
- 5.4. Pharmacist selects Private Bailey and verifies that the prescription is the medication filled and that is ascribed to Private Bailey.
- 5.5. The pharmacist verifies that the product being dispensed matches what was ordered.
- 5.6. The pharmacist validates that the directions and dosing are correct and electronically signs the prescription.

**6. Behavior health provider (virtual)**

- 6.1. Opens a new telehealth encounter.
- 6.2. Accesses Private Bailey's history to specifically include prior behavioral health surveys, medications, and current vitals sign.
- 6.3. Accesses consent document.
- 6.4. Imports Private Bailey's pertinent patient information from the encounter for the remote primary care visit.
- 6.5. Documents the virtual encounter and updates the care plan.

**7. Case Manager**

- 7.1. Updates the care plan and sends the patient's education materials/resources to Private Bailey through PHR.

**Use Case Description (UCD) Tie-In:**

Global: Patient Admission to Garrison Hospital from Theater.

## 5 Dental Services Use Case Scenarios

This section elaborates a plausible clinical workflow specific to the practice of Dental Medicine and is generally inclusive of dental services provided by the Army, Navy and Air Force Dental Corps, while embracing the few unique circumstances that exist between the Services providing such care.

- Key information that the Dental EHR needs to capture and record includes:
  - Dental Readiness Classification (DRC)
  - Special patient categories supporting special DoD and Service operational and administrative programs
  - Treatment Needs
  - Low, Moderate and High Caries Risk (HCR), Periodontal Risk and Cancer Risk
  - Integrated image repository access for radiographs, digital models and clinical photos from each Service image management system. Includes ability to save and retrieve files.
  - Workload Reporting
- The Department of Defense has a standardized DRC as a means of recording the dental readiness of members. It has impact and relevance at the enterprise, regional, unit and individual levels. When our units deploy, they must be dentally ready to do so, and that is done through the recording and tracking of dental readiness. Dental readiness is paramount to what we do, because our customers are the war fighting units of the military. From a “war fighter” perspective, military dentistry exists to ensure readiness. The readiness module is key to military dentistry.
- The DRC is significantly different from the Medical Readiness System in that members are not classified only as deployable or non-deployable. Dental Readiness is broken down further into the following classifications:
  - DRC-1 members have no dental needs and are deployable.
  - DRC-2 members have identified needs not expected to require emergency care within 1 year and are deployable.
  - DRC-3 members have dental needs that could be expected to potentially create an emergency visit within one year, if left untreated, and are not deployable.
  - DRC-4 members are overdue for their annual exam, or are not deployable due to unknown status.
- If a member is in a special operational or administrative category, he or she has certain restriction or notification requirements, when it relates to medical and dental care. The Dental EHR will assist in efficient administration and communication of these high priority members.
- Certain special operational or administrative categories exist where the member must be de-identified to all Dental EHR users (including unit and demographics), except for specially designated users that monitor the member’s treatment needs and readiness with his/her unit.

- A full explanation of the special operational or administrative categories is not relevant to this initial use case document.
- Mass exams occur frequently in military dental cases, especially during recruit in-processing and pre-deployment exams to assess the dental readiness of the unit's members. The Dental EHR must accommodate a simple and seamless workflow for mass dental exams to be done in an average of 6-8 minutes from the time a Service Member sits in the chair to the time he/she leaves.

## 5.1 Dental Services: Preventative Care and Treatment

See Appendix 1: Business Process Models (DoDAF OV-6c) for the following corresponding Business Process Models:

- Dental: Child Process - Patient Check-in
- Dental: Child Process - Gather Patient Data
- Dental: Child Process - Order Radiographs
- Dental: Endodontics and Prosthodontics Interaction with Lab
- Dental: Preventive Care and Treatment
- Dental: Preventive Care and Treatment (Oral Surgery Appointment)
- Dental: Preventive Care and Treatment (Oral Surgery Evaluation Appointment)
- Dental: Preventive Care and Treatment (Oral Surgery Post-Op Appointment)
- Dental: Preventive Care and Treatment (Periodontics and Cleaning)
- Dental: Theater Consolidated

Table 5-1 Dental Services: Preventative Care and Treatment Use Case Description

UCD TYPE: AS-IS PROJECT: DEFENSE HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION (DHMSM) PROCESS: DENTAL - PREVENTIVE CARE AND TREATMENT	
<b>Description</b>	Definition: The main business goal/objective for the use case.
	This use case describes the process for scheduling and executing preventive care, restorative care, and surgical care to Patient as he moves from a Garrison-based dental facility to a Theater-based dental facility and back to Garrison. The use case is complete when Patient retires from active duty and the dental portion of his Service Treatment Record (STR) is electronically transferred to the medical records department.
<b>Actors</b>	Definition: Active participants in the use case.
	<ul style="list-style-type: none"> <li>● Patient: Active Duty Service Member (ADSM)</li> <li>● Dental Office Staff: Personnel in charge of administrative functions, such as scheduling appointments and soliciting updated medical and dental information via secure links</li> <li>● Dental Assistant: Assistant to the attending dentist</li> <li>● Dentist A: Garrison-based dentist</li> <li>● Dental Auxiliary Personnel: Other dental or radiology personnel who can</li> </ul>

	<p>document dental radiographs</p> <ul style="list-style-type: none"> <li>• Dental Lab/Tech: Receives and processes lab order and associated materials. Returns completed dental prostheses.</li> <li>• Dentist B: Theater-based dentist</li> <li>• Oral Surgeon: Performs oral surgery, documents treatment plan, updates the D-EHR, and transfers all materials from the Medical EHR to the Dental EHR (D-EHR)</li> <li>• Medical Records Department: Electronically receives the dental portion of Patient's STR following his retirement from the Services</li> <li>• Patient Escort: Responsible for Patient after the surgery appointment</li> <li>• Surgical Team: Team that assists Oral Surgeon during procedure</li> <li>• MTF Office Staff: Medical administrative staff who work in the MTF and/or hospital</li> <li>• Dental Hygienist: Works with Dentist A to meet Patient's oral health needs (e.g., deep cleaning)</li> </ul>
<b>Stakeholders</b>	<p>Definition: Individuals affected by the use case but are not active participants, e.g. Commanders</p> <ul style="list-style-type: none"> <li>• Dental Clinic Commander: Senior Leader in charge of the daily operations of the dental clinic</li> <li>• Medical Clinic Commander: Senior Leader in charge of the daily operations of the MTF and/or hospital</li> <li>• Base Commander: Senior Leader in charge of the daily operations of the Military Base</li> <li>• Corporate Dentists: Administrative dentistry experts who advise leadership on policy changes and other business matters as needed</li> <li>• Unit Commander: Senior Leader in charge of the military unit Patient belongs to</li> <li>• Theater Commander: Senior Leader in charge of the daily operations of the Theater Military Base</li> </ul>
<b>Background</b>	<p>Definition: The context of the use case</p> <p>Patient receives an electronic reminder for a scheduled appointment and arrives as expected. During the evaluation, radiographs are taken and the attending Dentist identifies a need to refer Patient for follow-up care. Before all treatment is completed, Patient receives emergency deployment orders and is deployed to an undisclosed location in a Theater environment. While deployed, Patient begins to experience pain and receives additional restorative care in the Theater environment. After returning from deployment, Patient is scheduled for an oral surgery evaluation, returns for treatment, and is discharged. One year later, Patient decides to retire and the dental portion of his STR is transferred to Medical Records Department.</p>
<b>Assumptions</b>	<p>Definition: The conditions necessary for the use case goal to be achieved</p> <ol style="list-style-type: none"> <li>1. The D-EHR is implemented, accessible, and contains Patient's existing medical and dental data, including information captured in the private sector</li> <li>2. The D-EHR will have the capability to provide information exchange within the DoD and with outside entities</li> <li>3. Patient, Dentist A, Dentist B, Dental Assistant, Dental Office Staff, and Dental Lab/Tech have connectivity, allowing them to use and respond to the scheduling and messaging functionality of the D-EHR</li> <li>4. Patient is able to access secure links and update personal medical and dental history</li> </ol>

	<ol style="list-style-type: none"> <li>5. Radiographs are available in the D-EHR in real-time (within 5 seconds)</li> <li>6. Referrals are facilitated by the D-EHR</li> <li>7. Patient receives emergency deployment orders</li> <li>8. While in Theater, Patient has the ability to visit the dental clinic at X Base and obtain care</li> <li>9. Dentist B has access to Patient's treatment and radiographic history in the D-EHR and has internet connectivity to update Patient's Dental Readiness Classification (DRC) and treatment history</li> <li>10. Dentist A is able to access the D-EHR to note the treatment provided in Theater and update the treatment plan accordingly</li> <li>11. Oral Surgeon is able to carry out hospital surgical protocol without any interruptions or delays</li> <li>12. The EHR is able to transfer treatment information to the D-EHR by interface, transmission of PDFs, or other electronic means, including scanned artifacts</li> <li>13. When Patient retires, the medical records department is able to receive the dental portion of Patient's STR electronically</li> <li>14. Paper documents are scanned into the D-EHR</li> <li>15. The D-EHR has viewer capabilities that enable display of patient information and scanned documents</li> <li>16. During the interim transition period, users need access to the past eighteen months of the following data in both Theater and Garrison:             <ol style="list-style-type: none"> <li>a. medical/dental history</li> <li>b. medication lists</li> <li>c. treatment plan</li> <li>d. lab results</li> </ol> </li> <li>17. During the interim transition period, users need access to the past two years of radiographs in both Theater and Garrison</li> </ol>
<p><b>Steps</b></p>	<p>Definition: The sequence of interactions between actors and the system necessary to successfully meet the use case goal</p> <p><b>Part 1: Preventive Care and Treatment</b></p> <p><u>Annual Exam Pre-Appointment Activity</u></p> <ol style="list-style-type: none"> <li>1. Dental Office Staff analyzes report results and determines a patient appointment is needed. A secure message is sent to Patient reminding him to schedule his annual dental exam.</li> <li>2. Patient calls the dental clinic to schedule his annual dental exam</li> <li>3. Dental Office Staff schedules Patient's appointment (through D-EHR)</li> <li>4. Dental Office Staff sends Patient appointment information and a link to update past medical and dental history</li> <li>5. Patient updates and submits past medical and dental history prior to the appointment</li> </ol> <p><u>Annual Exam Appointment</u></p> <ol style="list-style-type: none"> <li>6. Patient arrives for his appointment</li> <li>7. Dental Office Staff confirms Patient's identity, determines eligibility, checks Patient in, and notifies staff in Dental Treatment Room (DTR) (through D-EHR Scheduler)</li> <li>8. Dental Assistant escorts Patient to DTR</li> <li>9. Dental Assistant confirms Patient's identity, reviews Patient's medical/dental history, and records vital signs electronically</li> <li>10. Dental Assistant notifies Dentist A that Patient is ready to be seen (through D-EHR Scheduler)</li> <li>11. Dentist A confirms Patient's identity and reviews medical/dental history,</li> </ol>

	<p>previous radiographs, and medication list</p> <ol style="list-style-type: none"> <li>12. Dentist A orders radiographs if needed</li> <li>13. Dental Assistant or Dental Auxiliary Personnel immediately takes the radiographs ordered for Patient</li> <li>14. Dentist A reviews and approves radiographs</li> <li>15. Digital images of the radiographs are immediately stored in the Dental EHR and made available for comparison to previous images</li> <li>16. Dentist A performs complete intra-oral and extra-oral examination</li> <li>17. Dentist A instructs Dental Assistant to chart intra-oral and extra-oral examination findings in real-time (through D-EHR)</li> <li>18. Dentist A takes clinical photos and uploads them into the D-EHR, if needed</li> <li>19. Dentist A and Patient discuss and agree on treatment plan</li> <li>20. Patient consents to treatment plan via digital signature</li> <li>21. Dentist A places a referral order for oral and maxillofacial surgery (through D-EHR). Prescriptions are entered, on-site counseling is completed, and educational materials are provided if needed.</li> <li>22. Dentist A submits a biopsy order to the Medical EHR, if needed. When Dentist A receives results, Dental Office Staff will schedule a follow-up appointment.</li> <li>23. Patient receives treatment if:             <ol style="list-style-type: none"> <li>a. It can be accomplished in a short timeframe</li> <li>b. Access to care is available. Dental Assistant schedules follow-up appointments for Patient.</li> </ol> </li> <li>24. Dental Assistant checks Patient out (through D-EHR)</li> <li>25. Dentist A documents treatment and updates DRC status</li> </ol> <p><u>Endodontics and Prosthodontics: Interaction with Lab</u></p> <ol style="list-style-type: none"> <li>26. Dental Office Staff sends a secure message to Patient reminding him of his follow-up appointment</li> <li>27. Patient arrives for his appointment</li> <li>28. Dental Office Staff confirms Patient's identity, determines eligibility, checks Patient in, and notifies staff in DTR (through D-EHR Scheduler)</li> <li>29. Dental Assistant escorts Patient to DTR</li> <li>30. Dental Assistant confirms Patient's identity, reviews Patient's past medical/dental history and treatment plan, records vital signs, and notes Patient's DRC status</li> <li>31. Dental Assistant notifies Dentist A that Patient is ready to be seen (through D-EHR Scheduler)</li> <li>32. Dentist A confirms Patient's identity, reviews Patient's past medical/dental history, previous radiographs, medication list, treatment plan, and DRC status</li> <li>33. Dentist A orders, reviews, and approves radiographs if needed</li> <li>34. Dentist A and Patient complete a digital time out</li> <li>35. Dentist A treats tooth; digital and physical impressions are made</li> <li>36. Dentist A submits Lab orders for the digital and physical impressions to Dental Lab/Tech electronically</li> <li>37. D-EHR creates and prints a unique identifier for the digital and physical impressions</li> <li>38. Dentist A submits the digital impressions to the Lab</li> <li>39. Dental Assistant delivers physical material impressions to Dental Lab/Tech</li> <li>40. Dental Lab/Tech reviews orders, impressions, radiographs, and photographs stored in the D-EHR</li> <li>41. Dental Lab/Tech submits acknowledgement and return receipt to Dentist A</li> <li>42. Dental Lab/Tech updates D-EHR with expected case completion date</li> <li>43. Dentist A receives notification of the updated laboratory information</li> <li>44. Dentist A completes root canal and fits temporary crown</li> </ol>
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	<p>45. Dental Assistant schedules follow-up appointments for Patient  46. Dental Assistant checks Patient out (through D-EHR)  47. Dentist A documents treatment and updates DRC status</p> <p><u>Periodontics and Cleaning</u></p> <p>48. Dental Office Staff sends a secure message to Patient reminding him of his follow-up appointment  49. Patient arrives for his appointment  50. Dental Office Staff confirms Patient's identity, determines eligibility, checks Patient in, and notifies staff in DTR (through D-EHR scheduler)  51. Dental Assistant escorts Patient to DTR  52. Dental Assistant confirms Patient's identity, reviews Patient's past medical/dental history and treatment plan, records vital signs, and notes Patient's DRC status  53. Dental Assistant notifies Dentist A that Patient is ready to be seen (through D-EHR Scheduler)  54. Dentist A confirms Patient's identity, reviews Patient's past medical/dental history, previous radiographs, medication list, treatment plan, and DRC status  55. Dentist A orders, reviews, and approves radiographs if needed  56. Dentist A performs periodontal exam and instructs Dental Assistant to perform periodontal charting in real time (through D-EHR)  57. Dentist A and Patient discuss and agree on periodontal treatment plan/maintenance program  58. Patient consents to treatment plan and maintenance program via digital signature  59. Patient's maintenance program information is flagged in D-EHR for patient tracking and monitoring  60. Dentist A documents treatment and updates DRC status  61. Patient leaves Dentist A's treatment room and is escorted to Dental Hygienist's room if time is permitted for further treatment  62. Dental Hygienist confirms Patient's identity, reviews Patient's past medical/dental history, previous radiographs, medication list, treatment plan, DRC status, and records vital signs (if needed)  63. Dental Hygienist performs treatment  64. Dental Hygienist documents treatment and updates DRC as well as periodontal maintenance status. Dental Hygienist or Dental Assistant schedules follow-up appointment and checks Patient out.</p> <p><u>Deployment Exam</u></p> <p>65. Patient notifies Dental Office Staff of his short notice deployment and schedules his appointment for the same day  66. Patient arrives for his appointment  67. Dental Office Staff confirms Patient's identity, determines eligibility, checks Patient in, and notifies staff in DTR (through D-EHR scheduler)  68. Dental Assistant escorts Patient to DTR  69. Dental Assistant confirms Patient's identity, reviews Patient's past medical/dental history and treatment plan, records vital signs, and notes Patient's DRC status  70. Dental Assistant notifies Dentist A that Patient is ready to be seen (through D-EHR Scheduler)  71. Dentist A confirms Patient's identity, reviews Patient's past medical/dental history, previous radiographs, medication list, treatment plan, and DRC status  72. Dentist A orders, reviews, and approves radiographs if needed  73. Dentist A completes deployment exam and clears Patient for deployment</p>
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	<p>74. Dental Assistant checks Patient out (through D-EHR)  75. Dentist A documents treatment and updates Patient’s DRC status  76. Patient deploys to an undisclosed location in a Theater environment</p> <p><b><u>Part 2: Restorative Dental Care and Treatment in a Theater Setting</u></b></p> <p><u>Theater Care Pre-Appointment Activity</u></p> <p>77. While in Theater, Patient begins to feel dental pain  78. Patient calls the dental clinic to schedule his dental appointment  79. Dental Office Staff schedules appointment (through D-EHR)  80. Dental Office Staff sends Patient appointment information and a link to update past medical and dental history  81. Patient updates and submits past medical and dental history prior to the appointment</p> <p><u>Dental Care in Theater Setting</u></p> <p>82. Patient arrives for his appointment  83. Dental Office Staff confirms Patient’s identity, determines eligibility, checks Patient in, and notifies staff in DTR (through D-EHR Scheduler)  84. Dental Assistant escorts Patient to DTR  85. Dental Assistant confirms Patient identity, reviews Patient’s medical/dental history, records vital signs electronically, and notes Patient’s DRC status  86. Dental Assistant notifies Dentist B that Patient is ready to be seen (through D-EHR Scheduler)  87. Dentist B confirms Patient identity, reviews Patient’s past medical/dental history, previous radiographs, medication list, treatment plan, and DRC status. Dentist A is able to view treatment rendered by Dentist B in real time.  88. Dentist B orders, reviews, and approves radiographs if needed  89. Dentist B and Patient complete a digital time out  90. Dentist B restores Patient’s tooth  91. Dentist B restores two other cavities previously identified by Dentist A  92. Dental Assistant checks Patient out (through D-EHR)  93. Dentist B documents treatment and updates DRC status</p> <p><u>Patient Treatment After Returning From Deployment</u></p> <p>94. Patient returns from Theater deployment  95. Dental Lab/Tech informs Dentist A that the crown is ready (through D-EHR)  96. Dental Assistant notifies Patient through phone call and secure message that the crown is ready  97. Patient calls base to schedule his dental appointment  98. Dental Office Staff schedules an appointment (through D-EHR)  99. Dental Office Staff sends a secure message to Patient reminding him of his appointment  100. Patient arrives for his appointment  101. Dental Office Staff confirms Patient’s identity, determines eligibility, checks Patient in, and notifies staff in DTR (through D-EHR scheduler)  102. Dental Assistant escorts Patient to DTR  103. Dental Assistant confirms Patient identity, reviews Patient’s past medical/dental history and treatment plan, records vital signs, and notes Patient’s DRC status  104. Dental Assistant notifies Dentist A that Patient is ready to be seen (through D-EHR Scheduler)  105. Dentist A confirms Patient identity, reviews Patient’s past medical/dental history, previous radiographs, medication list, treatment plan, and DRC status. Dentist A is able to view the treatment rendered from Dentist B.</p>
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- 106. Dentist A orders, reviews, and approves radiographs if needed
- 107. Dentist A and Patient complete a digital time out
- 108. Dentist A completes crown treatment on Patient
- 109. Dental Assistant schedules Patient for an oral surgery evaluation
- 110. Dental Assistant checks Patient out (through D-EHR)
- 111. Dentist A documents treatment and updates Patient's DRC status

**Part 3: Surgical Care in a Military Treatment Facility (MTF) Hospital**

Oral Surgery Evaluation Appointment

- 112. Dental Office Staff sends a secure message to Patient reminding him of his appointment
- 113. Patient arrives to dental clinic for the oral surgery evaluation appointment
- 114. Dental Office Staff confirms Patient's identity, determines eligibility, checks Patient in, and notifies staff in DTR (through D-EHR scheduler)
- 115. Dental Assistant escorts Patient to DTR
- 116. Dental Assistant confirms Patient identity, reviews Patient's past medical/dental history and treatment plan, records vital signs, and notes Patient's DRC status
- 117. Dental Assistant notifies Oral Surgeon that Patient is ready to be seen (through D-EHR Scheduler)
- 118. Oral Surgeon confirms Patient identity and reviews Patient's past medical/dental history, previous radiographs, medication list, treatment plan, and DRC status
- 119. Oral Surgeon orders, reviews, and approves radiographs if needed
- 120. Oral Surgeon completes the evaluation and decides the surgery is too complicated to be performed at the dental clinic
- 121. Patient signs the informed consent and other related pre-surgery forms
- 122. Dental Assistant schedules a surgery room at the MTF Hospital and provides an appointment time to Patient
- 123. Dental Assistant checks Patient out (through D-EHR)
- 124. Oral Surgeon documents treatment and updates DRC status

Oral Surgery Appointment

- 125. Dental Office Staff sends a secure message to Patient reminding him of his surgery appointment
- 126. Patient arrives at MTF Hospital and MTF Office Staff notifies Surgical Team of Patient arrival
- 127. Surgical Team confirms Patient identity, determines eligibility, reviews Patient's past medical/dental history and treatment plan, records vital signs, and notes Patient's DRC status
- 128. Patient, Patient's Escort, and Surgical Team review forms for oral surgery
- 129. Surgical Team schedules post-op appointment and notifies Oral Surgeon that Patient is ready
- 130. Oral Surgeon confirms Patient's identity, reviews Patient's past medical/dental history, previous radiographs, medication list, treatment plan, oral surgery forms, lab results, and DRC status
- 131. Oral Surgeon, Patient, and one member of Surgical Team sign consent form
- 132. Oral Surgeon orders radiographs if needed
- 133. Oral Surgeon reviews and approves radiographs if needed
- 134. Oral Surgeon prescribes medication
- 135. Patient Escort retrieves Patient medication from Pharmacy
- 136. Oral Surgeon completes a digital time out and completes surgery
- 137. Surgical Team guides Patient through to discharge
- 138. Oral Surgeon discharges Patient
- 139. Oral Surgeon documents treatment, updates DRC status, and transfers all

	<p>desired and relevant materials from medical EHR to D-EHR</p> <p><u>Oral Surgery Post-Op Appointment</u></p> <p>140. Dental Office Staff sends a secure message to Patient reminding him of his follow-up appointment</p> <p>141. Patient returns for post-op appointment one week later</p> <p>142. Dental Office Staff confirms Patient's identity, determines eligibility, checks Patient in, and notifies staff in DTR (through D-EHR Scheduler)</p> <p>143. Dental Assistant escorts Patient to DTR</p> <p>144. Dental Assistant confirms Patient identity, reviews Patient's past medical/dental history and treatment plan, records vital signs, and notes Patient's DRC status</p> <p>145. Dental Assistant notifies Oral Surgeon that Patient is ready to be seen (through D-EHR scheduler)</p> <p>146. Oral Surgeon confirms Patient's identity, reviews Patient's past medical/dental history, previous radiographs, medication list, treatment plan, and DRC status</p> <p>147. Oral Surgeon orders, reviews, and approves radiographs if needed</p> <p>148. Oral Surgeon performs post-op assessment</p> <p>149. Oral Surgeon updates Patient's DRC accordingly based on post-op assessment</p> <p>150. Surgical Team checks Patient out (through D-EHR)</p> <p>151. Oral Surgeon documents treatment and updates DRC status</p> <p><u>Retirement Exam</u></p> <p>152. Patient notifies dental clinic of upcoming retirement and schedules a retirement exam</p> <p>153. Dental Office Staff sends a secure message to Patient reminding him of his appointment</p> <p>154. Patient arrives for appointment</p> <p>155. Dental Office Staff confirms Patient's identity, determines eligibility, checks Patient in, and notifies staff in DTR (through D-EHR Scheduler)</p> <p>156. Dental Assistant escorts Patient to DTR</p> <p>157. Dental Assistant confirms Patient identity, reviews Patient's past medical/dental history and treatment plan, records vital signs, and notes Patient's DRC status</p> <p>158. Dental Assistant notifies Dentist A that Patient is ready to be seen (through D-EHR Scheduler)</p> <p>159. Dentist A confirms Patient's identity, reviews Patient's past medical/dental history, previous radiographs, medication list, treatment plan, and DRC status</p> <p>160. Dentist A orders, reviews, and approves radiographs if needed</p> <p>161. Dentist A performs complete intra-oral and extra-oral examination</p> <p>162. Dentist A instructs Dental Assistant to chart intra-oral and extra-oral examination findings in real time (through D-EHR)</p> <p>163. Dental Assistant checks Patient out (through D-EHR)</p> <p>164. Dentist A documents treatment and updates Patient's DRC status</p> <p>165. Patient retires from Military Service</p> <p>166. Dental Auxiliary Personnel electronically transfers Patient's dental portion of the STR to Medical Records Department</p>
<p><b>Data Objects/Exchange</b></p>	<p>Data objects documented on associated Cross Functional Diagrams (CFD) for each workflow on the Use Case Description (UCD).</p> <p><b>Part 1:</b></p> <p><u>Dental Consolidated Process:</u></p>

	<ul style="list-style-type: none"><li>• Dental Exam Notes</li><li>• D-EHR Schedule</li><li>• Administrative Reports</li><li>• Medical History<ul style="list-style-type: none"><li>○ Medication List</li><li>○ Allergies</li><li>○ Problem List</li><li>○ Consult Responses</li><li>○ Consult Statuses</li></ul></li><li>• Dental Patient Specific Information<ul style="list-style-type: none"><li>○ Patient Dental Record (lifetime)</li><li>○ Patient's Radiograph Images (lifetime)</li><li>○ Patient Dental Record (3 year)</li><li>○ Patient Treatment Plan</li><li>○ Available Artifacts</li><li>○ Dental Readiness Classification (DRC)</li></ul></li><li>• Patient Dental Record</li><li>• Order(s)</li><li>• Images</li><li>• Referral(s)</li><li>• Patient Signature</li><li>• Biopsy Log</li><li>• Patient Dental Record (Complete)</li></ul> <p><u>Endodontics and Prosthodontics; Interaction with Lab</u></p> <ul style="list-style-type: none"><li>• D-EHR Schedule</li><li>• Dental Patient Specific Information<ul style="list-style-type: none"><li>○ Patient Dental Record (lifetime)</li><li>○ Patient Health Record (3 year)</li><li>○ Patient's Radiograph Images (lifetime)</li><li>○ Patient Dental Record (3 year)</li><li>○ Patient Health Record (lifetime)</li><li>○ Patient's Treatment Plan</li><li>○ List of Available Images</li><li>○ Dental Readiness Classification (DRC)</li></ul></li><li>• Patient Dental Record<ul style="list-style-type: none"><li>○ Document Treatment</li><li>○ Update DRC Status</li></ul></li><li>• Order Complete Date Estimate</li><li>• Medical History</li></ul> <p><u>Periodontics and Cleaning</u></p> <ul style="list-style-type: none"><li>• D-EHR Schedule</li><li>• Dental Patient Specific Information<ul style="list-style-type: none"><li>○ Patient Dental Record (lifetime)</li><li>○ Patient Health Record (3 year)</li><li>○ Patient's Radiograph Images (lifetime)</li><li>○ Patient Dental Record (3 year)</li><li>○ Patient Health Record (lifetime)</li><li>○ Patient's Treatment Plan</li><li>○ List of Available Images</li><li>○ Dental Readiness Classification (DRC)</li></ul></li><li>• Patient Dental Record</li><li>• Vital Signs</li></ul>
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	<p><b>Part 2:</b>  <u>Theater Consolidated</u></p> <ul style="list-style-type: none"> <li>• D-EHR Schedule</li> <li>• Patient Health Record             <ul style="list-style-type: none"> <li>○ Patient Dental Record (lifetime)</li> <li>○ Patient Health Record (3 year)</li> <li>○ Patient’s Radiograph Images (lifetime)</li> <li>○ Patient Dental Record (3 year)</li> <li>○ Patient Health Record (lifetime)</li> <li>○ Patient’s Treatment Plan</li> <li>○ List of Available Images</li> </ul> </li> <li>• Dental Patient Specific Information             <ul style="list-style-type: none"> <li>○ Patient Dental Record (lifetime)</li> <li>○ Patient Health Record (3 year)</li> <li>○ Patient’s Radiograph Images (lifetime)</li> <li>○ Patient Dental Record (3 year)</li> <li>○ Patient Health Record (lifetime)</li> <li>○ Patient’s Treatment Plan</li> <li>○ List of Available Images</li> <li>○ Dental Readiness Classification (DRC)</li> </ul> </li> <li>• Patient Dental Record</li> </ul> <p><b>Part 3:</b>  <u>Oral Surgery Evaluation Appointment</u></p> <ul style="list-style-type: none"> <li>• D-EHR Schedule</li> <li>• Dental Patient Specific Information             <ul style="list-style-type: none"> <li>○ Patient Dental Record (lifetime)</li> <li>○ Patient Health Record (3 year)</li> <li>○ Patient’s Radiograph Images (lifetime)</li> <li>○ Patient Dental Record (3 year)</li> <li>○ Patient Health Record (lifetime)</li> <li>○ Patient’s Treatment Plan</li> <li>○ List of Available Images</li> <li>○ Dental Readiness Classification (DRC)</li> </ul> </li> <li>• Patient Dental Record             <ul style="list-style-type: none"> <li>○ Document treatment</li> <li>○ Update DRC Status</li> </ul> </li> </ul> <p><u>Oral Surgery Appointment</u></p> <ul style="list-style-type: none"> <li>• D-EHR Schedule</li> <li>• Dental Patient Specific Information             <ul style="list-style-type: none"> <li>○ Patient Dental Record (lifetime)</li> <li>○ Patient Health Record (3 year)</li> <li>○ Patient’s Radiograph Images (lifetime)</li> <li>○ Patient Dental Record (3 year)</li> <li>○ Patient Health Record (lifetime)</li> <li>○ Patient’s Treatment Plan</li> <li>○ List of Available Images</li> <li>○ Dental Readiness Classification (DRC)</li> </ul> </li> <li>• Orders</li> </ul> <p><u>Oral Surgery Post-Op Appointment</u></p> <ul style="list-style-type: none"> <li>• D-EHR Schedule</li> </ul>
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	<ul style="list-style-type: none"> <li>• Patient Dental Record</li> <li>• Dental Patient Specific Information             <ul style="list-style-type: none"> <li>○ Patient Dental Record (lifetime)</li> <li>○ Patient Health Record (3 year)</li> <li>○ Patient’s Radiograph Images (lifetime)</li> <li>○ Patient Dental Record (3 year)</li> <li>○ Patient Health Record (lifetime)</li> <li>○ Patient’s Treatment Plan</li> <li>○ List of Available Images</li> <li>○ Dental Readiness Classification (DRC)</li> </ul> </li> </ul> <p><b><u>Dental Sub-Processes:</u></b></p> <p><u>Dental Patient Check-In (Sub-process)</u></p> <ul style="list-style-type: none"> <li>• Demographic Search Information</li> <li>• Demographic Information</li> <li>• Eligibility Information</li> <li>• D-EHR Schedule</li> </ul> <p><u>Take Radiographs (Sub-process)</u></p> <ul style="list-style-type: none"> <li>• Orders</li> <li>• Images</li> </ul> <p><u>Gather Patient Data (Sub-process)</u></p> <ul style="list-style-type: none"> <li>• D-EHR Schedule</li> <li>• Dental Patient Specific Information             <ul style="list-style-type: none"> <li>○ Patient Dental Record (lifetime)</li> <li>○ Patient Health Record (3 year)</li> <li>○ Patient’s Radiograph Images (lifetime)</li> <li>○ Patient Dental Record (3 year)</li> <li>○ Patient Health Record (lifetime)</li> <li>○ Patient’s Treatment Plan</li> <li>○ List of Available Images</li> <li>○ Dental Readiness Classification (DRC)</li> </ul> </li> <li>• Medical History</li> <li>• Vital Signs</li> <li>• Special Duty Notification             <ul style="list-style-type: none"> <li>○ PRP</li> <li>○ DNIF</li> </ul> </li> </ul>
<p><b>Associated Process(es)</b></p>	<p>Definition: Known processes that are influenced and/or affected by the use case.</p> <p>Not applicable</p>
<p><b>Related OV-6cs</b></p>	<p>Definition: List of OV-6c documents relevant to Use Case</p> <ul style="list-style-type: none"> <li>• Dental: Child Process - Patient Check-in</li> <li>• Dental: Child Process - Gather Patient Data</li> <li>• Dental: Child Process - Order Radiographs</li> <li>• Dental: Endodontics and Prosthodontics Interaction with Lab</li> <li>• Dental: Preventive Care and Treatment</li> <li>• Dental: Preventive Care and Treatment (Oral Surgery Appointment)</li> <li>• Dental: Preventive Care and Treatment (Oral Surgery Evaluation)</li> </ul>

	<p>Appointment)</p> <ul style="list-style-type: none"> <li>• Dental: Preventive Care and Treatment (Oral Surgery Post-Op Appointment)</li> <li>• Dental: Preventive Care and Treatment (Periodontics and Cleaning)</li> <li>• Dental: Theater Consolidated</li> </ul>
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## 5.2 Dental Services: Deployed Forward Care (Disconnected) on a Navy Vessel

See Appendix 1: Business Process Models (DoDAF OV-6c) for the following corresponding Business Process Models:

- Dental: Deployed Forward Care (Disconnected) on a Navy Vessel

Table 5-2 Dental Services: Deployed Forward Care (Disconnected) on a Navy Vessel Use Case Description

UCD TYPE: AS-IS PROJECT: DEFENSE HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION (DHMSM) PROCESS: DENTAL – DEPLOYED FORWARD CARE (DISCONNECTED) ON A NAVY VESSEL	
<b>Description</b>	Definition: The main business goal/objective for the use case.
	This use case describes the process for when a ship deploys using the D-EHR in disconnected mode with pre-loaded dental records, adding a provider profile and dental record while at sea, and synchronizing data once the ship returns to port and gains internet connectivity.
<b>Actors</b>	Definition: Active participants in the use case.
	<ul style="list-style-type: none"> <li>• Dentist C: Dentist at deployed Navy vessel who is included in the ship's dental record pre-load</li> <li>• Dental Coordinator: Ensures ship's Company and Air Wing personnel's dental records are pre-loaded in the D-EHR</li> <li>• Dentist D: Dentist who replaces Dentist C at deployed Navy vessel who is not included in the ship's dental record pre-load</li> </ul>
<b>Stakeholders</b>	Definition: Individuals affected by the use case but are not active participants, e.g. Commanders
	<ul style="list-style-type: none"> <li>• Ship Command Team: Team responsible for the daily operations of the ship</li> <li>• Ship Medical Team: Team responsible for the medical care of the Active Duty Members onboard the ship</li> </ul>
<b>Background</b>	Definition: The context of the use case

	<p>A US Navy ship is leaving on a 6 month mission where it will be restricted from any Internet connectivity due to operational concerns. Before leaving, the ship's Dental Coordinator makes sure the Ship's Company and Air Wing personnel's dental records are pre-loaded in the ship's client-based executable version of the D-EHR software. Four months into deployment, a new Dentist (Dentist D) will be flown onto the carrier to replace another Dentist (Dentist C) transferring off the ship. Dentist D is able to be entered into the system as both a provider and patient. After providing and receiving care for the remaining 2 months of the deployment, Dentist D returns with the ship to port and the disconnected mode of D-EHR returns to normal operation mode with all dental data synchronized with the enterprise D-EHR.</p>
<p><b>Assumptions</b></p>	<p>Definition: The conditions necessary for the goal of the use case to be achieved.</p> <ol style="list-style-type: none"> <li>1. The ship has no Internet connectivity while deployed for 6 months</li> <li>2. Dentist D already has a dental record in the web-based dental application; however their record was not included in the pre-loaded, forward-stored feed for the ship</li> <li>3. Dentist C and D both provide and receive dental care</li> <li>4. The D-EHR returns to normal operation mode when the Navy ship returns to port due to re-establishing Internet connectivity</li> <li>5. Dental information captured onboard the ship is able to be electronically reconciled with the Enterprise system during data synchronization</li> <li>6. There are other dentists on the ship that are not mentioned in this use case</li> <li>7. Dental data captured from the private sector is also available to the Services and is included in the patient's dental health record prior to pre-load</li> <li>8. The D-EHR will have viewer capabilities that enable display of patient information</li> <li>9. During interim transition period, Dental Coordinator pre-loads 18 months of dental health record and personnel information</li> <li>10. During interim transition period, Dental Coordinator enters 18 months of dental health record and personnel information. This will include a combination of both legacy system data and new EHR data if applicable.</li> <li>11. During interim transition period, new information captured while on ship is transferred to the EHR</li> </ol>
<p><b>Steps</b></p>	<p>Definition: The sequence of interactions between actors and the system necessary to successfully meet the goal of the use case.</p> <ol style="list-style-type: none"> <li>1. Dental Coordinator pre-loads dental records and personnel information into the ship's client-based D-EHR</li> <li>2. Dentist C provides care. Dentist C receives dental care if another credentialed dentist is on the ship.</li> <li>3. Dentist C leaves the ship and Dentist D arrives</li> <li>4. Dental Coordinator enters Dentist D's personnel information and dental record into the disconnected mode of the dental application</li> <li>5. Dentist D provides care. Dentist D receives dental care if another credentialed dentist is on the ship. The Navy ship returns to port and the D-EHR returns to normal operation mode.</li> <li>6. Dental Coordinator performs synchronization of the D-EHR</li> <li>7. Dental data captured during the mission is synchronized with the Enterprise system</li> </ol>
<p><b>Data Objects/Exchange</b></p>	<p>Definition: Data objects documented on associated OV-6c for each workflow on the Use Case Description (UCD).</p> <ul style="list-style-type: none"> <li>• Dental Patient Specific Information             <ul style="list-style-type: none"> <li>○ Patient Dental Record (lifetime)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Patient Health Record (3 year)</li> <li>○ Patient's Radiograph Images (lifetime)</li> <li>○ Patient Dental Record (3 year)</li> <li>○ Patient Health Record (lifetime)</li> <li>○ Patient's Treatment Plan</li> <li>○ List of Available Images</li> <li>○ Dental Readiness Classification (DRC)</li> <li>○ Medication List</li> <li>○ Allergies</li> <li>○ Consult Responses</li> <li>○ Consult Statuses</li> <li>● Ship Based D-EHR <ul style="list-style-type: none"> <li>○ Medical History</li> <li>○ Medication List</li> <li>○ Allergies</li> <li>○ Problem List</li> <li>○ Consult Responses</li> <li>○ Consult Statuses</li> </ul> </li> <li>● Patient Dental Record</li> <li>● Medical History <ul style="list-style-type: none"> <li>○ Medication List</li> <li>○ Allergies</li> <li>○ Problem List</li> <li>○ Consult Responses</li> <li>○ Consult Statuses</li> </ul> </li> <li>● Provider Credentials</li> </ul>
<b>Associated Process(es)</b>	Definition: Known processes that are influenced and/or affected by the use case.
	Not applicable
<b>Related OV-6cs</b>	Definition: List of OV-6c documents relevant to Use Case
	Dental: Deployed Forward Care (Disconnected) on a Navy Vessel

### 5.3 Dental Services: Mass Dental Exam for Pre-deployment

See Appendix 1: Business Process Models (DoDAF OV-6c) for the following corresponding Business Process Models:

- Dental: Child Process - Patient Check-in
- Dental: Child Process Order Radiographs
- Dental: Mass Dental Exam for Pre-Deployment

Table 5-3 Dental Services: Mass Dental Exam for Pre-deployment Use Case Description

<b>UCD TYPE: AS-IS</b> <b>PROJECT: DEFENSE HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION (DHMSM)</b> <b>PROCESS: DENTAL – MASS DENTAL EXAM FOR PRE-DEPLOYMENT</b>	
<b>Description</b>	Definition: The main business goal/objective for the use case.
	This use case describes the process for a mass dental exam scenario in which

	dentists must see and treat a large volume of patients in a short period of time. As a result, high priority patients are identified to receive treatment first. The D-EHR must capture a high volume of patient information in a limited time span and continually track individuals patient's Dental Readiness Classification (DRC) as it changes.
<b>Actors</b>	Definition: Active participants in the use case.
	<ul style="list-style-type: none"> <li>• Unit Deployment Monitor (UDM): Responsible for informing Dental Administrative Staff that Service Members need dental exams for deployment</li> <li>• Dental Administrative Staff: Responsible for scheduling deployment dental exam appointments for Service Members</li> <li>• Dentist: Performs dental exams for deployment</li> <li>• Dental Assistant: Assistant to the Dentists</li> <li>• Service Member: Active Duty Service Member (ADSM)</li> </ul>
<b>Stakeholders</b>	Definition: Individuals affected by the use case but are not active participants, e.g. Commanders
	<ul style="list-style-type: none"> <li>• Commander: Senior Leader in charge of the daily operations of the Military Base</li> </ul>
<b>Background</b>	A military unit has been preparing for an upcoming deployment in 3 months to Afghanistan. As part of that deployment, all 4500 Service Members in the unit will undergo dental examinations within a 7 day period at their local dental clinic. Any DRC-3 Service Members identified in the mass exams are prioritized for treatment so that they are not in a high risk status during their deployment. Of the 4500 Service Members in the unit, 400 are identified as DRC-3. These DRC-3 Service Members are given prioritized appointments so they are cleared of their high risk conditions. Over the next 3 months, all 400 DRC-3 Service Members are treated and the Service Members deploy with DRC-1 or DRC-2 status.
<b>Assumptions</b>	Definition: The conditions necessary for the use case goal to be achieved.
	<ol style="list-style-type: none"> <li>1. In order to meet this mission, the 10 general dentists at the clinic will be performing approximately 70 dental exams per dentist, per day, for 7 straight days. In other words, each dentist will do approximately 490 exams in a one week period.</li> <li>2. All Service Members in the unit are present for the scheduled examinations</li> <li>3. The D-EHR is available and accessible for data capture and to update DRC status</li> <li>4. All necessary treatment is rendered before deployment date</li> <li>5. The Dental Readiness Classification (DRC) is known to be the following: <ol style="list-style-type: none"> <li>a. DRC-1 members have no dental needs and are deployable</li> <li>b. DRC-2 members have identified needs not expected to require emergent care within 1 year and are deployable</li> <li>c. DRC-3 members have dental needs that could be expected to potentially create an emergency visit within one year if left untreated and are not deployable</li> <li>d. DRC-4 members are overdue for their annual exam or are not deployable due to unknown status</li> </ol> </li> <li>6. For accountability purposes, Commanders must be electronically notified of their personnel's DRC if they change to a non-deployable status</li> <li>7. Ad-hoc DRC reports can be generated at different levels ranging from the individual patient to the global enterprise level</li> <li>8. The D-EHR will have viewer capabilities that enable display of patient</li> </ol>

	<p>information</p> <p>9. During interim transition period, Dentists access past eighteen months of medical/dental history</p>
<b>Steps</b>	<p>Definition: The sequence of interactions between actors and the system necessary to successfully meet the goal of the use case.</p>
	<ol style="list-style-type: none"> <li>1. The Unit Deployment Monitor (UDM) informs Dental Administrative Staff that 4500 Service Members need deployment exams</li> <li>2. Dental Administrative Staff schedules mass exam in advance of unit deployment date for all 4500 Service Members</li> <li>3. Service Members arrive at clinic for their deployment exams. Dental Assistant checks in each patient, confirms identity, reviews health record, and takes radiographs if needed. Dentists are notified when patients are ready to be seen.</li> <li>4. Ten Dentists perform mass dental examinations within a per exam average of 6 to 8 minutes, including all encounter documentation (e.g., graphical charting of existing conditions and treatment needs) on 4500 Service Members in one week (during the same week). Dentist electronically updates DRC status in the D-EHR after each exam.</li> <li>5. If needed, the Dental Assistant schedules follow-up appointments after each exam until the Service Member is DRC-1 or DRC-2</li> <li>6. Unit deploys as DRC-1 or DRC-2</li> </ol>
<b>Data Objects/Exchange</b>	<p>Definition: Data objects documented on associated OV-6c for each workflow on the Use Case Description (UCD).</p>
	<ul style="list-style-type: none"> <li>• D-EHR Scheduler</li> <li>• Patient Dental Record</li> <li>• Dental Patient Specific Information <ul style="list-style-type: none"> <li>○ Patient Dental Record (lifetime)</li> <li>○ Patient Health Record (3 year)</li> <li>○ Patient's Radiograph Images (lifetime)</li> <li>○ Patient Dental Record (3 year)</li> <li>○ Patient Health Record (lifetime)</li> <li>○ Patient's Treatment Plan</li> <li>○ List of Available Images</li> </ul> </li> <li>• Dental Readiness Classification (DRC)</li> </ul>
<b>Associated Process(es)</b>	<p>Definition: Known processes that are influenced and/or affected by the use case.</p>
	<p>Not Applicable</p>
<b>Related OV-6cs</b>	<p>Definition: List of OV-6c documents relevant to Use Case</p>
	<ul style="list-style-type: none"> <li>• Dental: Child Process - Patient Check-in</li> <li>• Dental: Child Process - Order Radiographs</li> <li>• Dental: Mass Dental Exam for Pre-Deployment</li> </ul>

## Appendix 1: Business Process Models

Business Model*
Global: Warrior Moves Through Accession and Recruit In-Processing Theater
Global: Patient Admission to Garrison Hospital from Theater
Operational Medicine: First Responder
Operational Medicine: Role 1 Military Treatment Facility
Operational Medicine: Humanitarian Assistance/Disaster Response
Operational Medicine: Submarine
Dental: Child Process - Patient Check-in
Dental: Child Process - Gather Patient Data
Dental: Child Process - Order Radiographs
Dental: Endodontics and Prosthodontics Interaction with Lab
Dental: Preventive Care and Treatment
Dental: Preventive Care and Treatment (Oral Surgery Appointment)
Dental: Preventive Care and Treatment (Oral Surgery Evaluation Appointment)
Dental: Preventive Care and Treatment (Oral Surgery Post-Op Appointment)
Dental: Preventive Care and Treatment (Periodontics and Cleaning)
Dental: Theater Consolidated
Dental: Deployed Forward Care (Disconnected) on a Navy Vessel
Dental: Mass Dental Exam for Pre-Deployment

\*Each Business Model is depicted in the following pages.

## Appendix 2: DHMSM Use Case Scenario Acronym List

Acronym	Meaning
ACLS	Advanced Cardiovascular Life Support
ADL	Activities of Daily Living
ADSM	Active Duty Service Member
AE	Aeromedical Evacuation
BLS	Basic Life Support
BMI	Body Mass Index
CAC	Common Access Card
CDR	Clinical Data Repository
CFD	Cross Functional Diagram
CMO	Chief Medical Officer
COMMZ/EAC	Communication Zone/Echelons Above Corps
COMNAVSUBPAC	Commander Naval Submarine Pacific
COMNAVSURFPACFORM 6000	Commander Naval Submarine Pacific Form 6000
CONUS	Continental (or Contiguous) United States
CPR	Courtesy Prescreen Review
CSH	Combat Support Hospital
DD	Department of Defense (forms only)
DEERS	Defense Enrollment Eligibility Reporting System
D-EHR	Dental Electronic Health Record
DHMSM	Department of Defense Healthcare Management System Modernization
DNIF	Duty Not to Include Flying
DOB	Date of birth
DoD	Department of Defense

Acronym	Meaning
DoDMERB	Department of Defense Medical Examination Review Board
DOS	Department of State
DRC	Dental Readiness Classification
DTF	Dental Treatment Facility
DTR	Dental Treatment Room
EAC	Echelons Above Corps
EENT	Eyes/Ears/Nose/Throat
EHR	Electronic Health Record
ER	Emergency Room
FMC	Field Medical Card
GI	Gastrointestinal
GU	Genitourinary
HDR	Health Data Repository
HEDIS	Healthcare Effectiveness Data and Information Set
HHS	United States Department of Health and Human Services
HIE	Health Information Exchange
HIV	Human Immunodeficiency Virus
HQ	Headquarters
HUMVEE	High Mobility Multipurpose Wheeled Vehicle
IAW DODI 1336.08	In Accordance With Department of Defense Instruction 1336.08
ICU	Intensive Care Unit
ICW	Intensive Care Ward
ID	Information Document
IDC	Independent Duty Hospital Corpsman
IDMT	Independent Duty Medical Technician

Acronym	Meaning
IED	Improvised Explosive Device
IM	Intramuscular
IV	Intravenous
IVP	Intravenous Push
J-7	Joint Staff directorate 7 - Operational Plans and Joint Force Development
LRMC	Landstuhl Regional Medical Center
MAR/eMAR	Medication Administration Record/electronic Medication Administration Record
MCW	Minimum Care Ward
MEDEVAC	Medical Evacuation
MEPS	Military Entrance Processing Station
MHS	Military Health System
MTF	Military Treatment Facility
NGO	Non-Governmental Organization
NP	Nurse Practitioner
OCONUS	Outside the Contiguous [or Continental] United States
OE	Operational Environment
OEMCC	Operational Environment Mobile Computing Capability
OpMed	Operational Medicine
OR	Operating Room
OV	Operational View
PA	Physician Assistant
PACU	Post Anesthesia Care Unit
PBAM	Performance Based Adjustment Model
PECC	Patient Evacuation Coordinating Cell

Acronym	Meaning
PRP	Personnel Reliability Program
PULHES	Physical Capacity or Stamina, Upper Extremities, Lower Extremities, Hearing and Ears, Eyes, Psychiatric
RHIE	Regional Health Information Exchange
RHIO	Regional Health Information Organization
RN	Registered Nurse
RTC	Recruit Training Center
SF	Standard Form
SMWRA	Service Medical Waiver Review Authority
SOAP	Subjective, Objective, Assessment, Plan
SSA	Social Security Administration
STR	Service Treatment Record
TRAC2ES	U.S. Transportation Command Regulating and Command & Control Evacuation System
UCD	Use Case Description
USCIS	United States Citizenship and Immigration Services
USMEPCOM	United States Military Entrance Processing Command
USMIRS	United States Military Entrance Processing Command Integrated Resource System
USNS	United States Naval Ship
USTRANSCOM	United States Transportation Command
VBA	Veterans Benefits Administration
VHA	Veterans Health Administration
VistA	Veteran Health Information System and Technology Architecture

## Appendix 3: DHMSM Use Cases Glossary

Glossary Term	Definition
98W Medic	The Military Occupation Specialty (MOS) code for Healthcare Specialists.
9-Line MEDEVAC Form	This form is completed when an illness, injury, or casualty requires medical evacuation and a patient pickup site, request medical evacuation.
Accession	The military services' process of recruiting new soldiers into the military to carry out mission-essential tasks.
Accession Medical Record	Refers to a medical/dental record for each new recruit during recruit training/service entry. Accession Medical Records will be contained in the Electronic Health Record. However, they will be kept separate from patient records with specific user access controls.
Active Duty Service Member	Active Duty Service Member is used to designate officer and enlisted Service members who are on active duty.
Aeromedical Evacuation	Refers to the movement of patients under medical supervision to and between Medical Treatment Facilities by air transportation.
Combat Support Hospital	A type of modern United States military field hospital. It is transportable by aircraft and trucks and is normally delivered to the Corps Support Area in standard military owned cargo containers. Once transported, it is assembled by the staff into a tent hospital to treat patients.
Commander Naval Submarine Pacific Form 6000	This form is completed within the 9-Line MEDEVAC Form.
Communication Zone/Echelons Above Corps	Rear part of a theater of war or theater of operations (behind but contiguous to the combat zone) which contains the lines of communications, establishments for supply and evacuation, and other agencies required for the immediate support and maintenance of the field forces.
Continental (or Contiguous) United States	Refers to the 48 U.S. states on the North American continent that are south of Canada.
Courtesy Prescreen Review	Pre-accession screening performed prior to acceptance into the military.
DD Form 1380 - Field Medical Card	This form is part of the official and permanent medical treatment records. It aids medical treatment staff by having a record of patient care initiated prior to the patient's arrival to the medical facility. This record may prevent accidental medication overdoes, alert the receiving medical facility to any special patient care needed for treatment, and provides an accurate record of care already given.

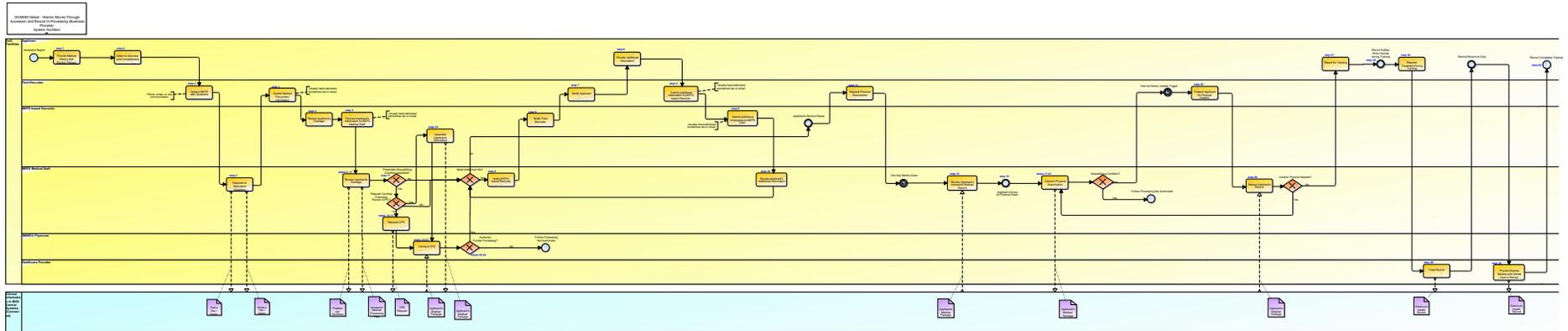
Glossary Term	Definition
Defense Enrollment Eligibility Reporting System	A computerized database of military sponsors, families and others worldwide who are entitled under the law to TRICARE benefits.
Dental Readiness Classification (DRC)	<p>The classification of a patient's dental status into one of four categories. Each category is used to determine the state of the patient's dental health and whether they are dentally stable for a military deployment:</p> <ul style="list-style-type: none"> <li>• Dental Readiness Classification 1: members have no dental needs and are deployable</li> <li>• Dental Readiness Classification 2: members have identified needs not expected to require emergent care within 1 year and are deployable</li> <li>• Dental Readiness Classification 3: members have dental needs that could be expected to potentially create an emergency visit within one year if left untreated, and are not deployable</li> <li>• Dental Readiness Classification 4: members are overdue for their annual exam or are not deployable due to unknown status</li> </ul>
Department of Defense Medical Examination Review Board	<p>Department of Defense Medical Examination Review Board (DoDMERB) works with States during the medical phase of accessions into U.S. Service Academies, Reserve Officers' Training Corps Scholarship Programs, Direct Commission Programs, and the Uniformed Services University of the Health Sciences. During this process, potential Service members are required to complete a medical physical exam at the Medical Detachment Facility or at the Military Entrance Processing Station depending on State procedures. DoDMERB medically examines potential Service members, evaluates their medical history, and determines whether or not they meet Armed Forces medical accession standards as outlined in Army Regulation (AR) 40-501 Chapter 2, Standards of Medical Fitness.</p>
Digital Time Out	The digital documentation of the "time out" conducted by the provider to verify patient, anatomical location, and procedure with the assistant present for all invasive procedures.
Duties Not to Include Flying	This refers to a patient who receives medical/dental care in which such care may affect their ability to work on an aircraft (i.e., pilot, air crew, and navigator).
Field Hospital	A large mobile medical unit, or mini hospital, that temporarily takes care of casualties on-site before they can be safely transported to more permanent hospital facilities. It has a medical staff with a mobile medical kit and often a wide tent-like shelter so that it can be readily set up near the source of the casualties.
Garrison	A permanent fixed facility military installation.

Glossary Term	Definition
Health Information Exchange	The mobilization of healthcare information electronically across organizations within a region, community or hospital system. In practice the term Health Information Exchange may also refer to the organization that facilitates the exchange.
Homeport	The port from which a ship hails or from which it is documented.
Improvised Explosive Device	A homemade bomb that may be constructed and deployed in ways other than in conventional military action. It may be constructed of conventional military explosives, such as an artillery round, attached to a detonating mechanism.
In Accordance With Department Of Defense Instruction 1336.08	Military Human Resource Records Life Cycle Management Department of Defense Instruction that establishes policy and assigns responsibilities for military human resource records life cycle management. It prescribes procedures for implementation of military human resource records life cycle management (i.e., the creation, maintenance, use, and disposition) in the Department of Defense.
Independent Duty Corpsman	Provides health services to as many as 300 or more crew members without the direct supervision of a physician. They are also responsible for the occupational health and preventive medicine programs aboard a ship.
Independent Duty Medical Technician	Specialized Corpsman who serves for shipboard and for fleet marine forces (clinical).
J-7 Physicians	Physician affiliated with the Joint Staff directorate 7 - Operational Plans and Joint Force Development
Medical Evacuation	Timely and efficient movement and en route care provided by medical personnel to wounded being evacuated from a battlefield, to injured patients being evacuated from the scene of an accident to receiving medical facilities, or to patients at a rural hospital requiring urgent care at a better-equipped facility using medically equipped ground vehicles (ambulances) or aircraft (air ambulances).
Medication Administration Record/electronic Medication Administration Record	The report that serves as a legal record of the drugs administered to a patient at a facility by a health care professional. It is part of a patient's permanent record on their medical chart.
Military Entrance Processing Station	Ensures that each new member of the Armed Forces meets the high mental, moral and medical standards required by the Department of Defense and the military services.
Operation Environment Mobile Computing Capability	A mobile device into which the Navy Corpsman enters the treatment.
Operational Environment	A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander.

Glossary Term	Definition
Outside Contiguous United States	Refers to locations is an acronym for outside the contiguous (or continental) United States, to which includes Alaska, Hawaii, and U.S. Territories and Possessions, such as Puerto Rico.
Patient Evacuation Coordinating Cell	Process for requesting a MEDEVAC Medical Evacuation.
Personnel Reliability Program	Ensures the highest possible standards of individual reliability for personnel performing duties associated with nuclear weapons and critical components. Requires the selection and retention of only those personnel who are emotionally stable and physically capable, and who have demonstrated reliability and professional competence.
Physical Capacity or Stamina, Upper Extremities, Lower Extremities, Hearing and Ears, Eyes, Psychiatric	A military term used in the Military Physical Profile Serial System. It is used to qualify an enlistee's physical profile for each military skill. Each letter in the acronym is paired with a number from 1 to 4 to designate the soldier's or airman's physical capacity.
Post-Anesthesia Care Unit	An area normally attached to operating theater suites and designed to provide care for patients recovering from anesthesia, whether it is general anesthesia, regional anesthesia, or local anesthesia.
Regional Health Information Exchange	A type of health information exchange organization that brings together health care stakeholders within a defined geographic area and governs health information exchange among them for the purpose of improving health and care in that community.
Regional Health Information Organization	Includes a range of participating health care provider entities as well as other health stakeholders such as payers, laboratories and public health departments and are often managed by a board of directors comprised of representatives from each participating organization.
Role 1 Facility	Referred to as a Battalion Aid Station. This facility provides triage, treatment, stabilization, and evacuation services. Assigned personnel include: a Physician, a Physician Assistant, and Medics.
Role 2 Facility	This facility provides primary care, optometry, combat operational stress control and mental health, dental, laboratory, surgical, and X-ray services. The composition of personnel may differ depending on the Service.
Role 3 Facility	This facility offers the highest level of medical care within the combat zone. Services are broad enough to meet patient demand within the combat environment, such as hospitalization, ancillary services, surgery, post-op care, stabilization, evacuation, dental, neurosurgical, orthopedic.

Glossary Term	Definition
Role 4 Facility	This facility is usually a permanent or semi-permanent facility designed to provide care to patients outside of the combat zone who require intensive rehabilitation or specialized care. The Joint Publication 4-02 Health Service Support defines Role 4 medical care as “medical care found in US base hospitals and robust overseas facilities”. The DHMSM ID/IQ PWS treats Role 4 facilities as a Segment 1 Military Treatment Facility (MTF).
Service Medical Waiver Review Authority	Determines if a medical waiver can be granted.
Service Treatment Record	Chronology of medical, dental, and mental health care received by Service members during the course of their military career.
Sickbay	The compartment in a ship used as a dispensary and hospital; a place for the care of the sick or injured.
Standard Form 600	Form used to document medical care provided to each Service member in chronological order.
Theater Environment	Encompasses the physical, environmental, human resource, technology and communications challenges which are unique to a particular theater of operations.
TRANSCOM Regulating and Command & Control Evaluation System TRAC2ES	Automated Information System that combines transportation, logistics, and clinical decision elements into a seamless patient movement automated information system.
United States Military Entrance Processing Command	Evaluates applicants by applying established DoD standards during processing in order to determine eligibility for military service.
United States Military Entrance Processing Command Integrated Resource System	The official accession reporting system for Department of Defense (DoD) and for reporting accession data for the Services to Defense Manpower Data Center-West for statistical analysis, including applicant processing, reporting requirements, and quality assurance standards.
United States Naval Ship	The prefix designation given to non-commissioned ships that are property of the United States Navy.
USNS COMFORT Ship's Master	Naval Officer who is in charge of all aspects of the ship's crew, passengers, equipment, and any activities it is tasked to accomplish.
Watchstanding duties	Duties are performed by an active duty service member on board Navy vessels. Duties include but are not limited to: fire control, damage control, navigation, and communication.

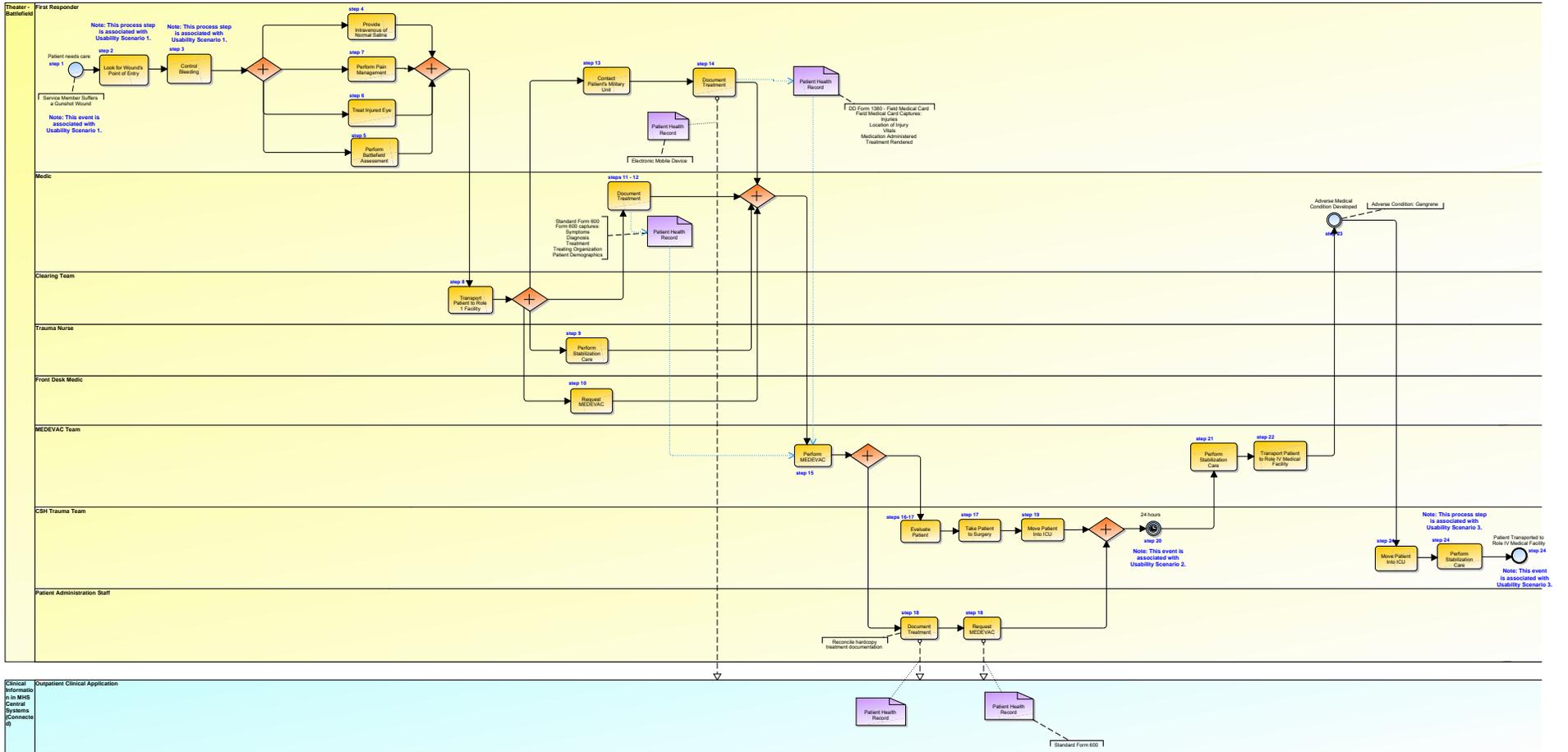
# Global: Warrior Moves Through Accession and Recruit In-Processing Theater





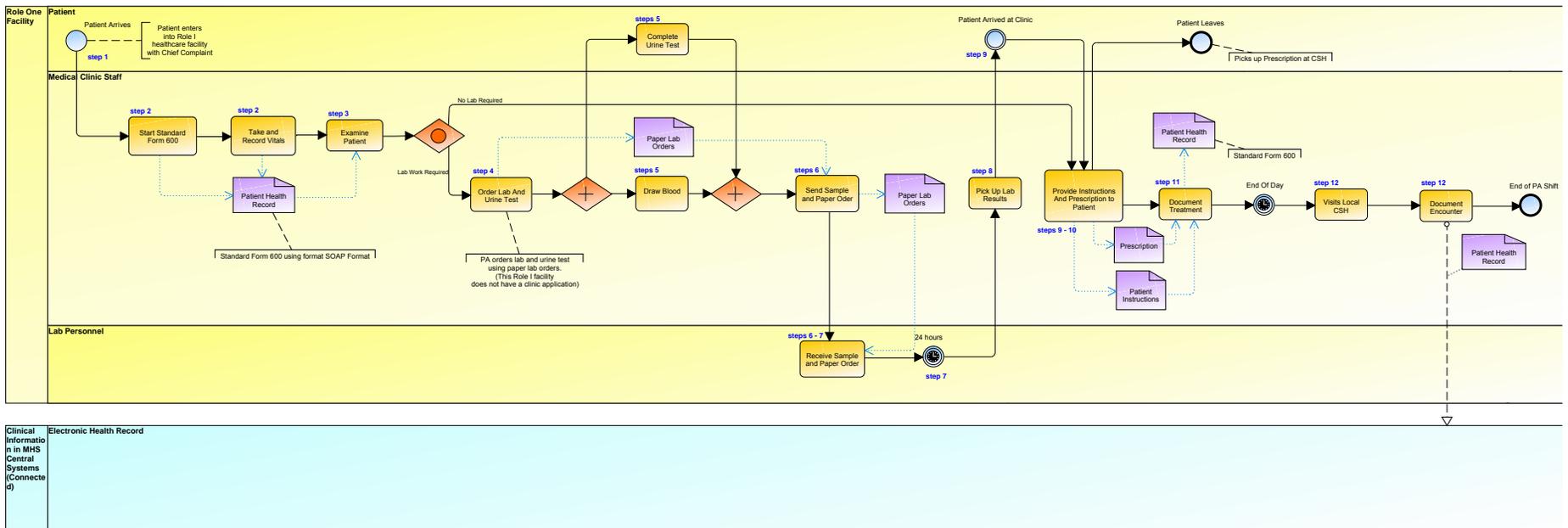
# Operational Medicine: First Responder

DHSM Operational Medicine - First Responder  
 (Business Process)  
 System Architect  
 Thursday, July 03, 2014 1:37 PM



# Operational Medicine: Role 1 Military Treatment Facility

DHMSM Operational Medicine - Role 1 Military Treatment Facility (Business Process) System Architect  
Thursday, July 03, 2014 1:39 PM

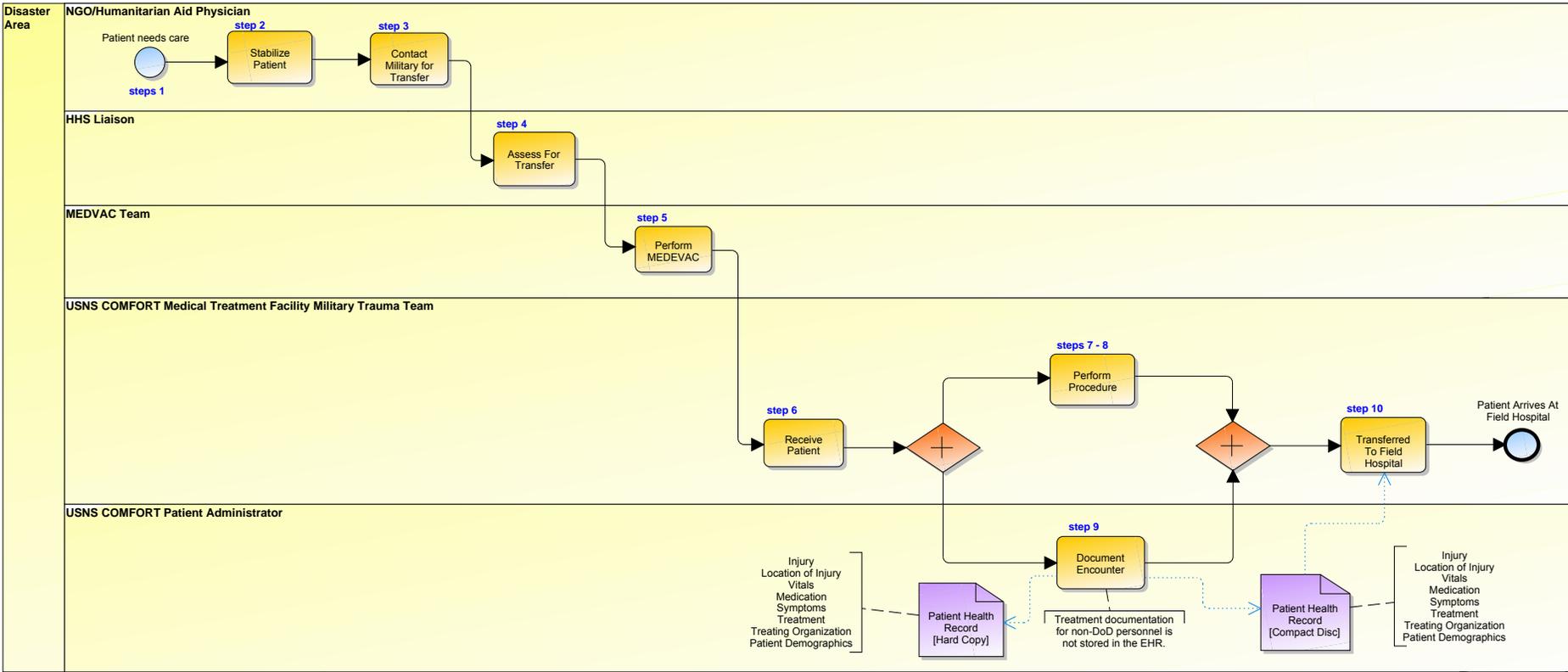


# Operational Medicine: Humanitarian Assistance/Disaster Response

**DHMSM Operational Medicine - Humanitarian  
(Business Process)  
System Architect  
Wednesday, July 02, 2014 1:46 PM**

Comment

**Version 1.0 Draft  
DoDAF 1.5  
Defense Health Agency**

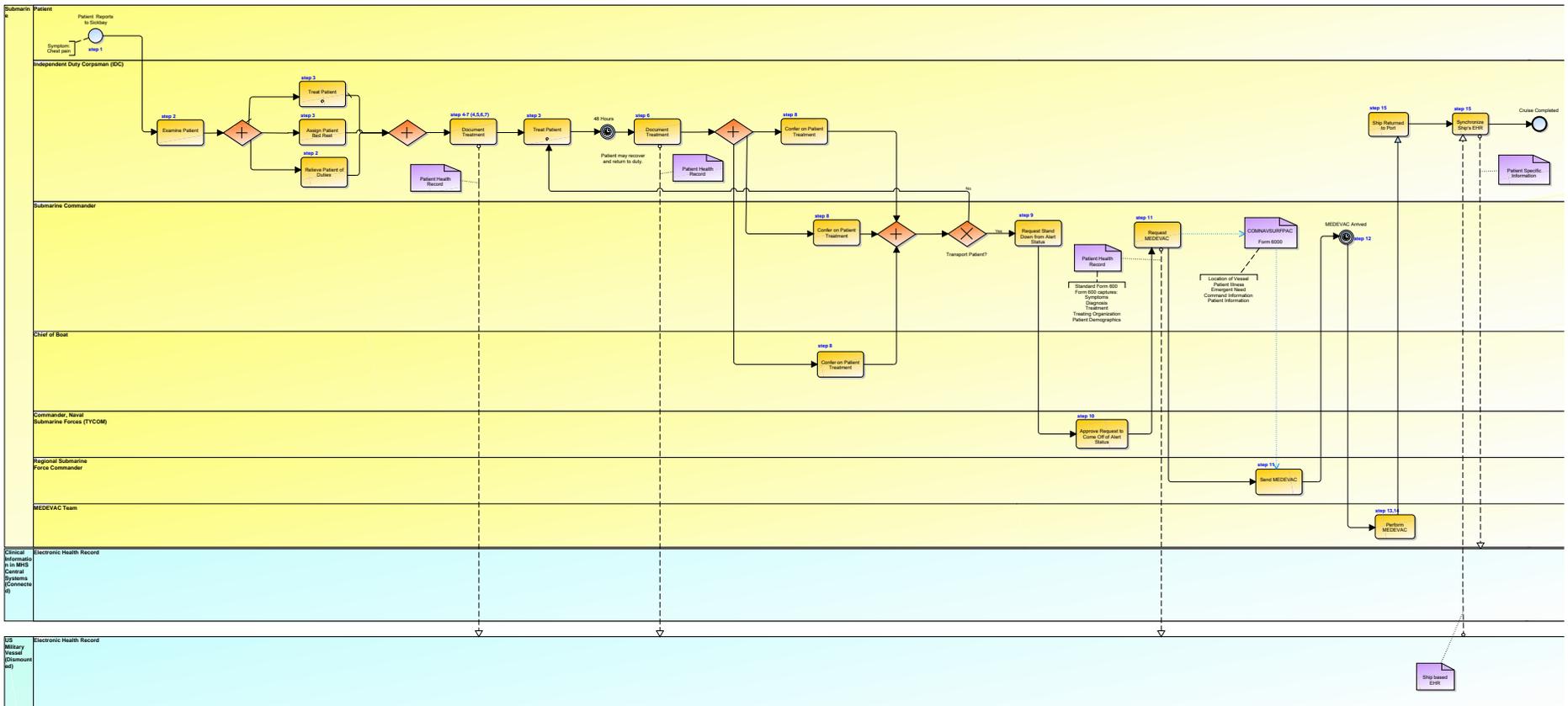


**Clinical Information in MHS Central Systems (Connected)**

**Electronic Health Record**

# Operational Medicine: Submarine

DHMSM-Operational Medicine-Submarine  
 (Business Process)  
 System Architect  
 Wednesday, July 02, 2014 1:47 PM  
 Version 1.0 Draft  
 DoDAAC 1.0  
 Defense Health Agency



# Dental: Child Process - Patient Check-in

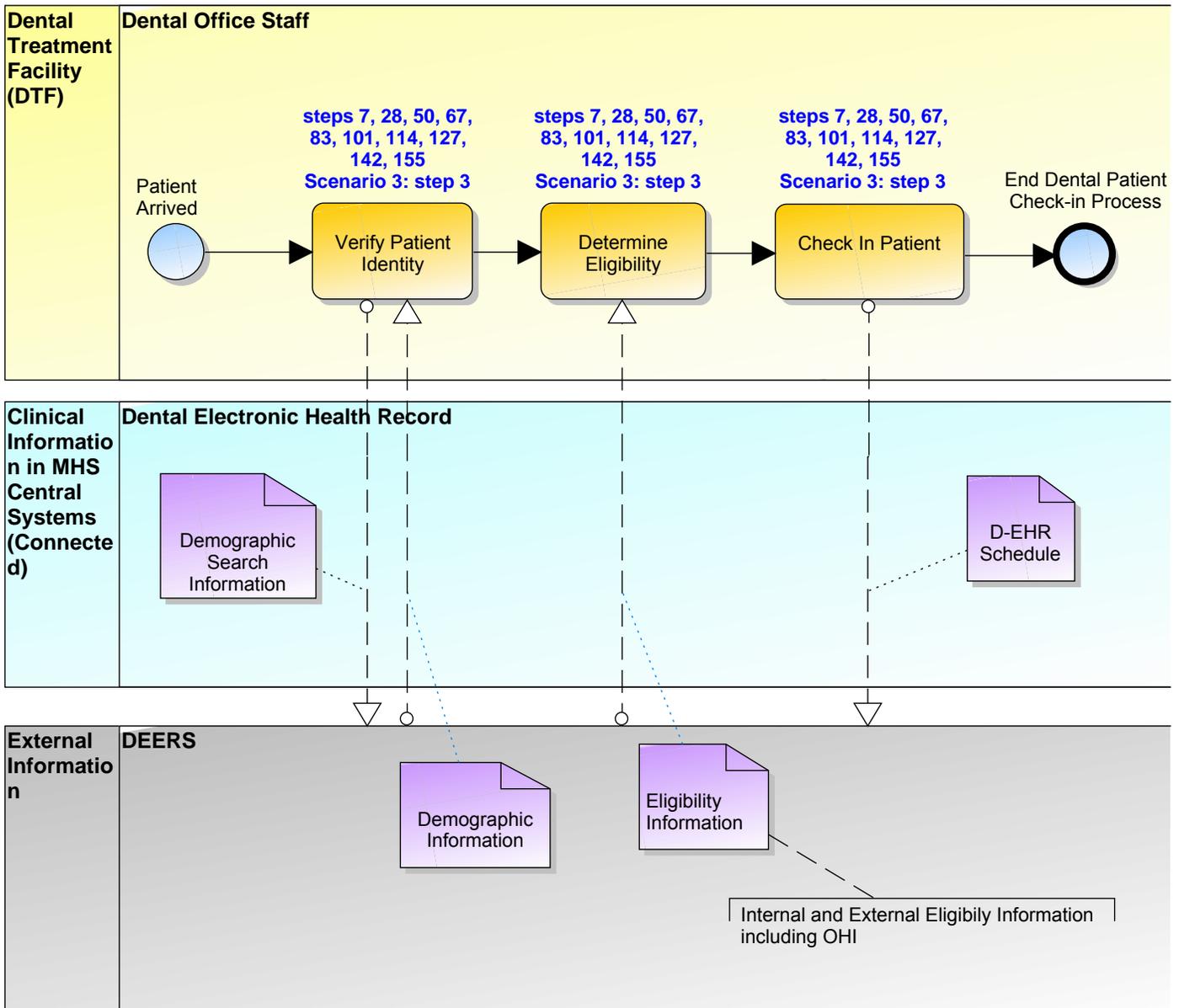
**1 DHMSM Dental - Child Process - Patient Check-in (Business Process), READ ONLY**  
**System Architect**  
**Friday, June 20, 2014 3:40 PM**

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Comment

**This process consists of patient identification, check eligibility, verifying and updating insurance, etc.**

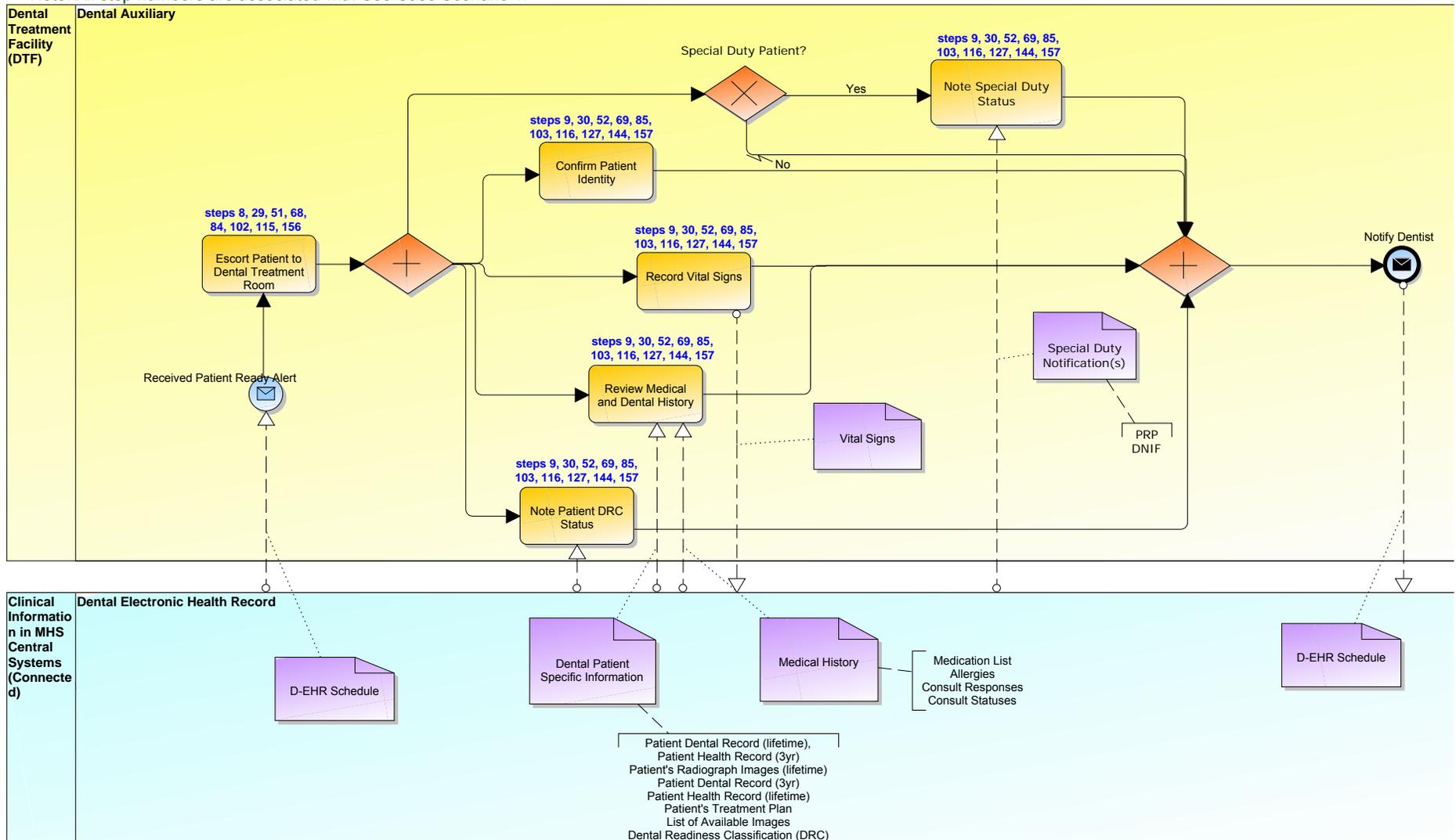
Note: Unless otherwise noted, step numbers are associated with Use Case Scenario 1.



# Dental: Child Process - Gather Patient Data

41 DHMSM Dental - Child Process - Gather Patient Data (Business Process), READ ONLY  
System Architect  
Wednesday, July 02, 2014 1:50 PM

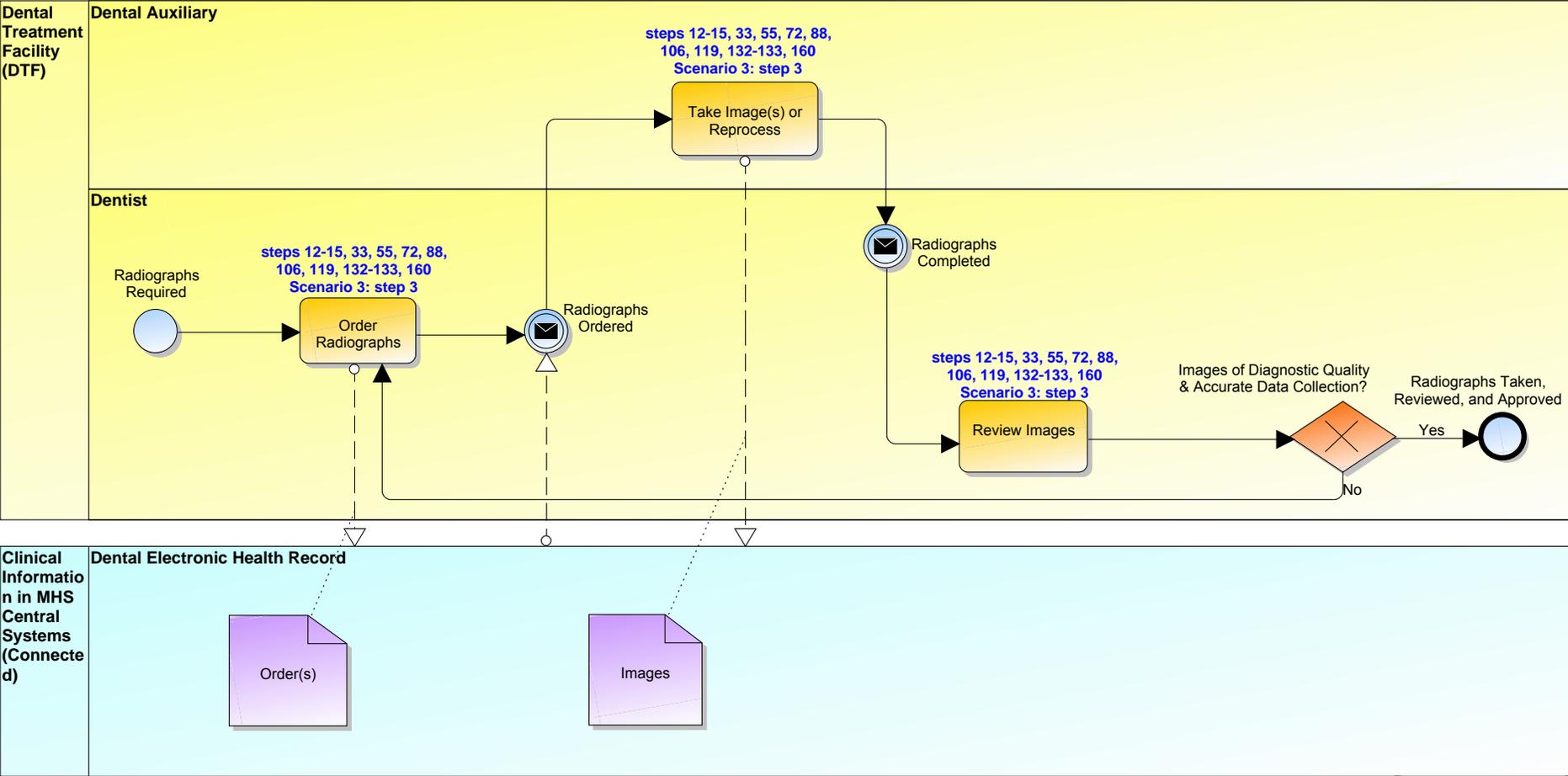
Note: All step numbers are associated with Use Case Scenario 1.



# Dental: Child Process - Order Radiographs

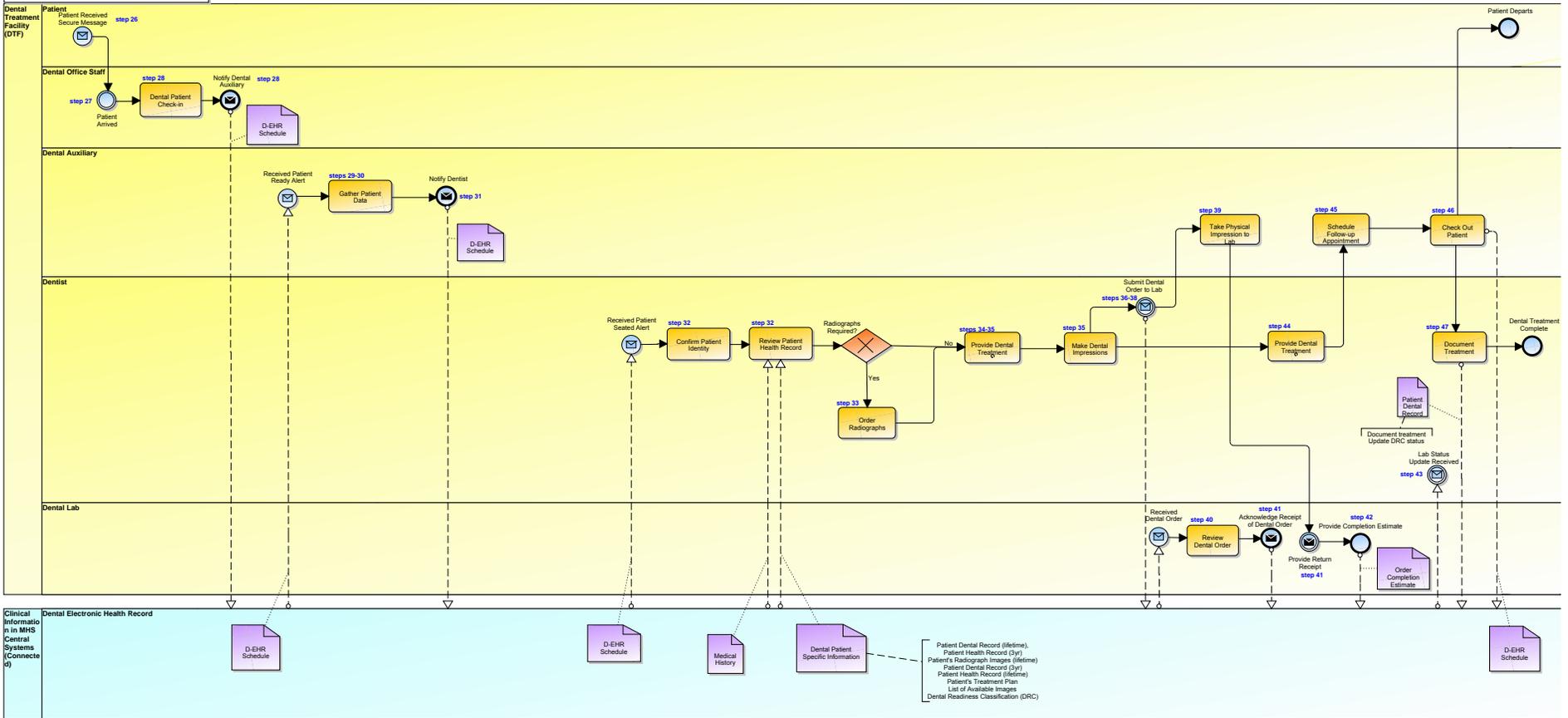
46 DHMSM Dental - Child Process - Order Radiographs (Business Process)  
 System Architect  
 Friday, June 20, 2014 3:44 PM

Note: Unless otherwise noted, step numbers are associated with Use Case Scenario 1.

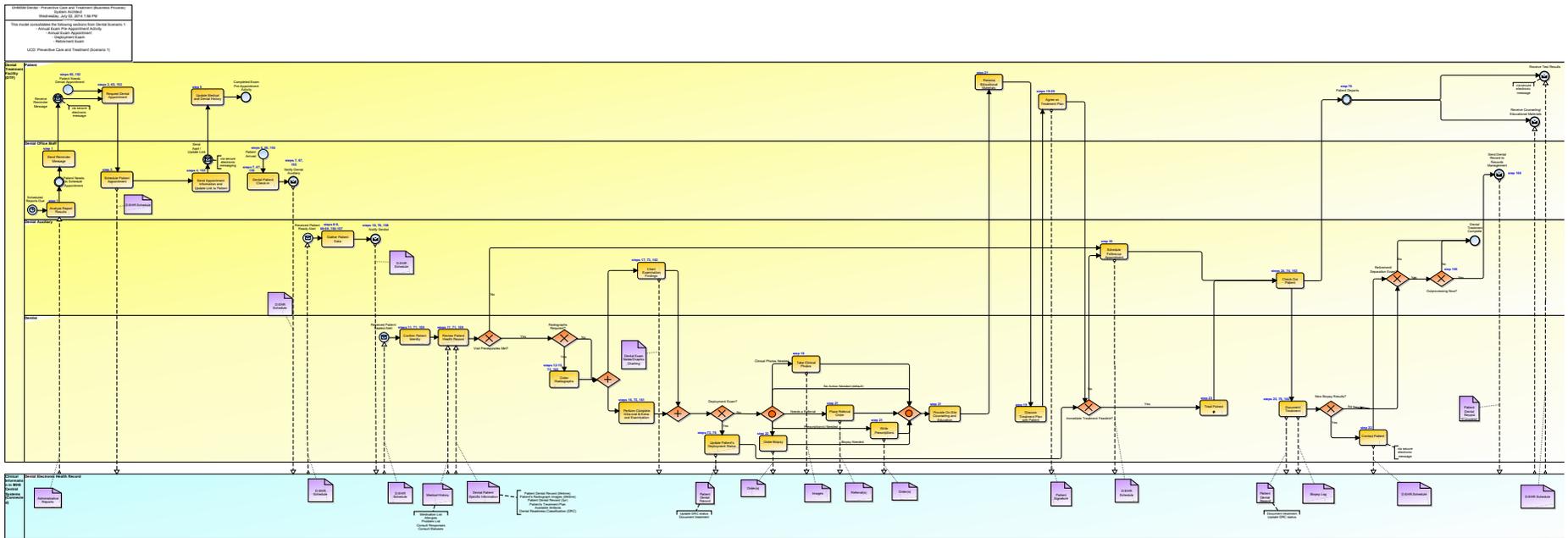


# Dental: Endodontics and Prosthodontics Interaction with Lab

DHMSM Dental - Endodontics & Prosthodontics:  
Interaction with Lab (Business Process)  
System Architect  
Tuesday, July 01, 2014 3:21 PM  
Consolidated  
UCD: Preventive Care and Treatment (Scenario 1)

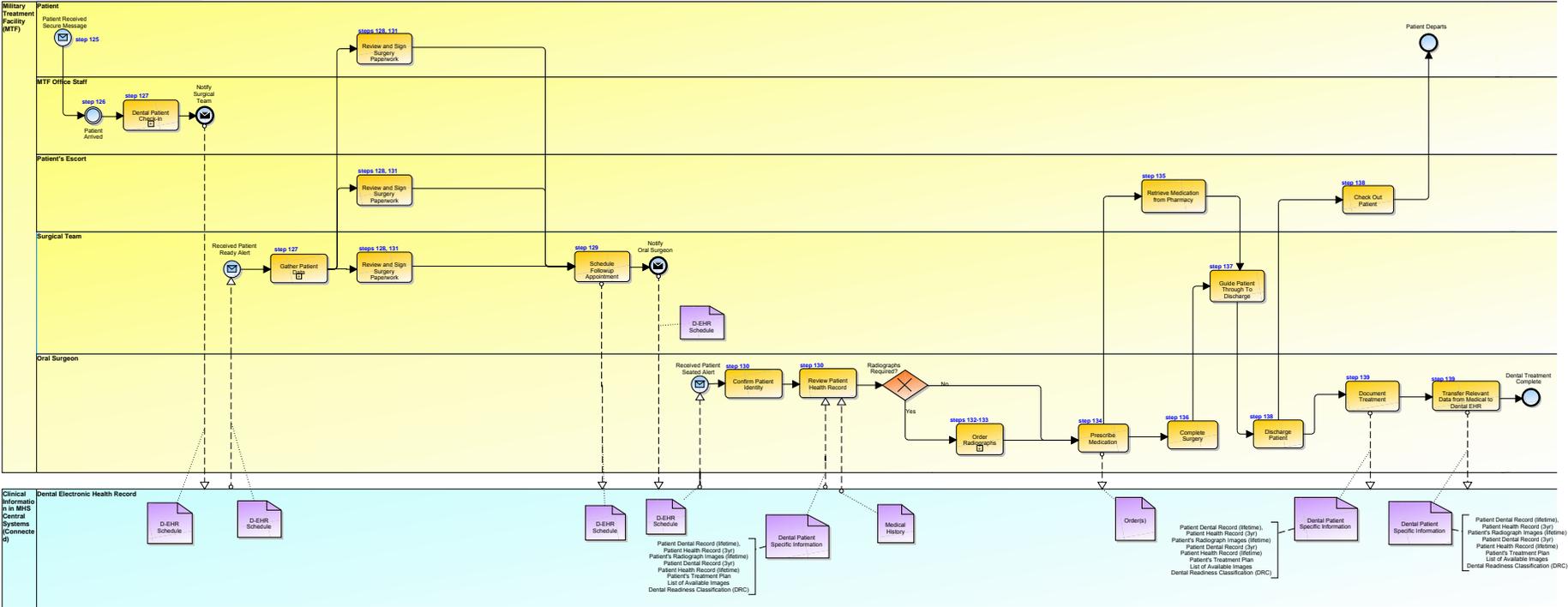


# Dental: Preventive Care and Treatment

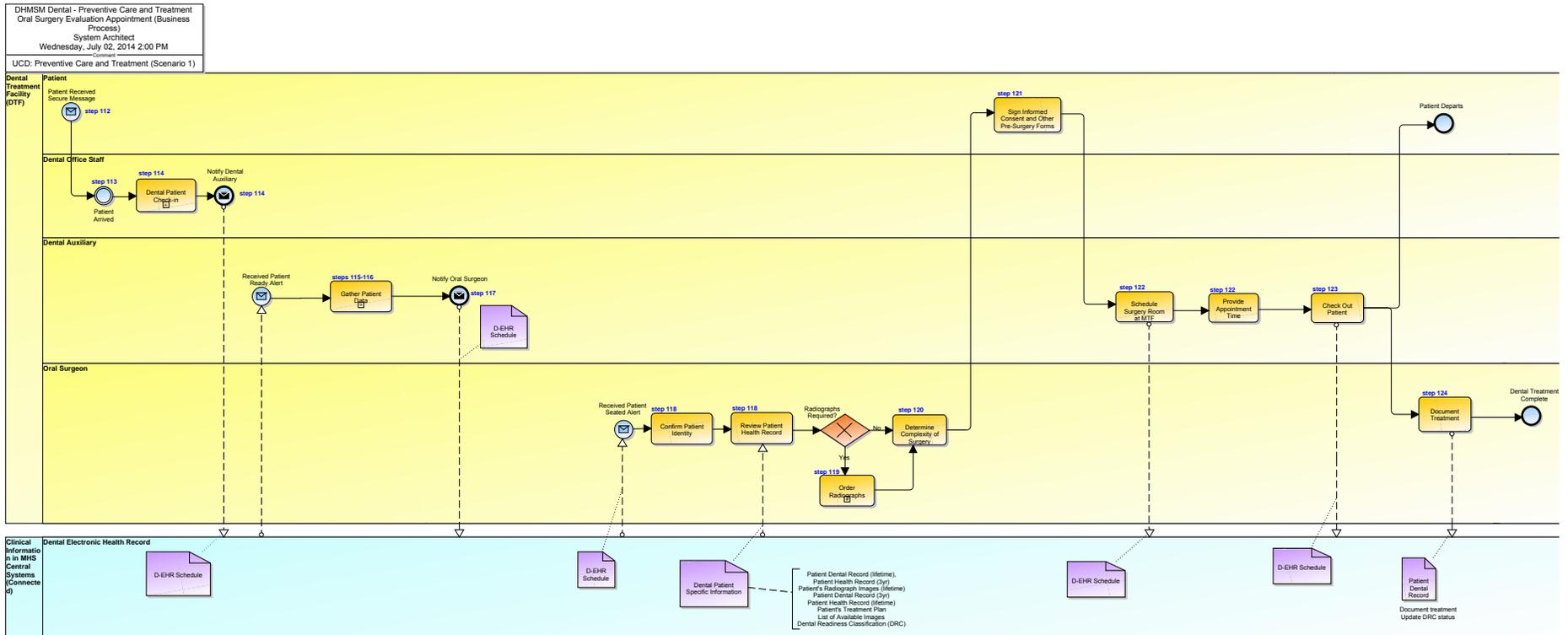


# Dental: Preventive Care and Treatment (Oral Surgery Appointment)

DHMSM Dental - Preventive Care and Treatment (Oral Surgery Appointment) (Business Process)  
 System Architect  
 Wednesday, July 02, 2014 1:57 PM  
 UCD: Preventive Care and Treatment (Scenario 1)

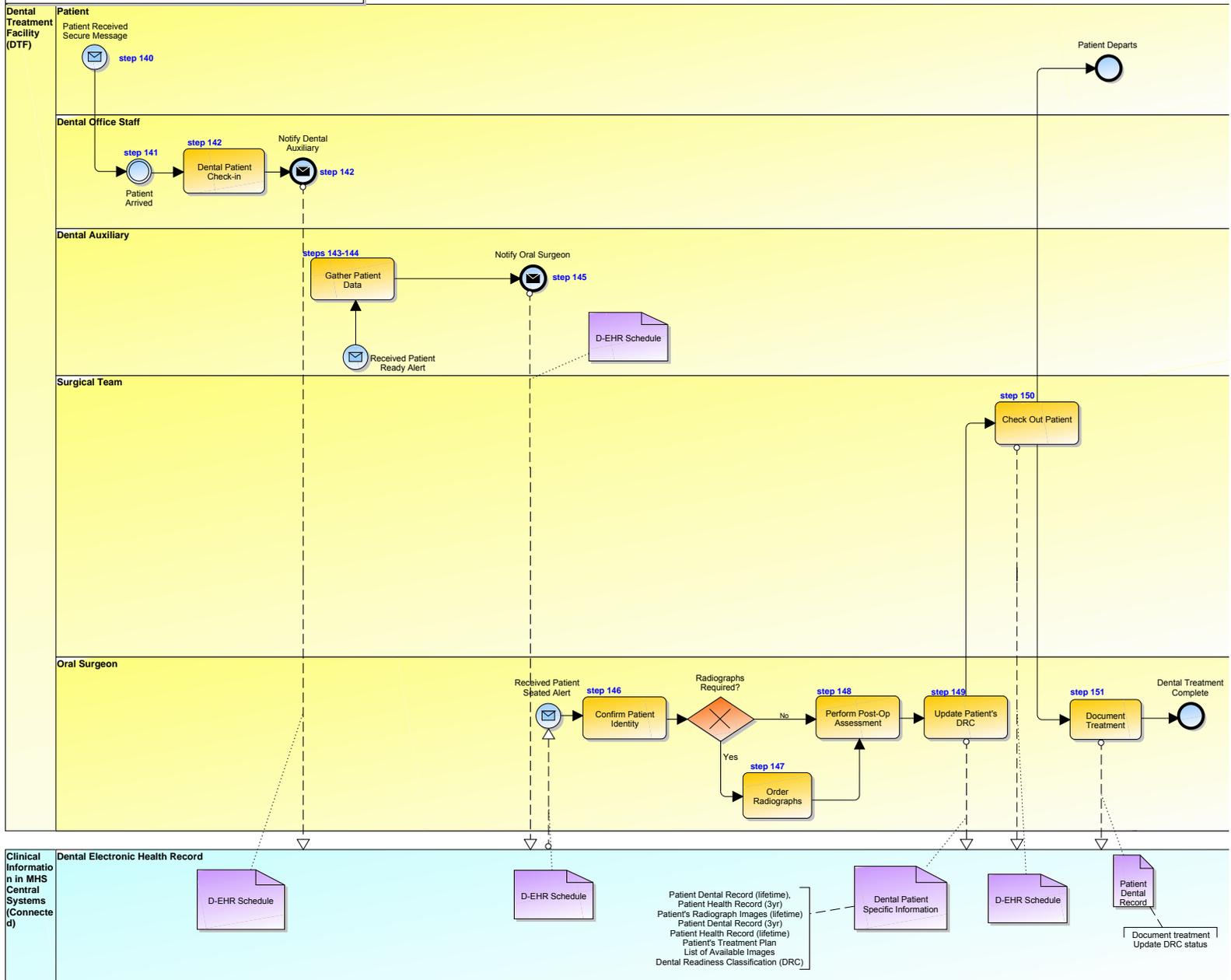


# Dental: Preventive Care and Treatment (Oral Surgery Evaluation Appointment)



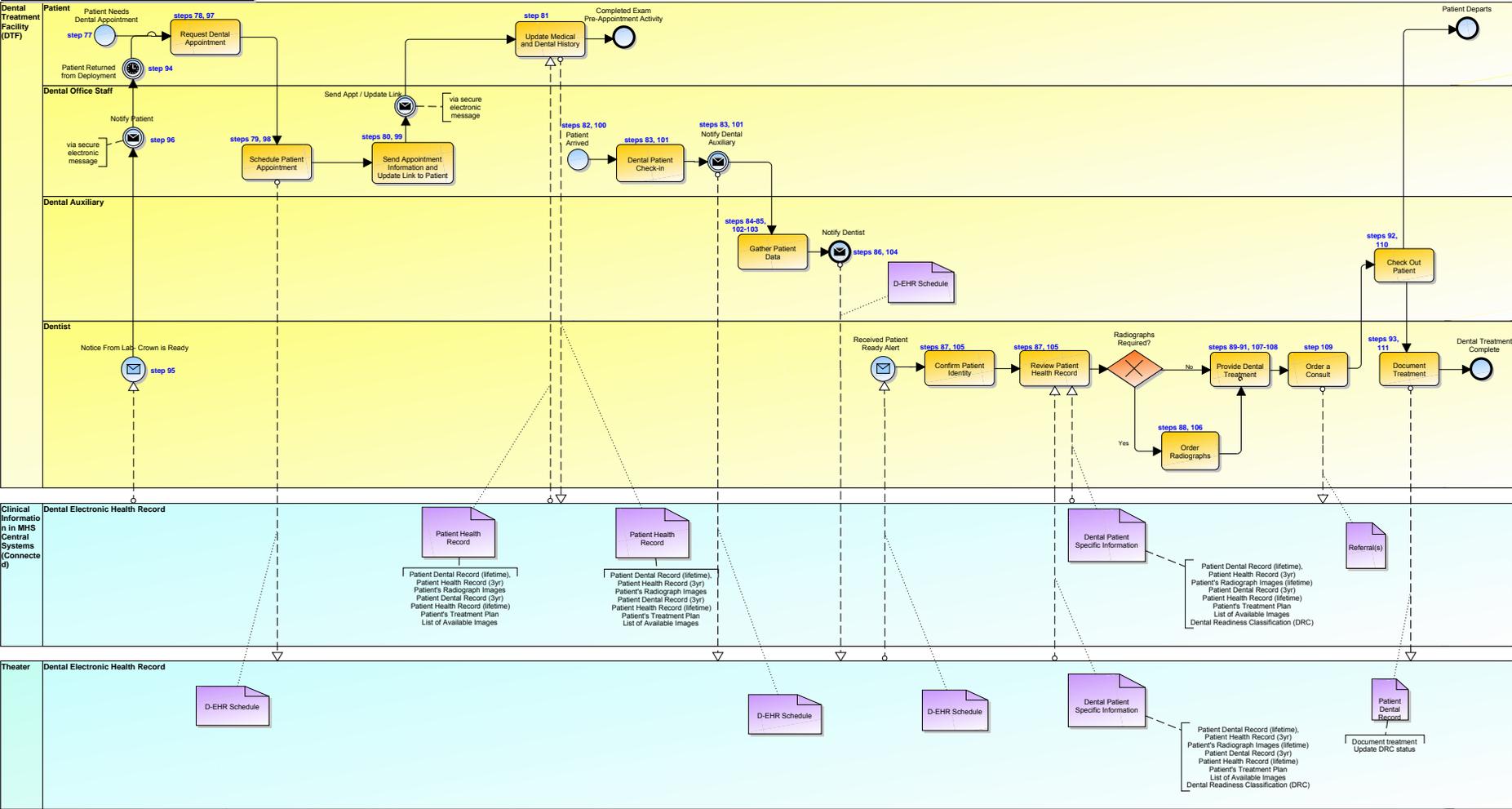
# Dental: Preventive Care and Treatment (Oral Surgery Post-Op Appointment)

DHMSM Dental - Preventive Care and Treatment (Oral Surgery Post-Op Appointment) (Business Process)  
 System Architect  
 Wednesday, July 02, 2014 1:58 PM  
 Comment  
 UCD: Preventive Care and Treatment (Scenario 1)



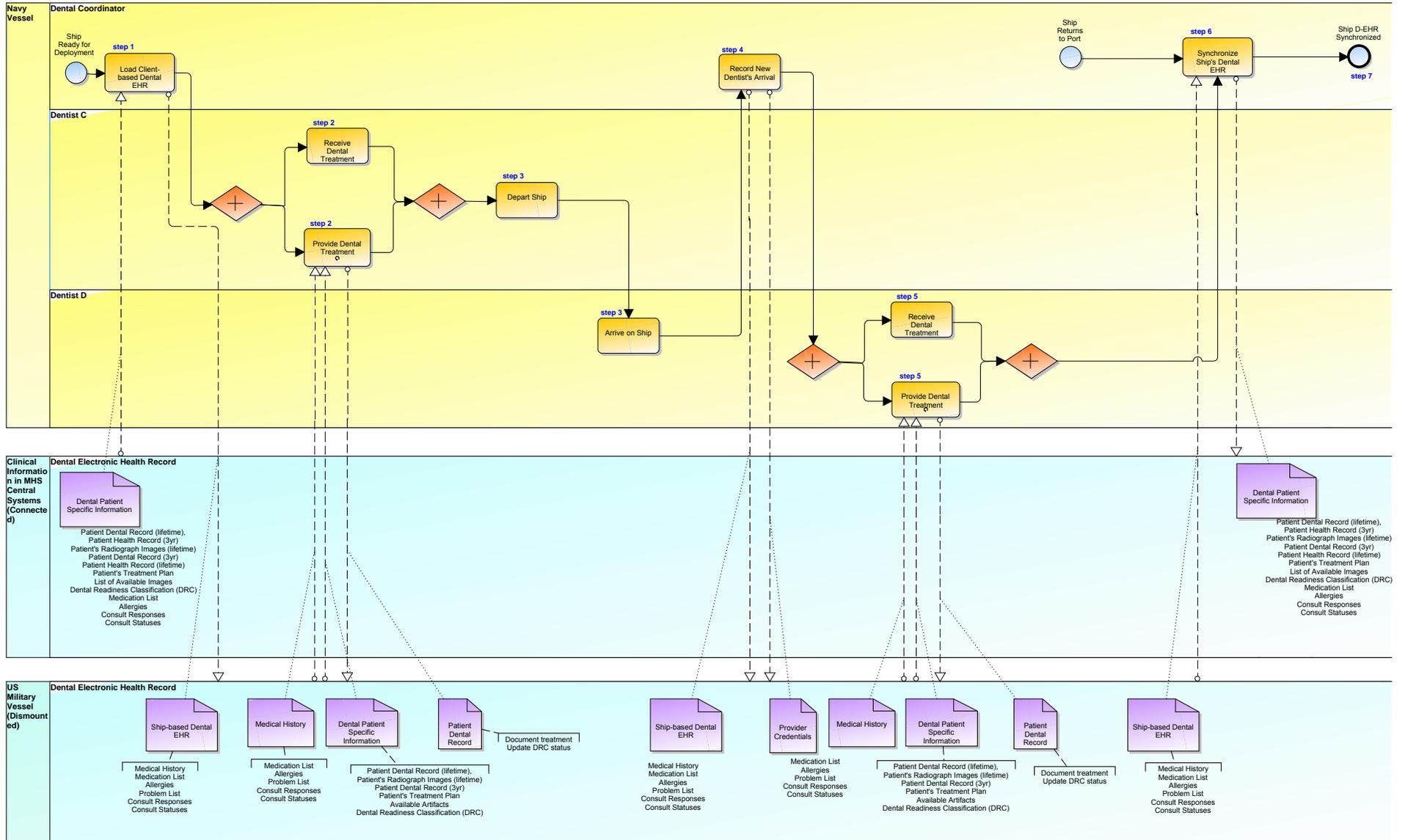


DHMSM Dental - Theater Consolidated (Business Process)  
 System Architect  
 Tuesday, July 01, 2014 2:40 PM  
 Comment  
 This model consolidates the following sections from Dental Scenario 1:  
 - Dental Theater Care Pre-Appointment Activity  
 - Dental Care in Theater Setting  
 - Patient Treatment after Returning from Deployment  
 UCD: Preventive Care and Treatment (Scenario 1)



# Dental: Deployed Forward Care (Disconnected) on a Navy Vessel

DHMSM Dental - Deployed Forward Care on a Navy Vessel  
 (Business Process)  
 System Architect  
 Wednesday, July 02, 2014 1:52 PM  
 Comment  
 UCD: Deployed Forward Care (Disconnected) on a Navy Vessel  
 (Scenario 2)



# Dental: Mass Dental Exam for Pre-Deployment

