

2011 Military Health System Conference

Robotic Remote-Presence Readiness Training

The Quadruple Aim: Working Together, Achieving Success

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The MHS Mission



“... America has given us a humbling responsibility: The care of our country’s fighting forces ...” – *MHS Strategic Plan*



The MHS Mission



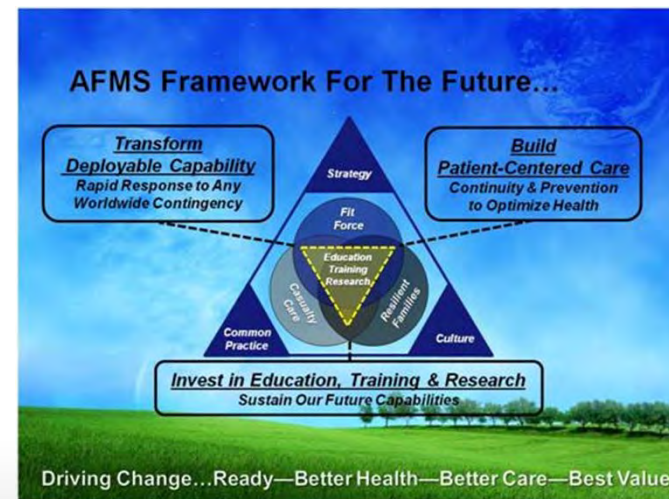
Provide optimal Health Services in support of
our nation's military mission – anytime,
anywhere



The Challenge



- We have great wounded warrior success rates, but how do we do it better?
 - Limited clinical experiences in many MTFs
 - Constrained fiscal environment
- Invest in Education, Training & Research



Paradigm Shifts



- “Changing the way we think and act” to achieve breakthrough performance

Old Paradigm

Why should we...

Proprietary info...

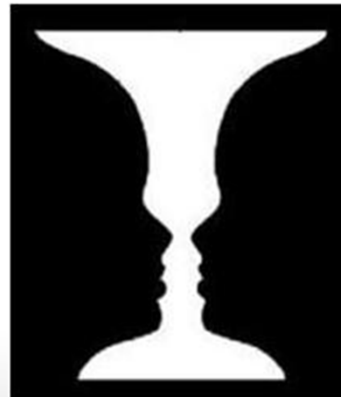
Service-specific...

New Paradigm

Why couldn't we

Data sharing

Joint



Achieving the Quadruple Aim



- Could we enhance training for war skills care by partnering with experts?
 - Innovative ideas generated during nursing research led by Col Elizabeth Bridges
 - Knowledge/skills related to burn care is lacking
 - Use of simulators to enhance trauma skills training
 - Ability to observe patient care via tele-presence could be part of pathway to meet need



Partnerships Enable Innovation



- How might we partner with experts?
 - Cols Sherrill Smith, Rose Durning, USAFR, NC
 - Led major groundwork for remote presence readiness training; first tried at LRMC
 - Debi Sampsel, Executive Director, Nursing Institute of West Central Ohio
 - Used InTouch RP-7® Remote Presence Robot in research at Wright State University



Partnerships Enable Innovation



- Optimal Resource: U.S. Army Burn Center
 - Maj (P) Kevin Chung
 - U.S. Army Institute of Surgical Research; InTouch® robot from pilot project through Telemedicine & Advanced Technology Research Center (TATRC) grant (Kevin.Chung@us.army.mil)



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Relation to MHS Strategy



	Strategic Imperative	Exec Sponsor	Performance Measure	Development Status	Last Quarter	Current Performance	Change	FY2010 Target	FY2011 Target	FY2012 Target	FY2014 Target	Strategic Initiatives
Readiness	Ensure Individual and Family Medical Readiness	FHPC	Individual Medical Readiness		71%	74%	+3%	80%	81%	82%	85%	IMR programs (e.g., addressing dental class 4, overdue PHAs, etc.)
		TBD	Measure of Family Readiness (i.e., PHA for families)		-	-	-	-	-	-	-	
	Enhance Psychological Health & Resiliency	FHPC	PTSD Screening, Referral and Engagement (R/T)		44%/69%	48%/72%	+4/+3%	40%/65%	50%/75%	50%/75%	50%/75%	Psychological Health
		FHPC	Depression Screening, Referral & Engagement (R/T)		60%/73%	62%/74%	+2/+1%	40%/65%	50%/75%	50%/75%	50%/75%	
Population Health	Engage Patients in Healthy Behaviors	CPSC	MHS Cigarette Use Rate (AD 18-24)		22%	27%	-5%	20%	19%	18%	16%	Healthy Behaviors/Lifestyle Programs
		CPSC	Prevalence of Obesity Among Adults / Adolescents & Children		-	26%/9%	-	-	24%/8%	21%/7%	15%/5%	
		CPSC	HEDIS Index – Preventive Screens		12	12	-	12	13	13	14	
Experience of Care	Deliver Evidence-Based Care	CPSC	HEDIS Index – Adhering to Evidence Based Guidelines		8	8	-	8	8	9	10	Evidence Based Care
		CPSC	(Include additional disparity measure) Overall Hospital Quality Index (ORYX)		87%	90%	+3%	88%	89%	90%	92%	
		CPSC	(Include additional safety measure) Antibiotic Received within 1 Hour Prior to Surgical Incision		88%	92%	+4%	95%	100%	100%	100%	
	Excel in Wounded Warrior Care	CPSC	MEBs Completed Within 30 Days		30%	52%	+22%	80%	60%	TBD	TBD	Wounded Warrior Programs
		CPSC	Favorable MEB Experience Rating		46%	59%	+13%	45%	65%	70%	75%	
		CPSC	Care Coordination	-	-	-	-	-	-	-	-	
	Ensure Access to Care	JHOC	Primary Care 3 rd Available Appt. (Routine/Acute)		-	69%/51%	-	90%/75%	91/68%	92%/70%	94%/75%	Disability Evaluation System Redesign
		JHOC	Getting Timely Care Rate		74%	77%	+3%	78%	78%	80%	82%	
		JHOC	Potential Recapturable Primary Care Workload for MTF Enrollees		-	29%	-	29%	26%	24%	22%	
	Promote Patient-Centeredness	JHOC	% of Visits Where MTF Enrollees See Their PCM		45%	44%	-1%	60%	60%	65%	70%	Patient Centered Medical Home
		JHOC	Satisfaction with Health Care		59%	60%	+1%	60%	61%	62%	64%	
Per Capita Cost	Manage Health Care Costs	CFOIC	Annual Cost Per Equivalent Life (PMPM)		10%	7.1%	-2.9%	6.1%				Performance Planning Pilots
		CFOIC	Enrollee Utilization of Emergency Services		72/100	45/100*	-	35/100	35/100	30/100	25/100	
Learning & Growth	Enable Better Decisions	CPSC	EHR Usability		-	-	-	-	-	-	-	EHR Way Ahead
	Foster Innovation	CFOIC	Effectiveness in Going from Product to Practice (Translational Research)		-	-	-	-	-	-	-	Centers of Excellence
	Develop Our People	CFOIC	Human Capital Readiness / Build Skills & Currency	-	-	-	-	-	-	-	-	BRAC / Facility Transformation
		CFOIC	Primary Care Staff Satisfaction		-	-	-	-	-	-	-	

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Experience of Care	Deliver Evidence-Based Care	CPSC	HEDIS In Guideline (Include Overall H									WPAFB/BAMC Robotic Remote-Presence • Uses telemedicine technology for learning • Enables shared learning for Air Force medics through experience at BAMC without travel • Enhances training for better care from battlefield to home • Helps disseminate and apply best practices • Helps us to cross the chasm from knowledge to practice
		CPSC	(Include Antibiotic Incision									
		CPSC	MEBs Co									
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		CPSC	Care Coc									
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Learning & Growth	Enable Better Decisions	CPSC	EHR Usa									
	Foster Innovation	CFOIC	Effective (Translat									
	Develop Our People	CFOIC	Human C									
		CFOIC	Primary C									

The Link



- Telemedicine technology enables e-learning
 - Remote Presence Robot at USAISR transmits to video teleconference to WPMC



The Link



- Making it happen at US Army Burn Center, 1,300 miles away; unique distance learning
 - C.D. Peterson, LPN, Wound Care Specialist
 - Maj Michael Pleuger, Jr., OIC Clinical Education, USAISR
 - Dr. Chung, Medical Intensivist



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Enhanced Learning



- Real-time observation of burn therapy x 2/mo
 - Kiley Gerritsen, Teresa Millwater at WPAFB
 - Visualization of various injuries/stages of Rx
 - Audio enables feedback/questions
 - Laptop operator at WPAFB uses joystick to drive robot/change views



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Enhanced Learning



- Combined learning modes
 - Joint Theater Trauma System Burn Care CPG
 - USAISR burn wound management slides
 - Human patient simulators for skills practice



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Results



- Addresses research-identified training needs
- Real-time interaction with experts w/o travel
- Facilitates interaction in joint environment prior to deployment, w/o travel
- Enhances grasp of devastating burn injuries and complex, lengthy treatments
- Initial surveys provided positive feedback for interactive nature of training and ability to see patients not seen at current MTF

Recommendations



- Conduct more robust research to define effectiveness of training
- Incorporate additional skills for training
- Encourage similar links with other MTFs
- Explore links with civilian centers
- Consider use of web-cam device for similar training without use of robot
- Incorporate additional specific objectives in conjunction with hands-on simulator training

Possible Applications



- Possible use of links in deployed settings
- Potential for tailored use in Medical Interagency Satellite Training (MIST) 
- Possibility of replacing existing training using similar type of distance learning 
- Complement with use of virtual reality/avatar technology, modeling & simulation evolution

Questions



QUESTIONS?