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EXSUM Finance III: BCA of Air Force VIPER Physical Therapy Program

Domain/Competencies:

Leadership and Organization Management

Performance Measurement and Improvement

Leadership and Organization Management

Health Resources Allocation

Method of research/Model: Business Case Analysis- Kissick's Iron Triangle, Managed Care Quaternion, Practice-Management Revenue Model

Assumptions:

Due to the time sensitive constraints of this business case analysis, several assumptions were made. This business case analysis specifically assumes:

• Course of Action 2 – "Aggressive" physical therapy numbers equate to a 38% reduction in recovery days.

• Course of Action 3 – MedHold prevention rate of 22% as well as a 38% reduction in recovery days.

• A general assumption of the accuracy of the RAND study's BMT cost per day estimates.

Overview:

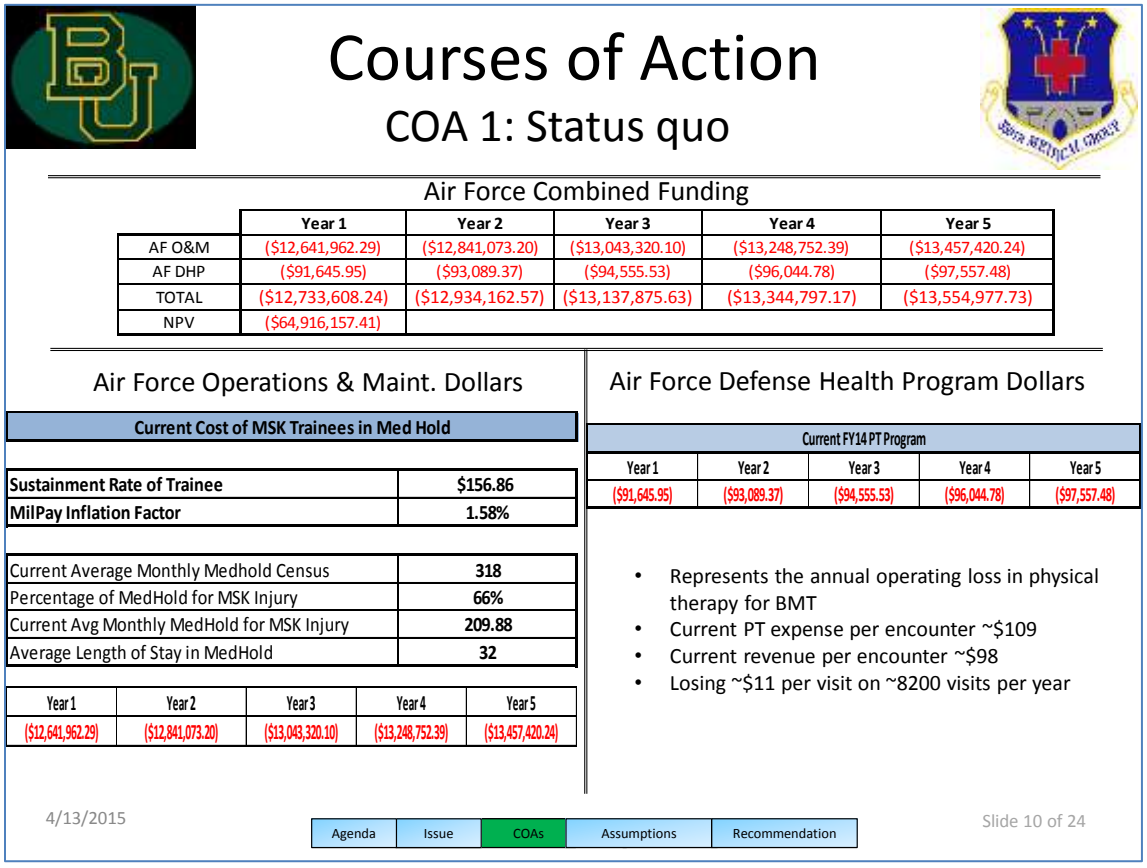
Problem: Musculoskeletal injuries in the Medical Holding Company cost the Air Force $12.6M/year.

Question: What action can the Air Force take to reduce the cost of Medical Hold and musculoskeletal injuries?

Findings:

The Air Force Basic Military Training (BMT) program is physically demanding and can cause musculoskeletal injury to Trainees. The BMT program has an annual population of approximately 30,000 trainees. Of that population, there is an average of 3,800 admitted to Med Hold per year. Current accounting of the musculoskeletal injury (MSK) rate for BMT enrollees is around 66% of

that 3,800 (approximately 2,500 MSK-afflicted trainees, annually), according to estimates provided by Captain Nathaniel Nye. MSK injuries make up 40% of all medical attrition from the BMT program. Each of the MSK-afflicted personnel spends an average of 32 days in the Medical Holding flight (MedHold) at a cost to the Department of Defense of $156.86 per day for a total $1.053 Million per month or $12.6 Million per year. In order to mitigate this expense and improve the efficiency of the BMT program throughput to the Air Force, the 59th Medical Group has begun to plan for a sports medicine program. This business case contains analysis of the Basic Military Training program, the current physical therapy program in use by the 59th Medical Group, and the projected model and benefits from a new Versatile Inju



Courses of Action

COA 1: Status quo

Air Force Combined Funding

	Year 1	Year 2	Year 3	Year 4	Year 5
AF O&M	($12,641,962.29)	($12,841,073.20)	($13,043,320.10)	($13,248,752.39)	($13,457,420.24)
AF DHP	($91,645.95)	($93,089.37)	($94,555.53)	($96,044.78)	($97,557.48)
TOTAL	($12,733,608.24)	($12,934,162.57)	($13,137,875.63)	($13,344,797.17)	($13,554,977.73)
NPV	($64,916,157.41)				

Air Force Operations & Maint. Dollars

Current Cost of MSK Trainees in Med Hold	
Sustainment Rate of Trainee	$156.86
MilPay Inflation Factor	1.58%

Current Average Monthly Medhold Census	318
Percentage of MedHold for MSK Injury	66%
Current Avg Monthly MedHold for MSK Injury	209.88
Average Length of Stay in MedHold	32

Year 1	Year 2	Year 3	Year 4	Year 5
($12,641,962.29)	($12,841,073.20)	($13,043,320.10)	($13,248,752.39)	($13,457,420.24)

Air Force Defense Health Program Dollars

Current FY14 PT Program				
Year 1	Year 2	Year 3	Year 4	Year 5
($91,645.95)	($93,089.37)	($94,555.53)	($96,044.78)	($97,557.48)

- Represents the annual operating loss in physical therapy for BMT
- Current PT expense per encounter ~$109
- Current revenue per encounter ~$98
- Losing ~$11 per visit on ~8200 visits per year

4/13/2015

Agenda | Issue | COAs | Assumptions | Recommendation

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ry Prevention & Embedded Reconditioning (VIPER) program.

Courses of Action

COA 2: Optimize Physical Therapy

Air Force Combined Funding

	Year 1	Year 2	Year 3	Year 4	Year 5
AF O&M	($4,803,945.67)	($4,879,607.81)	($4,956,461.64)	($5,034,525.91)	($5,113,819.69)
AF DHP	($658,526.66)	($444,621.57)	($451,833.89)	($459,165.05)	($466,617.04)
TOTAL	($5,462,472.33)	($5,324,229.38)	($5,408,295.53)	($5,493,690.96)	($5,580,436.73)
NPV	($26,943,329.80)				

Air Force Operations & Maint. Dollars

Estimated Cost "Savings" of MedHold Trainees Due Optimized Physical Therapy				
Year 1	Year 2	Year 3	Year 4	Year 5
($4,803,945.67)	($4,879,607.81)	($4,956,461.64)	($5,034,525.91)	($5,113,819.69)

- PT program will increase losses due to more visits
- Equipment will incur cost
- Cost of trainees in MedHold reduced by $4.8M
- Net Present Value:($26.9 million) over 5 years

Air Force Defense Health Program Dollars Revenue and Expense

Optimized PT Revenue				
Year 1	Year 2	Year 3	Year 4	Year 5
$3,680,135.55	$3,738,097.69	$3,796,972.73	$3,856,775.05	$3,917,519.25

Optimized PT Expense				
Year 1	Year 2	Year 3	Year 4	Year 5
($4,095,561.60)	($4,160,066.70)	($4,225,587.75)	($4,292,140.75)	($4,359,741.97)

Optimized PT Profit				
Year 1	Year 2	Year 3	Year 4	Year 5
($415,426.05)	($421,969.01)	($428,615.02)	($435,365.71)	($442,222.72)

Equipment & Maintenance Costs				
Year 1	Year 2	Year 3	Year 4	Year 5
($243,100.62)	($22,652.56)	($23,218.87)	($23,799.34)	($24,394.33)

Courses of Action

COA 3: VIPER

Air Force Combined Funding ROI

	Year 1	Year 2	Year 3	Year 4	Year 5
AF O&M	($6,528,309.33)	($6,631,130.20)	($6,735,570.50)	($6,841,655.74)	($6,949,411.81)
AF DHP	($605,757.58)	($395,439.77)	($406,423.57)	($417,716.99)	($429,328.83)
TOTAL	($7,134,066.91)	($7,026,569.97)	($7,141,994.07)	($7,259,372.73)	($7,378,740.64)
NPV	($35,510,603.82)				

Air Force Operations & Maint. Dollars

Estimated Cost "Savings" of MedHold Trainees Due to VIPER				
Year 1	Year 2	Year 3	Year 4	Year 5
($6,528,309.33)	($6,631,130.20)	($6,735,570.50)	($6,841,655.74)	($6,949,411.81)

Difference in original cost, to, as shown in previous slide , - 164 BMTs/month x 12 months x 20 day MedHold x $156.86

- Current PT revenue will decrease
- VIPER ATs will make revenue
- Contractors and equipment incur expense
- Cost of BMT in MedHold reduced by $6.5M
- Net Present Value: ($35.5 million) over 5 years

Air Force Defense Health Program Dollars Revenue and Expense

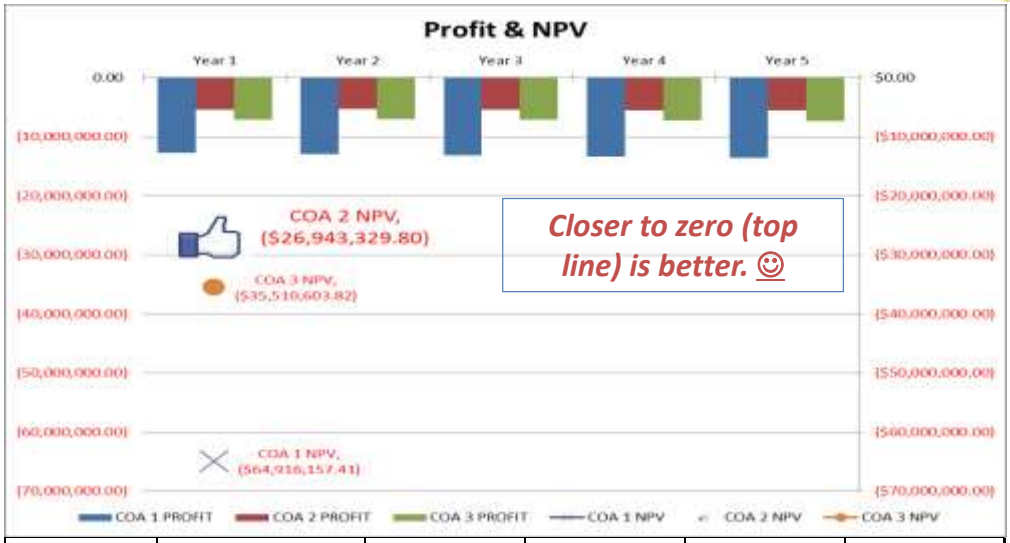
PT Program ROI Data After VIPER				
Year 1	Year 2	Year 3	Year 4	Year 5
($56,820.49)	($57,715.41)	($58,624.43)	($59,547.76)	($60,485.64)

VIPER Workload Generation				
Year 1	Year 2	Year 3	Year 4	Year 5
$30,163.52	$30,638.60	$31,121.16	$31,611.32	$32,109.19

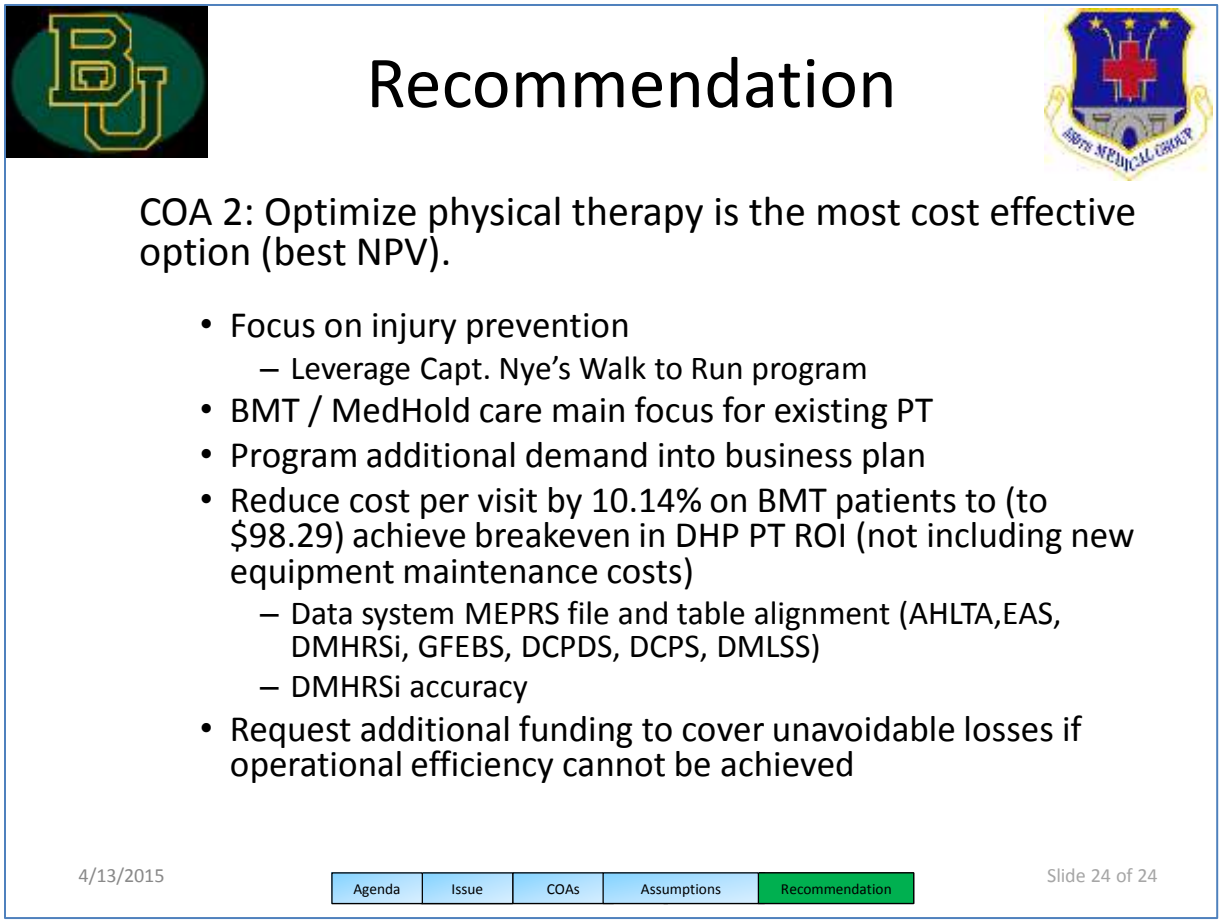
Contract Personnel Costs				
Year 1	Year 2	Year 3	Year 4	Year 5
($336,000.00)	($345,710.40)	($355,701.43)	($365,981.20)	($376,558.06)

Equipment & Maintenance Costs				
Year 1	Year 2	Year 3	Year 4	Year 5
($243,100.62)	($22,652.56)	($23,218.87)	($23,799.34)	($24,394.33)

COA Summary



Category	Year 1	Year 2	Year 3	Year 4	Year 5
COA 1 PROFIT	(12,733,608.24)	(12,934,162.57)	(13,137,875.63)	(13,344,797.17)	(13,554,977.73)
COA 2 PROFIT	($5,462,472.33)	($5,324,229.38)	($5,408,295.53)	($5,493,690.96)	($5,580,436.73)
COA 3 PROFIT	($7,134,066.91)	($7,026,569.97)	($7,141,994.07)	($7,259,372.73)	($7,378,740.64)
COA 1 NPV	($64,916,157.41)				
COA 2 NPV	($26,943,329.80)				
COA 3 NPV	($35,510,603.82)				



Lessons Learned:

Throwing money at a problem is not the answer in this case. It is best to see if you are efficiently using the resources you already have.