## **EXHIBIT 26**



# Dimensions Healthcare System Cardiovascular Program

Strategic Business Plan FY2012 – FY2017

**Business Plan Executive Summary** 

DHS/UMMS Executive Work Group

December 13, 2013 [correct typo]



- Interviews and strategy discussions were conducted with selected cardiovascular physicians, administrators, and key operational leaders from PGHC, LRH, BHC, and UMMS.
- Market Assessment was completed Sept. 24, 2012.
- Operational Assessment was completed Nov. 12, 2012.
- Preliminary volume and financial projections for FY13 FY17 were reviewed and approved.
- Preliminary CV Business Plan Strategies, Operational Improvement Plan for PGHC, and financial plan were discussed With DHS/UMMS Work Groups Nov. 12th, 19th, and Dec. 6, 2012.



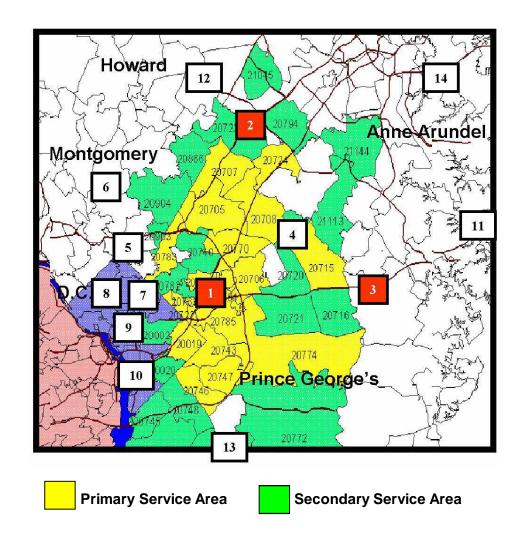


## **Market Assessment Summary**

DHS Service Area
Key Findings
Cardiovascular Patient Volume Potential
PGHC Volume Projections

### Dimensions Healthcare System Service Area

- 1. Prince George's Hospital
- 2. Laurel Regional Hospital
- 3. Bowie Health Center
- 4. Doctor's Comm. Hospital
- 5. Washington Adventist
- 6. Holy Cross
- 7. Providence Hospital
- 8. Washington Hosp. Center
- 9. Howard University
- 10. Greater Southeast
- 11. Anne Arundel
- 12. Howard County General
- 13. Southern Maryland
- 14. BWMC





# SOUTHERN MARYLAND REGION 2016 TOTAL CORONARY ARTERY DISEASE VOLUME POTENTIAL

	Diagnostic	PCI	<b>Cardiac Surgery</b>
County	<u>Cath</u>	<u>Patients</u>	Total
Prince George's	5,777	1,697	743
St. Mary's	774	252	112
Charles	1,058	309	146
Calvert	730	216	110
Region Total	8,340	2,438	1,044

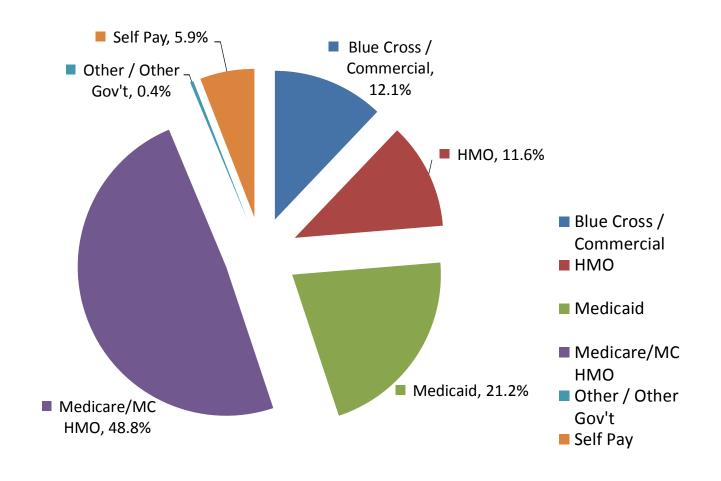
Note: Volume projections based on age adjusted use rates from National Hospital Discharge Survey. Projections adjusted for low historical use-rates in Prince Georges' County.



CV Service Line	PGHC Actual FY11	PGHC Actual FY12	FY2013	FY2014	FY2015	FY2016	FY2017
Cardiac Arrhythmia	181	158	156	181	210	237	273
Cardiac Surgery	24	5	20	115	200	250	300
Cardiology	1,078	794	800	852	947	1,040	1,068
Interventional cardiology	181	155	188	233	272	298	357
Vascular	56	63	69	72	85	98	132
Vascular Surgery	123	124	129	155	219	239	245
Total Inpatient CV	1,643	1,299	1,363	1,607	1,933	2,163	2,374
Cardiac Observation Hours	23,278	47,899	51,030	56,134	57,256	57,829	58,407

Source: PGHC's St. Paul's MS-DRG Discharge Data Reports FY11 and FY12. Observation hours provided by PGHC Finance Department.

## PGHC's Cardiovascular Payer Mix - FY 2012



Source: PGHC APR DRG FY12 Report based on cases





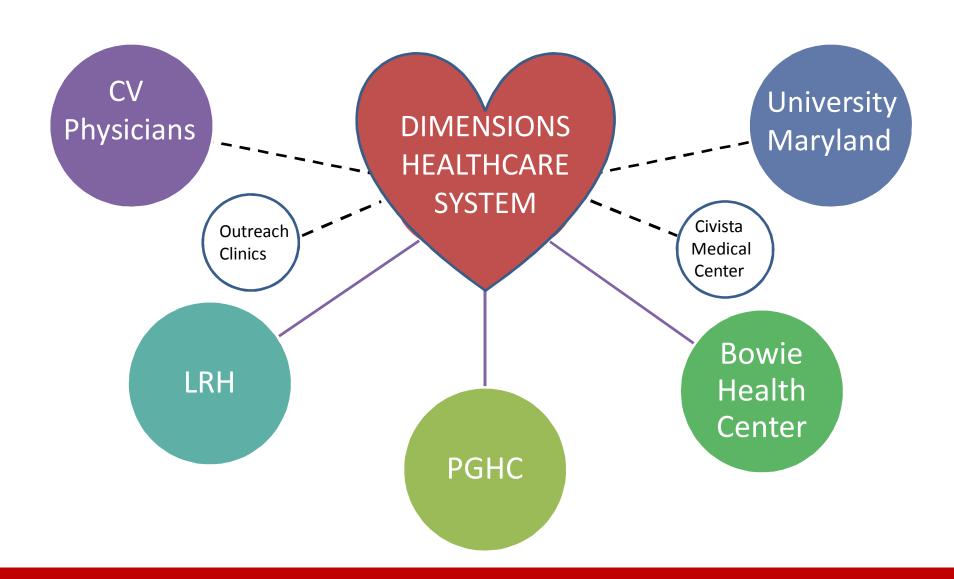
System Focused Cardiovascular Program Vision, Goals, and Strategies



#### Proposed Vision for the Cardiovascular Program is:

"To become the preferred Cardiovascular service provider among Prince George's County residents and physicians through a well coordinated and collaborative regional approach among PGHC, LRH, Bowie Health Center, and aligned CV physicians; while, establishing PGHC as a true Cardiovascular Center of Excellence."







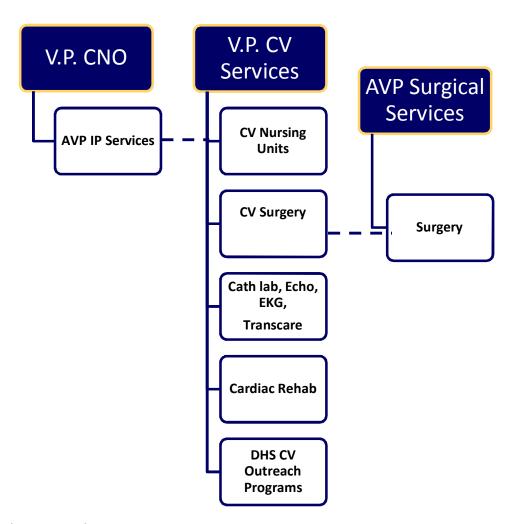
- High Quality Patient Care Services
- Re-building Confidence in Cardiovascular Program
- Improved Access / Cardiovascular Health
- Alignment and Collaboration
- Operational Efficiency / Financial Performance
- Organization / Leadership / Accountability



- 1. Leadership and Accountability
- Regional Development / Access Improvement / Physician Alignment
- 3. Cardiovascular Program Specific Marketing
- 4. Payers
- Maryland Health Care Commission Regulatory Compliance

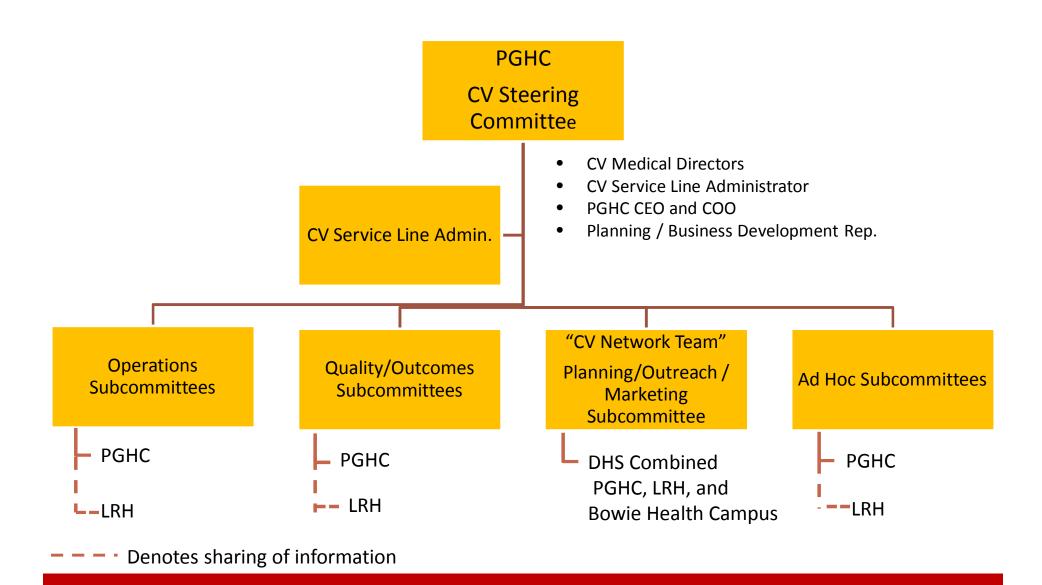


## PGHC CV Service Line Organization Structure (example)



– - Denotes Matrix reporting

#### CV Program - Collaborative Committee Structure







- 1. DHS will take a proactive approach and collaborative
- 2. Establish 3-5 Cardiovascular outreach satellite clinics/offices by 2017

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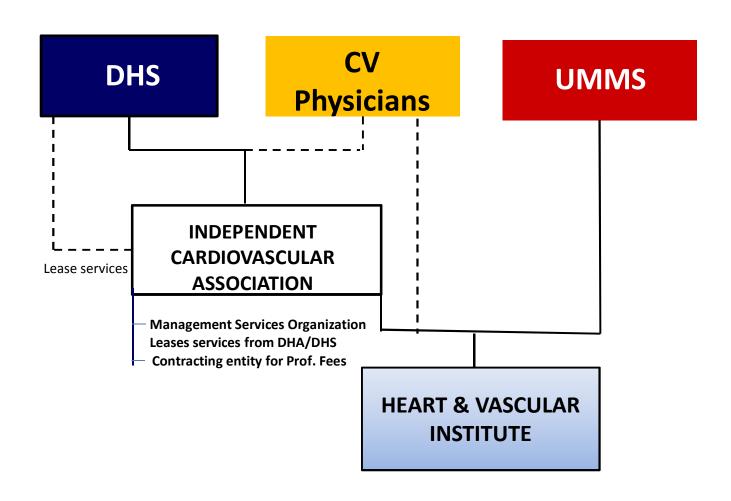


- 3. Develop an Outreach Plan
- 4. Cardiology Access Improvement Expand availability of cardiologists to improve access through a variety of methods:

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- 5. Continue to expand PCP / IM base.
- 6. Establish regular dialogue with UMMS, Civista Medical Center, UM School of Medicine, and DHS physicians.







## Regional Development Strategies - Cost Estimates

	FY2013	FY2014	FY2015	FY2016	FY2017
Marketing	50,000	200,000	150,000	150,000	100,000
Consulting/Legal Fees	125,000	115,000	75,000	125,000	25,000
Development / Outreach /Phys.					
<u>Alignment</u>					
CV Physician Organization Development		-	100,000	100,000	100,000
CV Call Center		80,000	80,000	80,000	80,000
Outpatient Heart & Vascular Center (TBD)		-	-	-	-
Formal Heart & Vascular Screening Program	n	75,000	75,000	75,000	75,000
Outreach Development Start-Up		50,000	100,000	50,000	50,000
CV Physician Recruitment / Income Gur.	35,000	50,000	100,000	100,000	100,000
Cardiology Prof. Fee Stipend Program		180,458	743,485	1,148,684	1,577,527
Medical Directorships	300,000	307,500	315,188	323,067	331,144
Total		1,057,958	1,738,673	2,151,752	2,438,671





## **Prince George's Hospital Center Strategies**

Operational / Infrastructure

Quality / Performance Improvement

Cardiovascular Physician Collaboration And Alignment

### Prince George's Hospital Strategies

#### **CV** Center Expansion / Of Excellence **Awareness Focus** Initiate Update CV **Business Plan** Revitalized Cardiology Outreach **Program** Collaboration Complete Facility **Initiate Cardiology** Infrastructure Plans for "Heart Stipend Program Hospital" w/in **Enhancement** Recruit Endo Vasc. Sx • CV Service Line Org Hospital Structure Finalize Improve Access Benchmarks/ Peer Shift case mix; more Establish OP elective • Est. Leadership Review Heart and • UM CV Surg. Agrmt Decrease CV ALOS Marketing Plan Vascular Center Evaluate OP Heart & Vasc. • Outreach Plan Retain Key Equip Center w/ CV Phy. Hire Key Staff Cardiology Relocate / New Achieve Stroke Center Training Development / Align Hospital • CV Pt. Flow/ Step • Provide Recruitment Certification Further Evaluate EP Down Unit Plan Assist. Modify ED Call Operational **Enhancement Plan** CV Surgeon Office • Call Center Plan **QUALITY FOCUS April FY13** FY14 FY15 FY16 **FY17**



## PGHC - Key Incremental Staffing Plan

CV SURGERY STAFFING	FY13	FY14	FY15
Hire Surgical Assist	1		
Train existing SA PA for back-up			
CV Data Coordinator			0.5
Hire Replacement NP for post care	1		
Hire CV RN	1		
CV Surgery Team Training			
Train 2-3 OR Techs			
ADMINISTRATION			
Hire CV Service Line V.P./ Assoc. VP	1		
CV Clinical Nurse Specialist -Education	1		
Contingency for Premium Pay	5%		
Cath Lab			
CV Data Coordinator	1		
RN	0.5		
Trans care			
RN		0.72	
Nursing			
CV Nurse Training Program			
Respiratory Therapy Tech ICU		1	
Phlebotomist		1	
Case Manager		1	



## PGHC - CV Surgery Capital Plan - \$1.3 million

AREA / DEPT.	CURRENT	ACTION PLAN
ANESTHESIA		
Transport Monitor - Anesthesia	not dedicated	Dedicate to CV
TEE Probe - anesthesia *	not dedicated	Dedicate
OPERATING ROOMs		
Cardiac rooms	2; 1 dedicated	No changes needed; rooms are large
Electrosurgery Unit	12; need replacement	Upgrade 4ea /yr
OR Lighting	12 ; replacement needed	Replacement in process
OR Table	2; need replacement	For Cardiac Rm
Defibrillators	2; replacement in process	Replacement in process
Blanket/Fluid Warmer	4 will need replacement	2-FY2014, 2-FY2015
Fluid Warmer	0	2 being purchased
Slush Machine	0	2 being purchased
PERFUSION		
Cell Saver machine	4- replacement needed	4- replace FY13
Heart Lung Machine	2 - replacement needed	1- FY13; 1 FY14
Perfusion Documentation System	0	1- FY13
Intra Aortic balloon Pump	4- will need replacement	2 for FY 2013, 2-FY2014
ECMO Machine	0	
STS Database	Do not have	Will purchase; maintain yr membership
TEG 5000 Analyzer		
CENTRAL SUPPLY		
CEll Saver machine	4- will need replacement	4- replace FY14



## PGHC - Cardiology Capital Plan - \$1.6 million

AREA / DEPT. Transcare	CURRENT	ACTION PLAN
Central Monitoring (10 beds)	10 beds not centrally monitored	add central monitoring
CATH LAB		
Electrophysiology Mapping Cath Lab 2 Upgrade Charging System Interface	do not have 2 ; 1 near end of life do not have	purchase FY13 replace FY14 purchase FY13
NON-INVASIVE TESTING		
Xcelera Storage Upgrade ECHO Machine Remote Access for ECHO Reading Reporting Software	MIS working with new ECHO  1 new replacement 11/12/12 does not exist; why phys dissatisfied does not exist; why phys dissatisfied	completed purchase FY13 purchase FY13





- 1. Further evaluate feasibility of establishing a formal Chest Pain Evaluation Clinic and protocols.
- 2. Evaluate JV opportunities with services

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to provide extended CCTA

- 3. Re-evaluate cardiology and vascular call schedule / referral list for unassigned patients; physicians to be board certified and on staff at PGHC or LRH
- 4. Establish process to follow-up with patients referred to a cardiologists to ensure appointment was made; also, forward patient referral information to cardiology office



## **Bowie Health Campus**

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- 5. Expand Cardiology outpatient office coverage; Evaluate office needs; consider developing a collaborative Outpatient CV Center to include cardiac rehab, full-time cardiology office coverage, CV surgeon office/clinic, and vascular physician
- 6. Expand PCP/IM base
- 7. Work with Prince George's County Health Department to improve approval process for transferring Medicaid patients to PGHC





## **Financial Summary**



#### **Volume:**

Inpatient Cardiovascular (CV) cases are projected as follows:

	FY2013	FY2014	FY2015	FY2016	FY2017
Cardiac Surgery	20	115	200	250	300
Cardiac Arrhythmia	156	181	210	237	273
Cardiology	800	852	947	1,040	1,068
Interventional Cardiology	188	233	272	298	357
Vascular	69	72	85	98	132
Vascular Surgery	129_	155_	219	239	245
Total	1,363	1,607	1,933	2,163	2,374

- The financial proforma does not include cases related to patient overflow or non-CV patients admitted to CV units.
- Observation and Outpatient ancillary volumes were estimated based on historical (FY2012) experience.



#### **Revenue:**

- FY2012 average charges, adjusted for HSCRC compliance impacts, are used to estimate a charge per case for each Inpatient Cardiac service.
- FY2012 actual rate/RVU is used to estimate Observation and Outpatient ancillary service revenue.
- The HSCRC 85% variable cost factor is applied to service line volume growth for both Inpatient and Outpatient charges.
- Contractuals, Bad Debt, and Charity Care were estimated based on PGHC's FY2013 budget.
- Cardiac Surgery Part B Collections include all professional fees for the Cardiac Surgeons (surgeries and office visits).

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#### **Expense:**

- Nursing Unit (including Observation) and OR Staffing assumptions were determined based on projected patient days and current patient to nurse staffing requirements at PGHC.
- Staffing required for Outpatient ancillary services were estimated based on the budgeted FTE to budgeted volumes relationship. This ratio was applied to the projected volumes as reflected in the financial proforma.
  - A 60% expense variability factor is applied to incremental expenses related to volume growth for FY2014 - FY2017.
- Physician Salary expense includes current PGHC Cardiac physician costs as well as incremental cost as determined by the business plan.
- Incremental staffing requirements (clinical and administrative) are based on staffing needs as outlined in the business plan.



#### **Expense:**

- Medical Supplies and Drugs expense were estimated based on PGHC's FY2012 cost-tocharge ratio.
- Overhead costs are estimated at 40% of Direct Expenses, including Physician and Administration salaries and fringe benefits.
- Incremental capital requirements as provided by PGHC. It is assumed the total cost of the capital requirements over the 5-year period will be financed at 7.5% in January 2013.
- The initial working capital requirement is assumed to be equal to 90 days of the incremental Net Patient Revenue from FY2012 to FY2013. This amount is assumed to be borrowed in the first year (FY2013).
- Marketing, consulting, development, and program outreach costs as estimated by the business plan.



### Cardiovascular Program Business Plan Proforma

#### Sources & Uses

#### **Sources:**

Debt (Financed @ 7.5%) <sup>(1)</sup>	\$ 5,259,873
Total Sources	\$ 5,259,873

#### **Uses:**

Incremental Equipment/Rennovations <sup>(2)</sup>	\$ 3,560,746
Working Capital <sup>(2)</sup>	 1,699,128
Total Uses	\$ 5,259,873

Notes (1): Dimensions' estimated cost of capital.

(2): See Schedules 10 and 11.

#### **CV 5-Year Business Plan Proforma**

		Estimated FY2012		FY2013		FY2014		FY2015		FY2016		FY2017
CV Cases		1,299		1,363		1,607		1,933		2,163		2,374
Gross Regulated Charges												
Inpatient	\$	24,632,158	\$	27,115,160	\$	36,425,438	\$	46,844,942	\$	53,064,164	\$	60,160,660
Outpatient Total Regulated Charges	_	6,348,881 30,981,039		6,927,203 34,042,363		8,518,169 44,943,607		9,897,695 56,742,637		10,708,615 63,772,778		11,705,244 71,865,904
Total Regulated Charges		30,981,039		34,042,363		44,943,607		56,742,637		63,772,778		71,865,904
CV Surgeon Professional Fee Charges		-		-		809,600		1,408,000		1,760,000		2,112,000
Total Gross Charges		30,981,039		34,042,363		45,753,207		58,150,637		65,532,778		73,977,904
Deductions from Revenue												
Contractuals		3,750,469		4,121,063		5,440,734		6,869,088		7,720,136		8,699,864
Charity Care		2,873,332		3,157,255		4,168,289		5,262,589		5,914,598		6,665,194
Bad Debt		1,776,462		1,951,999		2,577,080		3,253,640		3,656,750		4,120,813
Professional Fee Allowances		-		-		566,720		985,600		1,232,000		1,478,400
Professional Fee Refunds		-		-		1,500		1,500		1,498		1,500
School of Medicine Assessments	_	0.400.364	_	0.220.247		35,014	_	60,893	_	76,116	_	91,340
Subtotal: Deductions		8,400,264		9,230,317		12,789,337		16,433,310		18,601,098		21,057,111
Net Patient Revenue	\$	22,580,776	\$	24,812,046	\$	32,963,870	\$	41,717,327	\$	46,931,680	\$	52,920,793
Direct Variable Expenses												
Clinical Staff - Salaries & Benefits												
Unit Staffing		6,835,866		6,971,446		8,188,547		9,904,379		10,825,368		11,346,129
OR Staff		546,921		724,260		995,838		1,130,337		1,212,073		1,285,496
O/P Staffing		930,260		976,525		1,048,731		1,130,850		1,206,835		1,280,373
Incremental Staffing Requirement		-		544,303		885,331		955,564		979,453		1,003,939
Premium Pay Contingency (5%)				460,827		555,922		656,057		711,186		745,797
Subtotal: Salaries & Benefits		8,313,047		9,677,360		11,674,369		13,777,187		14,934,915		15,661,735
Medical Supplies & Drugs		4,899,058		5,526,886		7,617,747		9,744,969	_	11,002,197	_	12,630,870
Total Direct Variable Expenses		13,212,105		15,204,246	_	19,292,115		23,522,157	_	25,937,112	_	28,292,605
Contribution Margin	\$	9,368,671	<u>\$</u>	9,607,800	\$	13,671,754	<u>\$</u>	18,195,170	\$	20,994,568	\$	24,628,188
Direct Fixed Expenses												
Fixed Salaries & Benefits												
Physician		1,658,500		1,871,500		2,863,970		3,542,835		4,015,519		4,513,532
Service Line Administration		-		127,500		261,375		267,909		274,607		281,472
Training		-		17,500		-		-		-		-
Malpractice						20.500		20.462		40.440		44.450
CV Surgeon Malpractice (Incremental) CV Surgeon Malpractice (Current)		97,500		100,000		38,500 102,500		39,463 105,063		40,449 107,689		41,460 110,381
Hospital Malpractice		80,708		82,778		84,847		86,968		89,142		91,371
CV Surgeon Office		80,708		02,776		87,486		133,634		149,018		158,314
Marketing Expense		_		50,000		200,000		150,000		150,000		100,000
Consulting/Legal Fees		-		125,000		115,000		75,000		125,000		25,000
Program Outreach & Physician Development Costs		-		-		205,000		355,000		305,000		305,000
Contingency Incremental Capital Expense		-		135,000		306,500		396,063		398,689		371,381
Interest				190,670		377,482		373,343		368,904		364,143
Depreciation		-		133,113		648,994		670,594		618,761		499,481
Total Direct Fixed Expenses		1,836,708		2,833,061		5,291,654		6,195,872		6,642,778		6,861,536
Direct Margin	\$	7,531,963	\$	6,774,739	\$	8,380,100	\$	11,999,299	\$	14,351,790	\$	17,766,652
		33.36%		27.30%		25.42%		28.76%		30.58%		33.57%
Overhead Costs @ 40% of Direct Expenses	_	5,948,242		6,881,298		8,966,984		10,933,161	_	12,090,895	_	13,235,044
Net Income	Ś	1,583,721	Ś	(106,559)	\$	(586,884)	\$	1,066,138	Ś	2,260,895	Ś	4,531,609
	Ė	7.01%		-0.43%		-1.78%		2.56%	·	4.82%		8.56%



#### Payback:

Year	Debt - Ending Balance	Cash Flow <sup>(1)</sup>	Adjusted Total
1 FY2013	\$ 5,206,646	\$ 26,554	\$ 5,180,092
2 FY2014	5,149,559	88,664	5,060,894
3 FY2015	5,088,333	1,825,397	3,262,936
4 FY2016	5,022,668	4,705,052	317,616
5 FY2017	4,952,243	9,736,142	(4,783,899)
Payback Perio	od	4 years	

#### Return on Investment:

Year	Cash Flow <sup>(1)</sup>		
FY2013	\$	26,554	
FY2014		62,110	
FY2015		1,736,732	
FY2016		2,879,656	
FY2017		5,031,090	
Average Annual Cash Flow	\$	1,947,228	
Investment			
Incremental Capital	\$	3,560,746	
Working Capital		1,699,128	
Total Investment	\$	5,259,873	
Average Annual Rate of Return		37%	

Note (1): Cash Flow equals Net Income plus Depreciation.



		Proforma FY2012		FY2013		FY2014		FY2015		FY2016	 FY2017
Baseline (85% Variable Cost	Facto	or):									
Direct Margin	\$	7,531,963	\$	6,774,739	\$	8,380,100	\$	11,999,299	\$	14,351,790	\$ 17,766,652
Net Income	\$	1,583,721	\$	(106,559)	\$	(586,884)	\$	1,066,138	\$	2,260,895	\$ 4,531,609
60% Variable Cost Factor:											
Direct Margin	\$	7,531,963	\$	6,774,739	\$	8,072,006	\$	10,201,736	\$	10,629,195	\$ 12,546,782
Net Income	\$	1,583,721	\$	(106,559)	\$	(857,635)	\$	(509,774)	\$	(999,944)	\$ (24,786)
20% Reduction to Baseline Volumes @ 85% Variable Cost Factor:											
Direct Margin	\$	7,531,963	\$	3,795,340	\$	5,154,731	\$	8,397,697	\$	9,835,103	\$ 12,764,732
Net Income	\$	1,583,721	\$	(2,309,161)	\$	(2,846,205)	\$	(1,119,599)	\$	(844,666)	\$ 1,156,030



## Estimated Payor Mix Impact – Cardiac Surgery

	FY200	09	Projected	Est. PGHC Payor Mix		
	PGHC	DC	Payor Mix	Change		
Cardiac Surgery Cases	22	379	300	278		
Payor Mix:						
Medicare	31.8%	36.7%	36.3%	4.5%		
Commercial	4.5%	34.0%	31.9%	27.3%		
Medicaid	18.2%	12.4%	12.8%	-5.4%		
No Charge	0.0%	0.3%	0.2%	0.2%		
Other Government Payment	0.0%	0.3%	0.2%	0.2%		
Blue Cross National Capital Area	13.6%	12.7%	12.7%	-0.9%		
НМО	22.7%	0.0%	1.7%	-21.1%		
Medicaid - HMO	9.1%	0.0%	0.7%	-8.4%		
Self Pay	0.0%	1.3%	1.2%	1.2%		
Unknown	0.0%	1.3%	1.2%	1.2%		
Workmans Compensation	0.0%	1.1%	1.0%	1.0%		
Total	100%	100%	100%	0%		



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## **Conclusions Key Decisions and Next Steps**

- Approval of Cardiovascular Business Plan
- Timing of UM CV Surgeon Formal Participation
- CV Physician Meeting to review CV Business Plan



# **MARKET ASSESSMENT SUMMARY**



PRINCE GEORGE'S COUNTY IS YOUNGER THAN MARYLAND AND THE U.S. OVERALL. HOWEVER THE COUNTY IS PROJECTED TO HAVE A HIGHER GROWTH RATE OF THE OVER 65 POPULATION COMPARED TO MARYLAND AND U.S.; THUS INDICATING FUTURE INCREASED DEMAND FOR CV SERVICES.

# CARDIOVASCULAR AGE

DISTRIBUTION		<b>AGED</b>		
	2011 Pop	45-64 Yrs	<b>AGED 65+</b>	<b>AGED 45+</b>
	•			
PRINCE GEORGE'S	844,656	26.5%	10.1%	36.7%
	·			
CHARLES	145,599	27.2%	9.8%	37.0%
	ŕ			
CALVERT	91,332	30.6%	11.1%	41.7%
	,			
ST. MARY'S	106,241	26.5%	10.6%	37.1%
	·			
ANN ARUNDEL	531,704	28.0%	12.3%	40.3%
MARYLAND	5,805,777	27.4%	12.7%	40.0%
U.S.	310,650,750	26.0%	13.3%	39.3%

Source: Claritas population data.



# 5-Year Age Growth (Aged 45+)

	AGED 45-	64	AGED	65+	AGED 45+
County	PROJ. 2016	5 YR. GROWTH RATE	PROJ. 2016	5 YR. GROWTH RATE	5 YR. GROWTH RATE
PRINCE GEORGE'S	220,508	2.5%	105,248	22.9%	8.1%
CHARLES	44,455	12.2%	18,091	26.6%	16.0%
CALVERT	30,575	9.4%	13,046	29.2%	14.7%
ST. MARY'S	30,865	9.8%	14,132	25.1%	14.2%
ANN ARUNDEL	152,911	2.8%	78,826	20.4%	8.2%
MARYLAND	1,642,380	3.4%	866,515	17.7%	7.9%
U.S.	83,933,893	3.9%	47,902,230	15.9%	7.9%



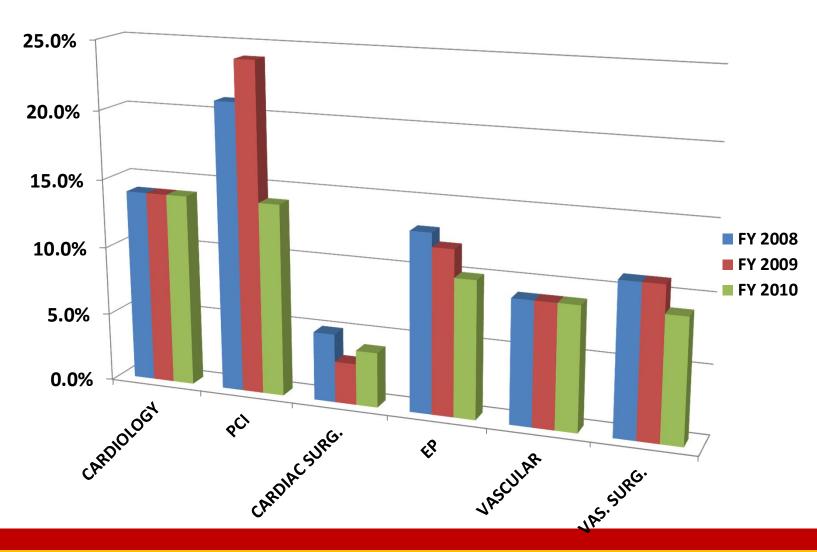
### **REGIONAL MARKET SHARE – CARDIAC SURGERY**

	GEO	PRINCE GEORGE'S (FY10)		ST. MARY'S (FY10)		CHARLES (FY10)		/ERT 10)	TOTAL	
PGHC	20	4%	0	0%	0	0%	0	0%	20	
WHC	254	46%	66	75%	70	58%	58	72%	448	
WAH	153	28%	0	0%	4	3%	12	15%	169	
GWUH	32	6%	14	16%	36	30%	2	2.5%	84	
UMMC	8	1%	2	2%	2	2%	2	2.5%	14	
JH	17	3%	2	2%	2	2%	3	4%	24	
OTHER	70	12%	4	5%	6	5%	4	5%	84	
TOTAL	5	54	8	88	12	20	8	1	843	

Note: Cardiac surgery includes cardiac valve, coronary artery bypass and other cardiothoracic procedures; same procedure categories as MHCC State Health Plan definition.



## PGHC'S CV MARKET SHARE - PRINCE GEORGE'S COUNTY





# Market Assessment-Region

- **REGION** (Prince George's, St. Mary's, Charles, Calvert Counties)
  - Heart Surgery Volumes
    - St. Mary's 15% decrease from 2008 to 20110
    - Charles 11% increase
    - Calvert 20% decrease
    - Prince George's 4% decrease; approx. same past 2 yrs
  - Heart Surgery Market Share
    - WHC leading provider with relatively consistent market share
    - GWUH has a strong presence in Charles County with approx. 30% market share
    - WAH WHC [correct typo] leading provider in Prince George's County with approx. 45% market share past 2 years; low yield from other counties in region
    - Approximately 52% of Prince George's County heart surgeries were performed at D.C. hospitals in 2010; a 5% decrease since 2008



# Market Assessment-Region

- **REGION** (Prince George's, St. Mary's, Charles, Calvert Counties) \*
  - PCI volumes (IP only) decreasing trends stabilizing
    - St. Mary's 3.8% decrease from 2008 to 2010
    - Charles 7.6% decrease
    - Calvert 28% decrease
    - Prince George's 7% increase from 2008-2010
  - PCI Market Share
    - WHC dominant provider in St. Mary's (83%), Charles (54%), and Calvert (62%); increasing market share in Prince George's County from 21% in 2008 to 26% in 2010
    - WAH dominant provider for Prince George's County; market share relatively constant; approximately 44% in 2010.
    - PGHC's market share has decreased from 22% in 2008 to 15% in 2010
    - Approximately 27% of Prince George's County's IP PCI procedures were performed at D.C. hospitals in 2010; a 3% increase from 2008



# PRINCE GEORGE'S COUNTY RESIDENTS EXPERIENCED HEART SURGERY AT A RATE APPROXIMATELY 40% LOWER THAN THE U.S. POPULATION

# COMPARISON OF CARDIOVASCULAR USE RATE CALCULATIONS (PER 1,000 POPULATION)

PROCEDURE / SOURCE	Claritas 2011 Estimates Prince George's County	Nat'l Hospital Discharge Summary Report 2010 (Nat'l Rate)	AHA 2012 Report (2009 Data) Nat'l Rate	•	Use Rate Applied to 2016 Pop. Proj. Prince George's County
PCI	2.69	2.02	2.44	1.72	1.99
Cardiac Surgery	1.02	1.09	1.25	0.64	.87

Note: Cardiac Surgery includes CABG, Valves, and "other" major cardiothoracic procedures

Sources: Prince George's actual experience rate calculated from combined FY2010 HSCRC and District of Columbia Hospital Inpatient Database Reports.

# Volume Projection Methodology

### MARKET DEMAND VOLUME PROJECTION METHODOLOGY

- 1. National use-rates from the 2010 National Hospital Discharge Data Summary Report and other sources such as the American Heart Association 2012 report (2009 data) by key age cohorts were compared to establish a benchmark for future projections.
- 2. The 2010 actual use-rates for Prince George's County was calculated and compared to age adjusted national nominal rates for Prince George's County as well as county estimates by Claritas.
- 3. The national age-adjusted rates were modified if a large variance existed when compared to Prince George's county experienced use rates. The modified use rates were then applied to Prince George's County 2016 age-cohort population projections for each sub-service line to determine Total Market Demand/Volume Potential for 2016.
- Annual market volume potentials for FY2013 FY2017 were calculated by applying an estimated annual growth factor that would result in the 2016 Total Market Demand/Volume potential.
- 5. Historical market share trends were analyzed. Assumptions for PGHC's future market capture potential were made for each year and applied to the estimated annual Total Market Demand Potential.

# Maryland State Health Plan

Adult Cardiac Surgery Definition Summary *	ICD-9 Procedure Codes *	Corresponding MS-DRGs
Closed Heart Surgery – cardiac surgery that does not involve use of heart lung machine (e.g. thoracic aneurysm repair, valvulotomy, pulmonary artery banding, resection of coarctation of aorta)	35.00-35.04; 35.52, 37.12, 37.31, 37.4	Other cardiothoracic procedures: 228 – 230  Note: There are some Aneurysm repairs coded under DRGs 237 and 238 (Vascular Surgery) that MHCC classifies as closed heart surgery.
Coronary Artery Bypass Graph (CABG)— open heart surgery in which a piece of saphenous vein or internal mammary artery is used to bypass blocked section	36.10 - 36.19	Coronary artery bypass: 231 – 236
Open Heart Surgery – heart- lung machine cases (i.e., cardiopulmonary bypass), including minimally invasive procedures	35.10-35.51; 35.53-35.95, 35.98- 35.99; 36.03; 36.10-36.20; 36.31; 36.91-36.99; 37.10-37.11; 37.32- 37.33	Cardiac valves: 216 –221;



# MS-DRG s Used for Volume Projections

#### **CORRECT TYPOS**

CV Service Line	MS-DRGs
Cardiac Arrhythmia (Electrophysiology)	<del>258 - 259; 308 - 310; 215; 222 - 227</del> 258 - 259; 308 - 310; 215; 222 - 227; 242-245; 260-262; 265
Cardiac Surgery	<del>216 – 236; 265-</del> 216 – 221; 228-236
Cardiology	<del>280 - 298; 302 - 305, 306 - 307; 311 - 316; 288 - 290</del> <del>280 - 293; 296-298; 302-307; 311 - 316</del>
Interventional Cardiology	246 - 251
Vascular	299 – 301, 294 – 295
Vascular Surgery	237 – 238, <del>34 – 3;</del> <del>34 – 36;</del> 239 – 241; 252 – 257; 263 – 264;

Note: MS-DRG 237 Major Cardiovascular Procedures w MCC or Thoracic Aortic Aneurysm Repair and MS-DRG 238 Thoracic Aneurysm Repair without MCC are Generally classified as Vascular Surgery. The Maryland State Health Plan describes certain aneurysm repairs as Closed Cardiac Surgery. With the advancements in endovascular Technologies (i.e., synthetic grafts) and training, these procedures are being performed more often by Endovascular/Vascular trained surgeons.



# SOUTHERN MARYLAND REGION 2017 TOTAL CORONARY ARTERY DISEASE VOLUME POTENTIAL

			Cardiac
	Diagnostic	PCI	Surgery
County	Cath	<b>Patients</b>	Total
Prince George's	5,777	1,697	743
St. Mary's	774	252	112
Charles	1,058	309	146
Cilaries	1,036	309	140
Calvert	730	216	110
Region Total	8,340	2,438	1,044

Note: volume projections based on age adjusted use rates from National Hospital Discharge Survey. Projections were adjusted for low historical use-rates in Prince Georges' County (e.g. cardiac surgery).



### MARKET CAPTURE ASSUMPTIONS FROM PRINCE GEORGE'S COUNTY

SUB – SERVICE LINE	2001 Actual	2010 Actual	FY13 Proj.	FY14 Proj.	FY15 Proj.	FY16 Proj.	FY17 Proj.
CARDIOLOGY	14%	14.0%	12.7%	13.5%	15.0%	16.5%	17.0%
INTERVENTIONAL CARDIOLOGY	31%	14.0%	13.0%	15.5%	17.5%	18.5%	21.0%
CARDIAC SURGERY	13%	4.0%	4.0%	19.0%	30.3%	34.8%	38.0%



## Volume Projection Methodology – Market Capture Assumptions

CARDIAC SURGE	RY - Up	dated af	ter con	ersation /	s with U	M CV Su	rgeons							
	Annual	Projected	Projected	Projected	Projected	Projected	PGHC's FY2001 Interventional		PGHC's FY2010 Interventional	PGHC's FY2010 Cardiac	FY13 Projected	FY14 Projected	FY15 Projected	FY16 Projected
	Growth	FY13	FY14	FY15	FY16	FY17	Cardiology	Surgery	Cardiology	Surgery	Market	Market	Market	Market
Geographic Area	Rate	Volumes	Volumes <b>N</b>	Volumes larket Poter		Volumes	Market Share	Market Share	Market Share	Market Share	Share	Share	Share	Share
Prince George's County	8.0%	551	595	642	694	749	31%	13%	14.0%	4.0%	4.0%	19.0%	30.3%	34.8%
Charles County	4.5%	121	127	132	138	145	2% (2008)		1.6%	0.0%	0.5%	1.0%	3.0%	5.0%
Calvert County	6.0%	84	89	94	100	106	0.5% (2008)		0.0%	0.0%	1.0%	1.0%	1.5%	2.0%
St. Mary's County	4.0%	92	95	99	103	107	0.5%		0.4%	0.0%	0.0%	0.0%	0.0%	0.0%

Interventiona	al Car	diolog	y - IP												
Geographic Area	Annual Growth Rate	Projected FY13 Volumes	Projected FY14 Volumes	Projected FY15 Volumes	Projected FY16 Volumes	Projected FY17 Volumes	PGHC's FY2001 Interventional Cardiology Market Share	PGHC 2008 Market Share	PGHC 2009 Market Share	PGHC 2010 Market Share	FY13 Projected Market Share	FY14 Projected Market Share	FY15 Projected Market Share	FY16 Projected Market Share	FY17 Projected Market Share
Prince George's County	3.2%	1424	1470	1517	1565	1615	31%	13%	14.0%	4.0%	13.0%	15.5%	17.5%	18.5%	21.0%
rimee design a county	3.270	1121	1170	1317	1303	1013	31/0	13/0	11.0/0	1.070	13.070	13.370	17.570	10.570	21.070
Charles County	7.0%	205	220	235	252	269	2% (2008)		1.6%	0.0%	1.6%	1.8%	2.1%	2.5%	5.0%
Calvert County	4.8%	167	175	183	192	201	0.5%		0.0%	0.0%	0.0%	0.5%	0.7%	1.0%	2.0%
St. Mary's County	0.0%	240	240	240	240	240	(2008) 0.5% (2008)		0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



## Volume Projection Methodology – Market Capture Assumptions

MEDICAL CARDIO	ol ocy													
WEDICAL CARDIC		Projected	Projected	Projected	Projected	Projected								
	Growth	FY13	FY14	FY15	FY16	FY17								
	Rate	Volumes	Volumes	Volumes	Volumes	Volumes	PGHC 2008	PGHC 2009	PGHC 2010					
Geographic Area			M	arket Poten	itial		Market Share	Market Share	Market Share					
Prince Georges County	0.30%	6298	6317	6336	6355	6374	14%	14.0%	14.0%	12.7%	13.5%	15.0%	16.5%	17.0%
Charles County	0.00%	1792	1792	1792	1792	1792	0.6%	0.5%	0.3%	0.3%	0.5%	0.5%	0.6%	0.6%
Calvert County	0.00%	988	988	988	988	988	0.5%	0.0%	0.0%	0.0%	0.0%	0.5%	0.6%	0.6%
St. Mary's County	0.00%	1973	1973	1973	1973	1973	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%

	Annual Growth Rate	FY13	Projected FY14 Volumes	FY15	Projected FY16 Volumes	Projected FY17 Volumes	PGHC 2008 Market Share	PGHC 2009 Market Share	PGHC 2010 Market Share	FY13	FY14	FY15	FY16	FY17
ieographic Area			M	arket Poten	itial									
rince Georges County	11.00%	1379	1530	1699	1885	2093	13%	12.0%	10.0%	11.0%	11.5%	12.0%	12.0%	12.
charles County	4.50%	367	383	401	419	437	1.7%	0.3%	0.3%	0.3%	0.4%	0.6%	1.2%	3.
Calvert County	2.00%	254	259	264	270	275	0.8%	0.0%	1.2%	1.2%	1.2%	1.5%	2.0%	3.
t. Mary's County	1.80%	367	374	381	388	395	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0



## Volume Projection Methodology – Market Capture Assumptions

VASCULAR														
	Annual	Projected	Projected	Projected	Projected	Projected								
	Growth	FY13	FY14	FY15	FY16	FY17								
	Rate	Volumes	Volumes	Volumes	Volumes	Volumes	PGHC 2008	PGHC 2009	PGHC 2010					
Geographic Area	hic Area Market Potential					Market Share	Market Share	Market Share	FY13	FY14	FY15	FY16	FY17	
Prince Georges County	5.00%	767	805	845	887	932	9%	9.0%	9.0%	9.0%	9.0%	10.0%	11.0%	14.0%
Charles County	5.00%	102	107	112	118	124	0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.5%	1.0%
Calvert County	9.00%	58	63	69	75	82	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
St. Mary's County	3.00%	83	86	89	91	94	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

VASCULAR SUI	RGERY													
	Annual Growth Rate	FY13	FY14	FY15	Projected FY16 Volumes	Projected FY17 Volumes	PGHC 2008 Market Share	PGHC 2009 Market Share	PGHC 2010 Market Share	FY13	FY14	FY15	FY16	FY17
Geographic Area			N	larket Poter	ntial		11%	11.0%	9.0%	9.5%	11.0%	15.0%	16.0%	16.0%
Charles County	3.40%	235	243	251	259	268	0.00%	0.0%	0.0%	0.0%	0.5%	1.8%	2.0%	2.0%
Calvert County	3.40%	123	127	132	136	141	1.70%	0.0%	0.0%	0.0%	0.5%	0.7%	1.0%	1.0%
St. Mary's County	3.50%	175	181	187	194	201	1.10%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

# **PGHC Patient Volume Projections**

CV Service Line	PGHC Actual FY11	PGHC Actual FY12	FY2013	FY2014	FY2015	FY2016	FY2017
Cardiac Arrhythmia	200	195	156	181	210	237	273
Cardiac Surgery	29	7	20	115	200	250	300
Cardiology	1,292	921	800	852	947	1,040	1,068
Interventional cardiology	217	183	188	233	272	298	357
Vascular	67	77	69	72	85	98	132
Vascular Surgery	137	140	129	155	219	239	245
Total Inpatient CV	1,942	1,523	1,363	1,607	1,933	2,163	2,374
Cardiac Observation Hours	23,278	47,899	51,030	56,134	57,256	57,829	58,407

Source: PGHC's St. Paul's MS-DRG Discharge Data Reports FY11 and FY12. Observation hours provided by PGHC Finance Department.