



North Carolina
State Health Plan

FOR TEACHERS AND STATE EMPLOYEES

A Division of the Department of State Treasurer

NORTH CAROLINA STATE HEALTH PLAN FOR TEACHERS AND STATE EMPLOYEES

Using Clinical Risk Groups to Focus Board Strategic Initiatives

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Agenda

- Review of SHPNC mission and strategic opportunities
- Define the financial opportunities for managing the health of SHPNC population
- Discuss aspects of behavioral economics that drive health care costs
- Review the findings of the Clinical Risk Group analysis of SHPNC
- Next Steps for using findings to focus SHPNC's strategy and measure the impact of the strategy

Background – Mission for the SHPNC

Our mission is to improve the health and healthcare of North Carolina teachers, state employees, retirees, and their dependents, in a financially sustainable manner, thereby serving as a model to the people of North Carolina for improving their health and wellbeing.

Background – SHPNC Strategic Opportunities

- Increase the SHPNC participants' awareness of their health status and to available support resources
- Improve the health of the SHPNC participants through focused programs
- Improve medication adherence and treatment compliance of SHPNC participants with chronic conditions
- Impact positive trends in utilization management to reduce medical trend

Study Shows Avoidable Medical Care Services Contribute to Costs



- **Behavioral** \$493 billion (18.9%*)
- **Clinical** \$312 billion (11.9%*)
- **Operational** \$134 billion (5.1%*)

Total \$939 billion

* NOTE: Percentage of total health dollars spent in 2012 in the United States

In 2012, \$939 billion of the \$2.6 trillion spent on medical care in the United States was avoidable due to factors related to patient behaviors, clinical ineffectiveness, and operational inefficiency in the delivery of health care

Unhealthy Behaviors Factor into Avoidable Medical Cost



- **Obesity/Overweight:** \$200 billion
- **Smoking:** \$191 billion
- ***Non-adherence to drug regimens:** \$100-\$290 billion
- **Alcohol abuse:** \$2 billion

Over 50% of avoidable healthcare is attributable to preventable risk factors linked to behavior. Example – overweight diabetic not controlling blood sugar level

* New England Healthcare Institute 2012 study of medication non-adherence - \$290 billion. Pricewaterhouse Coopers Health Research Institute 2012 study of waste in the health care system - \$100 billion

Clinical Care Practices Factor into Avoidable Medical Cost



- **Defensive medicine:** \$210 billion
- **Preventable hospital visits:** \$25 billion
- **Poorly managed diabetes:** \$22 billion
- **Medical errors:** \$17 billion
- **Unnecessary ER visits:** \$14 billion
- **Treatment variations:** \$10 billion
- **Hospital acquired infections:** \$3 billion
- **Over-prescribing of antibiotics:** \$1 billion

Those providing or paying for care often don't have the best information on the right thing to do or don't utilize information available to them. Example – patient getting back surgery when physical therapy was sufficient to resolve medical problem.

* New England Healthcare Institute 2012 study of medication non-adherence - \$290 billion. Pricewaterhouse Coopers Health Research Institute 2012 study of waste in the health care system - \$100 billion

Operational Complexities Factor into Avoidable Medical Cost



- **Claims processing:** \$21-\$210 billion
- **Ineffective use of IT:** \$81-\$88 billion
- **Staffing turnover:** \$21 billion
- **Paper prescriptions:** \$4 billion

Administrative complexities and redundancies fuel expenses in scheduling, registration, financial clearance, coding, claims processing, credentialing, and utilization management. Example – hospital needing to accommodate 700 billing systems for plans

New England Healthcare Institute 2012 study of medication non-adherence - \$290 billion. Pricewaterhouse Coopers Health Research Institute 2012 study of waste in the health care system - \$100 billion

Opportunity Cost of Patient Behavior, Clinic Effectiveness, and Operational Complexity of Health Care Delivery for SHPNC

State Health Plan NC

• 2013 Projected Medical Costs –	\$ 1,859,949,142
• 2013 Projected Drug Costs -	<u>\$ 678,096,922</u>
Total	\$ 2,537,190,620

Applying the results of the study reported on the previous pages to the SHPNC's overall costs, there is the potential to achieve savings such as the following:

Potentially Avoidable Medical Cost

• Savings from Behavior Modifications -	\$ 479,529,027	(18.9%*)
• Savings from Clinical Efficiencies -	\$ 301,925,684	(11.9%*)
• Savings from Operational Efficiencies -	\$ <u>129,396,722</u>	(5.1%*)
Total	\$ 910,851,433	(35.9%*)

* Source: SHPNC March 5, 2013 FY projected costs

SHPNC has initiatives in place focused on improving participant behaviors that contribute to avoidable claims expenditures.

What are the Participant Behaviors that are Worth Managing?

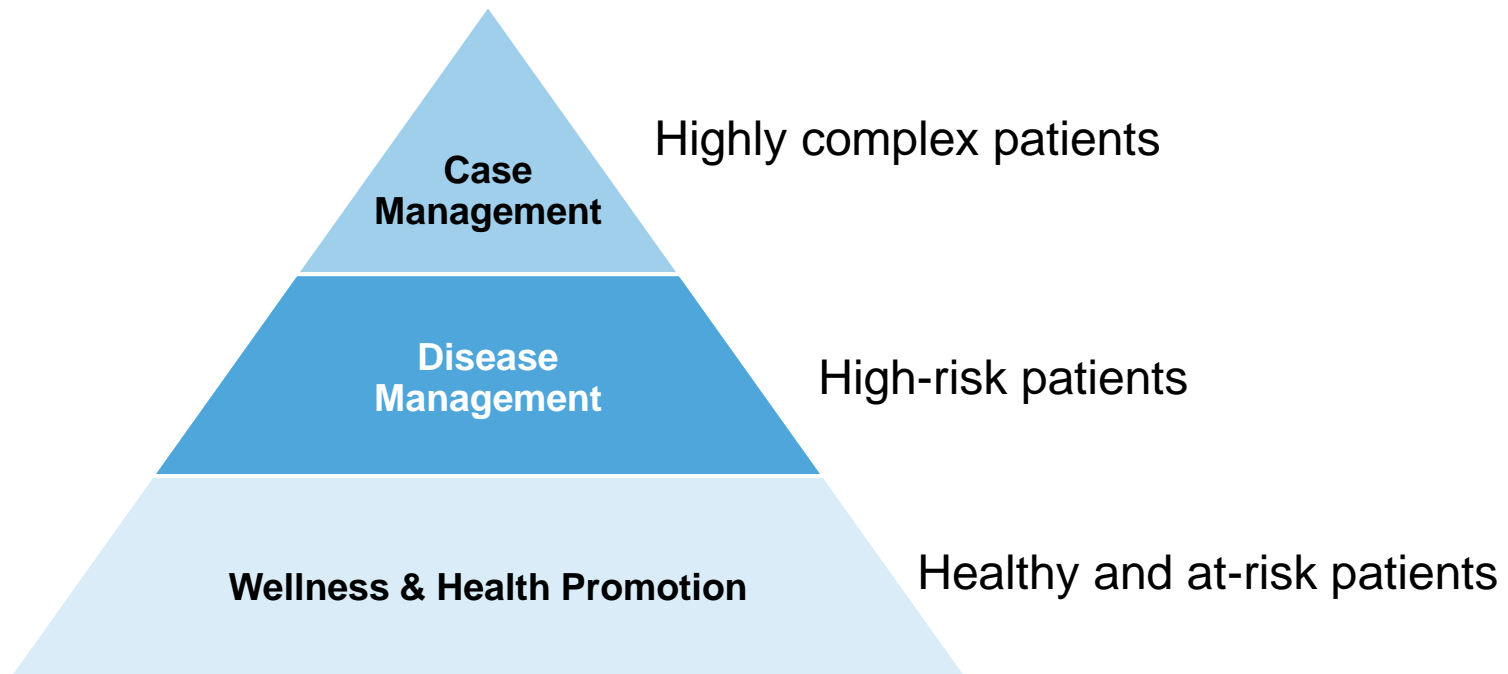


Top 15 Most Costly Conditions

Diabetes	Back Pain	Asthma	Sinusitis	COPD
CAD	Obesity	Arthritis	Depression	CKD
Hypertension	Cancer	Allergies	CHF	High Cholesterol

Avoidable and modifiable human behaviors contribute to 80% of the cost associated with the chronic conditions listed above

The Success of Health Management Programs Depends On Active Engagement of Participants that Leads to Behavior Change



Initiatives are in place to support the wide range of SHPNC population needs. The challenge is to get participants to engage in the various initiatives and modify unhealthy behaviors.

Monitoring the Health Risk Profile of the SHPNC – Clinical Risk Grouping as a Tool

Clinical Risk Grouping (CRG) – A starting point

- The purpose of performing a detailed study is to:
 - To identify the prevalent health risks within the plan's population and predict the financial impact of those risks.
 - Uncover opportunities for the plan to better control plan cost and improve the health of the covered population.

- Long-term objectives can include the following:
 - Quantify health status and underlying drivers of trend
 - Proactively identify aberrant utilization patterns
 - Improve financial evaluation of program/vendor performance
 - Evaluate the “ROI” saving of case management and disease management programs that are “true savings” and not simply a regression to the mean
 - Target high risk groups for preventive interventions
 - Measure provider performance

Definitions for Clinical Risk Groups (CRG)

Descriptors and severity-of-illness subclasses

- In the 3M CRG system, an individual is assigned two descriptors:
 - **Base CRG**—Each individual is assigned to a single base CRG that reflects the full range of diagnoses for that individual
 - **Severity-of-illness subclass** for the base CRG—The subclass addresses individual differences relating to severity of illness and take into account:
 - Recency of occurrence (e.g., last 90 days)
 - Site of occurrence (e.g., hospital, ambulance)
 - Recurrence or persistency over time
 - Combination of diagnoses in individual's history
- Severity level describes the extent and progression of disease and range from minor (1) to extreme (6). (See next page for levels of severity by CRG health status)
- All individuals are assigned to a single, mutually exclusive group, which is in one of nine health statuses, ranging from catastrophic (e.g., history of a heart transplant) to healthy (e.g., no chronic health problems or other indication of risk).

Definitions for Clinical Risk Groups (CRG) – See Appendix for Examples of Each Category

CRG	CRG health status category	Description/Example of base 3M CRG	Severity levels
1	Healthy	Healthy (no chronic health problems)	None
2	History of significant acute disease	Chest pains	None
3	Single minor chronic disease	Migraine	2
4	Minor chronic diseases in multiple organ systems	Migraine and benign prostatic hyperplasia (BPH)	4
5	Significant chronic disease	Diabetes mellitus	6
6	Significant chronic diseases in multiple organ systems	Diabetes mellitus and CHF	6
7	Dominant chronic disease in 3 or more organ systems	Diabetes mellitus, congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD)	6
8	Dominant/Metastatic malignancy	Metastatic colon malignancy	4
9	Catastrophic	History of major organ transplant	6

CRG Population Profiles by Cost and Risk Available for SHPNC

- Non-Medicare
- Actives
- Retirees
- Groups, systems, departments

This presentation of CRGs is limited to the non-Medicare population. Full report is available to Board

Monitoring the Health Risk Profile of the SHPNC Population - Total Non-Medicare Member Profile

The following is a distribution of membership and claims for Fiscal Year 2012

	Members	% Total	Claims	% Total	PMPY
CRG Health Status Category					
1. Healthy	230,601	42.5%	\$235,721,668	8.6%	\$ 1,022
2. Significant Acute	28,557	5.3%	\$95,336,435	3.5%	\$ 3,339
3. Single Minor Chronic	57,902	10.7%	\$200,340,092	7.3%	\$ 3,460
4. Multiple Minor Chronic	20,000	3.7%	\$117,227,534	4.3%	\$ 5,861
5. Single Dominant or Moderate Chronic	108,061	19.9%	\$580,175,547	21.1%	\$ 5,369
6. Pairs - Multiple Dominant and / or Moderate Chronic	90,270	16.6%	\$1,125,714,272	40.9%	\$ 12,471
7. Triples - Multiple Dominant Chronic	2,872	0.5%	\$115,596,081	4.2%	\$ 40,256
8. Malignancies - Metastatic, Compound or Dominant	2,386	0.4%	\$199,364,571	7.2%	\$ 83,550
9. Catastrophic	1,550	0.3%	\$83,501,471	3.0%	\$ 53,869
Total	542,198	100%	\$2,752,977,670	100.0%	\$ 5,077
Healthy/Acute - risk category 1 and 2	259,157	47.8%	\$331,058,103	12.0%	\$ 1,277
Chronic – risk category 3 through 7	279,104	51.5%	\$2,139,053,526	77.7%	\$ 7,664
Catastrophic/Malignancy – risk category 8 and 9	3,936	0.7%	\$282,866,041	10.3%	\$ 71,862

➤ 19% of healthy members (45,647 members) did not have a claim in 2012

Monitoring the Health Risk Profile of the SHPNC Population - Total Non - Medicare Member Profile

Complex Case Management and Wellness Programs Effective with These Populations

- “Healthy/Acute” includes participants with no claims, moderate claims and Acute conditions
 - 47.8% of the total population are considered to be Healthy/Acute
 - \$331 million or 12.0% of total claims were from Healthy/Acute members
 - Healthy/Acute members cost an average of \$1,277
- “Catastrophic/Malignancy” includes Malignancies and Catastrophic
 - 0.7% of the total population are considered to be Catastrophic/Malignancy
 - \$282 million or 10.3% of all claims were from Catastrophic/Malignancy members
 - Catastrophic/Malignant members cost an average of \$71,862

Disease Management, Complex Case Management, and Wellness Program Effective with these Populations

- “Chronic” includes participants with single and multiple conditions
 - 51.5% of the total population are considered to be Chronic
 - \$2.1 billion or 77.7% of total claims were from Chronic members
 - Chronic members cost an average of \$7,664 (over 6 times that of a Healthy/Acute member)

Monitoring the Health Risk Profile of the SHPNC Population - Severity Analysis (Total Non-Medicare)

CRG Health Status Category	Membership by Level of Severity							
	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Total
1. Healthy	230,601	0	0	0	0	0	0	230,601
2. Significant Acute	28,557	0	0	0	0	0	0	28,557
3. Single Minor Chronic	0	42,748	15,154	0	0	0	0	57,902
4. Multiple Minor Chronic	0	8,073	1,169	7,687	3,071	0	0	20,000
5. Single Dominant or Moderate Chronic	0	84,225	19,021	3,953	543	251	68	108,061
6. Pairs - Multiple Dominant and / or Moderate Chronic	0	58,219	17,346	9,220	4,075	1,219	190	90,270
7. Triples - Multiple Dominant Chronic	0	1,013	662	827	177	117	75	2,872
8. Malignancies - Metastatic, Compound or Dominant	0	243	923	741	386	93	0	2,386
9. Catastrophic	0	176	760	277	192	82	64	1,550
Total	259,157	194,697	55,035	22,704	8,446	1,762	397	542,198

CRG Health Status Category	Per Member per Year Cost by Level of Severity							
	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Total
1. Healthy	\$1,022							\$1,022
2. Significant Acute	\$3,339							\$3,339
3. Single Minor Chronic		\$2,998	\$4,763					\$3,460
4. Multiple Minor Chronic		\$4,641	\$6,271	\$6,076	\$8,376			\$5,861
5. Single Dominant or Moderate Chronic		\$3,953	\$8,525	\$15,604	\$27,036	\$21,825	\$47,955	\$5,369
6. Pairs - Multiple Dominant and / or Moderate Chronic		\$7,706	\$14,807	\$21,992	\$32,518	\$54,364	\$98,185	\$12,471
7. Triples - Multiple Dominant Chronic		\$16,948	\$27,542	\$45,355	\$83,525	\$116,524	\$189,019	\$40,256
8. Malignancies - Metastatic, Compound or Dominant		\$25,073	\$57,642	\$87,593	\$143,538	\$212,193		\$83,550
9. Catastrophic		\$12,641	\$25,294	\$50,885	\$103,535	\$162,859	\$231,607	\$53,869
Total	\$1,277	\$4,996	\$10,705	\$18,836	\$31,154	\$67,186	\$128,378	\$5,077

Risk Factor	0.25	0.98	2.11	3.71	6.14	13.23	25.28	1.00
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Monitoring the Health Risk Profile of the SHPNC Population – Risk Factor Analysis by Health Status and Severity Level

Active - Risk Factors		Severity Level							
CRG Health Status Category	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Total	
1. Healthy	0.20	-	-	-	-	-	-	0.20	
2. Significant Acute	0.66	-	-	-	-	-	-	0.66	
3. Single Minor Chronic	-	0.59	0.95	-	-	-	-	0.69	
4. Multiple Minor Chronic	-	0.93	1.22	1.20	1.66	-	-	1.16	
5. Single Dominant or Moderate Chronic	-	0.78	1.65	3.09	5.51	4.35	9.26	1.06	
6. Pairs - Multiple Dominant and / or Moderate Chronic	-	1.50	2.96	4.43	6.53	10.96	19.44	2.42	
7. Triples - Multiple Dominant Chronic	-	3.38	5.66	9.01	17.60	22.87	34.97	7.79	
8. Malignancies - Metastatic, Compound or Dominant	-	4.97	11.76	17.33	29.53	38.82	-	16.56	
9. Catastrophic	-	2.41	4.89	9.61	20.17	27.30	41.50	9.42	
Total	0.25	0.96	2.03	3.60	6.01	12.89	22.89	0.91	

Retiree Non-Medicare - Risk Factors		Severity Level							
CRG Health Status Category	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Total	
1. Healthy	0.16	-	-	-	-	-	-	0.16	
2. Significant Acute	0.63	-	-	-	-	-	-	0.63	
3. Single Minor Chronic	-	0.56	0.84	-	-	-	-	0.62	
4. Multiple Minor Chronic	-	0.84	1.26	1.16	1.59	-	-	1.11	
5. Single Dominant or Moderate Chronic	-	0.78	1.83	2.99	4.39	4.13	10.35	1.06	
6. Pairs - Multiple Dominant and / or Moderate Chronic	-	1.57	2.79	4.09	6.11	10.16	19.10	2.57	
7. Triples - Multiple Dominant Chronic	-	3.24	4.95	8.77	14.32	23.08	39.54	8.21	
8. Malignancies - Metastatic, Compound or Dominant	-	4.86	10.30	17.08	25.76	49.31	-	16.20	
9. Catastrophic	-	3.31	5.61	12.82	21.44	44.72	53.17	17.60	
Total	0.22	1.08	2.49	4.09	6.54	14.02	30.37	1.68	

➤ Risk factors are normalized averages often called relative weights or norms

- There are expected relative differences for a measure of utilization between subgroups within a population
- The average measure of utilization used to calculate CRG weights was PMPY

Primary Disease Profile (Total Non-Medicare) Annual Membership

CRGs were mapped into a primary disease through the hierarchy below

Code	Description	FY2010		FY2011		FY2012	
		Members	% Total	Members	% Total	Members	% Total
1	AIDS/HIV	725	0%	760	0%	767	0%
2	Oncology	10,443	2%	10,680	2%	9,803	2%
3	End Stage Renal Disease-Kidney	1,242	0%	1,316	0%	1,278	0%
4	Sickle Cell Anemia	54	0%	60	0%	69	0%
5	CP - Cerebral Palsy	26	0	10	0%	19	0%
6	CF - Cystic Fibrosis	N/A	N/A	N/A	N/A	7	0%
7	Diabetes	39,294	7%	40,911	7%	39,381	7%
8	CAD - Coronary Artery Disease	14,117	3%	13,540	2%	13,022	2%
9	CHF - Congestive Heart Failure	756	0%	725	0%	730	0%
10	COPD - Chronic Obstructive Pulmonary Disease	1,064	0%	959	0%	1,002	0%
11	Asthma	13,148	2%	12,638	2%	12,169	2%
12	Hypertension	54,660	10%	53,094	10%	53,918	10%
13	Epilepsy	1,851	0%	1,804	0%	1,899	0%
14	Osteoporosis	3,063	1%	2,437	0%	1,729	0%
15	Premature Birth	13	0%	23	0%	19	0%
16	Drug Abuse Related Diagnoses	1,258	0%	1,375	0%	1,414	0%
17	Alcohol Related	6	0%	8	0%	5	0%
18	Mental Health	28,786	5%	28,973	5%	30,777	6%
19	Joint and Musculoskeletal Related	11,799	2%	11,298	2%	10,965	2%
20	Respiratory	948	0%	930	0%	823	0%
21	Dermatology	3,036	1%	2,706	0%	2,653	0%
22	Dominant Chronic	7,381	1%	7,365	1%	7,387	1%
23	Moderate Chronic	50,098	9%	52,802	10%	47,996	9%
24	Minor Chronic	44,189	8%	45,452	8%	44,493	8%
25	Acute	27,347	5%	26,999	5%	28,566	5%
26	Catastrophic	683	0%	698	0%	703	0%
27	Healthy	233,041	42%	229,061	42%	230,601	43%
	Total	549,027	100%	546,624	100%	542,198	100%

- 48% of the members had no particular health risk in 2012, which is slightly higher than 47% in FY2010.
- Mental Health had the highest net member increase, 1,991, from 2010 to 2012

CRG Health Status 5 & 6 Breakout by Primary Disease Profile Total Non-Medicare Membership & Allowed Claims FY 2012

CRGs were mapped into a primary disease through the hierarchy below

Code	Description	Health Status 5				Health Status 6			
		Members	% Total	Claims	% Total	Members	% Total	Claims	% Total
1	AIDS/HIV	0	0%	\$0	0%	0	0%	\$0	0%
2	Oncology	2,135	2%	\$35	6%	3,848	4%	\$93	8%
3	End Stage Renal Disease-Kidney	183	0%	\$4	1%	679	1%	\$29	3%
4	Sickle Cell Anemia	69	0%	\$1	0%	0	0%	\$0	0%
5	CP - Cerebral Palsy	19	0%	\$0	0%	0	0%	\$0	0%
6	CF - Cystic Fibrosis	0	0%	\$0	0%	0	0%	\$0	0%
7	Diabetes	7,642	7%	\$43	7%	29,346	33%	\$315	28%
8	CAD - Coronary Artery Disease	1,727	2%	\$25	4%	1,670	2%	\$43	4%
9	CHF - Congestive Heart Failure	282	0%	\$4	1%	415	0%	\$14	1%
10	COPD - Chronic Obstructive Pulmonary Disease	239	0%	\$2	0%	736	1%	\$15	1%
11	Asthma	6,694	6%	\$28	5%	5,458	6%	\$56	5%
12	Hypertension	53,916	50%	\$195	34%	0	0%	\$0	0%
13	Epilepsy	1,899	2%	\$10	2%	0	0%	\$0	0%
14	Osteoporosis	1,729	2%	\$7	1%	0	0%	\$0	0%
15	Premature Birth	0	0%	\$0	0%	0	0%	\$0	0%
16	Drug Abuse Related Diagnoses	696	1%	\$5	1%	714	1%	\$12	1%
17	Alcohol Related	5	0%	\$0	0%	0	0%	\$0	0%
18	Mental Health	6,260	6%	\$36	6%	6,667	7%	\$95	8%
19	Joint and Musculoskeletal Related	4,703	4%	\$52	9%	8	0%	\$0	0%
20	Respiratory	46	0%	\$1	0%	0	0%	\$0	0%
21	Dermatology	133	0%	\$1	0%	656	1%	\$13	1%
22	Dominant Chronic	1,083	1%	\$17	3%	6,190	7%	\$150	13%
23	Moderate Chronic	14,091	13%	\$94	16%	33,883	38%	\$290	26%
24	Minor Chronic	4,319	4%	\$17	3%	0	0%	\$0	0%
25	Acute	0	0%	\$0	0%	0	0%	\$0	0%
26	Catastrophic	190	0%	\$3	1%	0	0%	\$0	0%
27	Healthy	0	0%	\$0	0%	0	0%	\$0	0%
	Total	108,061	100%	\$580	100%	90,270	100%	\$1,126	100%

Monitoring the Health Risk Profile of the SHPNC Population - Cost and Risk by Population Segments

Summary of Fiscal Year 2012 by Group

	Members	Claims	PMPY	Relative Cost	Risk Factor
Members & Claims for Fiscal Year 2012					
1. Community College System	23,325	\$117,207,662	\$ 5,025	0.990	0.987
2. Department of Corrections	26,346	\$137,912,602	\$ 5,235	1.031	1.039
3. Department of Health and Human Services	24,224	\$126,763,853	\$ 5,233	1.031	1.054
4. Department of Transportation	17,722	\$80,011,318	\$ 4,515	0.889	0.954
5. North Carolina Public Schools	258,201	\$1,146,714,186	\$ 4,441	0.875	0.875
6. University of North Carolina Healthcare & NC System	80,830	\$361,210,293	\$ 4,469	0.880	0.862
7. All Other Groups	46,290	\$227,198,846	\$ 4,908	0.967	0.953
Active Total	476,937	\$2,197,018,761	\$ 4,607	0.907	0.907
Retirees (Non-Medicare)	65,260	\$555,958,909	\$ 8,519	1.678	1.678
Total	542,198	\$2,752,977,670	\$ 5,077	1.000	1.000

- Reviewing risk factors by department may provide specific opportunities using health promotion efforts boost participation in wellness programs offered through departments or by adding health improvement competitions between departments.

Advancement of Health Risk In the SHPNC Population 10-Year Projection (Total Non-Medicare)

- If there is no further action to improve the health risk profile of the covered SHPNC population, there is a natural decline in the health risk that can be expected to happen:

CRG Health Status Category	FY2012		Projected FY2022		Movement
	Members	% Total	Members	% Total	
1. Healthy	230,601	42.5%	219,695	40.5%	(10,906)
2. Significant Acute	28,557	5.3%	24,491	4.5%	(4,066)
3. Single Minor Chronic	57,902	10.7%	54,496	10.1%	(3,406)
4. Multiple Minor Chronic	20,000	3.7%	20,602	3.8%	602
5. Single Dominant or Moderate Chronic	108,061	19.9%	111,732	20.6%	3,671
6. Pairs - Multiple Dominant and / or Moderate Chronic	90,270	16.6%	103,250	19.0%	12,981
7. Triples - Multiple Dominant Chronic	2,872	0.5%	3,403	0.6%	532
8. Malignancies - Metastatic, Compound or Dominant	2,386	0.4%	2,936	0.5%	550
9. Catastrophic	1,550	0.3%	1,593	0.3%	43
Total	542,198	100.0%	542,198	100.0%	
Healthy/Acute 1 and 2	259,157	47.8%	244,186	45.0%	
Chronic 3 through 7	279,104	51.5%	293,483	54.1%	
Catastrophic/Malignancy 8 and 9	3,936	0.7%	4,529	0.8%	
Relative Risk Score		1.00		1.09	

- The percentage of Healthy/Acute members is projected to decrease 2.8%
- Overall risk factor for the SHP population will increase from 1.00 to 1.09

Primary Disease Advancement of Risk 5 & 10 Year Projection (Total Non-Medicare)

Code	Description	FY2012		FY2017		FY2022		2012 to 2022 Movement
		Members	% Total	Members	% Total	Members	% Total	
1	AIDS/HIV	767	0.1%	865	0%	914	0%	147
2	Oncology	9,803	1.8%	11,154	2%	11,213	2%	1,410
3	End Stage Renal Disease-Kidney	1,278	0.2%	1,527	0%	1,592	0%	315
4	Sickle Cell Anemia	69	0.0%	63	0%	63	0%	-6
5	CP - Cerebral Palsy	19	0.0%	9	0%	9	0%	-10
6	CF - Cystic Fibrosis	7	N/A	3	N/A	1	N/A	N/A
7	Diabetes	39,381	7.3%	45,473	8%	47,801	9%	8,420
8	CAD - Coronary Artery Disease	13,022	2.4%	13,185	2%	13,178	2%	156
9	CHF - Congestive Heart Failure	730	0.1%	732	0%	738	0%	8
10	COPD - Chronic Obstructive Pulmonary Disease	1,002	0.2%	925	0%	925	0%	-77
11	Asthma	12,169	2.2%	11,833	2%	11,781	2%	-388
12	Hypertension	53,918	9.9%	52,535	10%	52,673	10%	-1,245
13	Epilepsy	1,899	0.4%	1,720	0%	1,711	0%	-187
14	Osteoporosis	1,729	0.3%	2,004	0%	2,009	0%	280
15	Premature Birth	19	0.0%	17	0%	17	0%	-2
16	Drug Abuse Related Diagnoses	1,414	0.3%	1,485	0%	1,481	0%	66
17	Alcohol Related	5	0.0%	9	0%	9	0%	5
18	Mental Health	30,777	5.7%	29,035	5%	28,873	5%	-1,904
19	Joint and Musculoskeletal Related	10,965	2.0%	10,866	2%	10,801	2%	-164
20	Respiratory	823	0.2%	907	0%	901	0%	78
21	Dermatology	2,653	0.5%	2,572	0%	2,556	0%	-97
22	Dominant Chronic	7,387	1.4%	7,508	1%	7,535	1%	148
23	Moderate Chronic	47,996	8.9%	54,421	10%	54,497	10%	6,502
24	Minor Chronic	44,493	8.2%	45,328	8%	45,126	8%	633
25	Acute	28,566	5.3%	24,807	5%	24,608	5%	-3,958
26	Catastrophic	703	0.1%	729	0%	734	0%	31
27	Healthy	230,601	42.5%	222,483	41%	220,450	41%	-10,151
	Total	542,196	100.0%	542,198	100%	542,198	100%	

- Diabetes (8,420) and oncology (1,410) will have the highest net member increases for specific primary diseases

Next Steps for Strategy Application of CRG Information

- Focus the health management & wellness strategy on the health risk profile of the SHPNC population
- Define the metrics that the SHPNC will use to measure improvements in the health risk profile of the SHPNC population
- Set targets for each metric and monitor progress
- Link metrics to the performance of partners (e.g. BCBSNC, Active Health, Community Care Network, others) supporting the strategy
- Use Dashboard metrics as indicators of the effectiveness of the strategy

Questions

Appendix —CRG Characteristics

CRG Characteristics

- Assigns members to a single, mutually exclusive risk group based on clinical information/experience
- Clinically meaningful categorization provides a refined assessment of health status and risk adjusted trends
- Degree of severity leveling improves financial analysis, performance measurement and plan/program design
- Transparent methodology established a foundation for actionable and defensible intervention strategies
- Enhanced ability to measure and monitor vendor performance with statistically matched cohorts

Appendix — 4 Definitions: CRG assignment occurs in four phases

- **Phase 1:** Creates a profile of the individual's past medical history
- **Phase 2:** Identifies the individual's most significant chronic diseases (if any) and the relative severity of the most significant chronic diseases
- **Phase 3:** Assigns the individual's risk group and severity level (i.e., the CRG)
- **Phase 4:** Assigns the individual to aggregated risk groups (ACGR3s)

Appendix — Categorization of ACGR3s Statuses

➤ Status 9—Catastrophic Conditions

- Catastrophic conditions include long term dependency on a medical technology (e.g. dialysis and respirator) and life-defining chronic diseases or conditions that dominate the medical care required (e.g., persistent vegetative state, cystic fibrosis, AIDS, and history of heart transplant).
- The severity level for Status 9, Catastrophic, is based on the presence of specific Episode Disease Categories (EDCs) or Episode Procedure Categories (EPCs) that meet explicit conditions.

➤ Status 8—Dominant, Metastatic and Complicated Malignancies

- A malignancy that dominates the medical care required (e.g., brain malignancy) or a non-dominant malignancy (e.g., prostate malignancy) that is metastatic or complicated (e.g., requiring a bone marrow transplant).
- The severity level for Status 8, Dominant Metastatic and Complicated Malignancies, is set in three steps. The first step, setting the initial level, is designed to reflect the total burden of illness including both malignancy and non-malignancy related illnesses. The initial severity level is the higher of the two levels, with one based on the presence of non-malignancy Primary Chronic Diseases (PCDs) and the other based on specified malignancy related complications and metastases. The next step adjusts the initial severity level if specific EDCs or EPCs are present and meet explicit conditions. The final step converts the interim severity level to the final severity level based on malignancy related conditions and metastases.

Appendix — Categorization of ACGR3s Statuses

➤ Status 7—Dominant Chronic Disease in Three or More Organ Systems

- Dominant chronic disease in three or more organ systems is identified by the presence of three or more dominant chronic PCDs or two dominant chronic PCDs with a selected moderate chronic PCD
- The severity level for Status 7, Dominant Chronic Disease in Three or more Organ Systems, is determined by establishing an initial severity level based on the severity levels of the three PCDs which form the base CRG. The initial severity is adjusted to determine a final severity level if specific EDCs or EPCs are present and meet explicit conditions (rules).

➤ Status 6—Significant Chronic Disease in Multiple Organ Systems

- Significant chronic diseases in multiple organ systems are identified by the presence of two or more PCDs, of which at least one is a Dominant or Moderate Chronic PCD. PCDs that are a severity level 1 minor chronic disease are not considered a significant chronic disease, and are not used to identify the presence of significant chronic disease in multiple organ systems. Minor Chronic PCDs that are severity level 2 minor chronic diseases are used.
- The severity level for Status 6, Significant Chronic Disease in Multiple Organ Systems, is determined by using the severity level of the two PCDs which form the basis of the base CRG to assign an initial severity level. The initial level takes into account the possibility that the two PCDs are of disparate importance. The initial severity is adjusted to determine a final severity level if specified EDCs or EPCs are present and meet explicit conditions (rules).

Appendix — Categorization of ACGR3 Statuses

➤ Status 5—Single Dominant or Moderate Chronic Disease

- Single dominant chronic disease is identified by the presence of a single dominant or moderate PCD. If a Minor Chronic PCD with a level of 1 is present, it is ignored.
- The severity level for Status 5, Single Dominant or Moderate Chronic Disease is the PCD severity level.

➤ Status 4—Minor Chronic Disease in Multiple Organ Systems

- Minor chronic disease in multiple organ systems is identified by the presence of two or more Minor Chronic PCDs.
- The severity level for Status 4, Minor Chronic Disease in Multiple Organ Systems, is based on the number of Minor Chronic PCDs and their severity levels.

➤ Status 3—Single Minor Chronic Disease

- A single minor chronic disease is identified by the presence of a single Minor Chronic PCD.
- The severity level for Status 3, Single Minor Chronic Disease, is the PCD severity level.

➤ Status 2—History of Significant Acute Disease

- A history of significant Acute disease is identified by the presence within the most recent six month period of one or more Significant Acute EDCs or one of a set of Significant Acute EPCs with no PCDs (i.e., identifiable chronic conditions) present.

➤ Status 1—Healthy

- A Healthy status is identified by the absence of any PCDs or Significant Acute EDCs or EPCs.
- There are no severity levels.

Appendix —CRG Assignment

CRG Assignment

CLAIM

Claim No: 123456

Date: 01/01/01

Name: Sam Smith

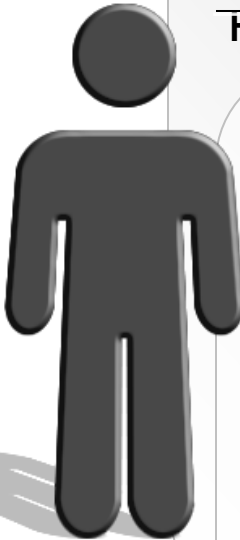
Hospital:

Diagnosis:

URI

Atopic Dermatitis

Healthy



Appendix —CRG Assignment *continued*

CRG Assignment

CLAIM

Claim No: 123456

Date: 01/01/01

Name: Sam Smith

Hospital:

Diagnosis:

URI

Atopic Dermatitis

Chest Pain – Office Visit

Healthy



Appendix —CRG Assignment *continued*

CRG Assignment

CLAIM

Claim No: 123456

Date: 01/01/01

Name: Sam Smith

Hospital:

Diagnosis:

URI

Atopic Dermatitis

Chest Pain – Office Visit

Chest Pain – Hospital Admission

**One or More
Significant
Acute Disease**



Appendix —CRG Assignment *continued*

CRG Assignment

CLAIM

Claim No: 123456

Date: 01/01/01

Name: Sam Smith

Hospital:

Diagnosis:

URI

Atopic Dermatitis

Chest Pain – Office Visit

Chest Pain – Hospital Admission

Cholesterol (220)

**One Minor
Chronic
Disease**



Appendix —CRG Assignment *continued*

CRG Assignment

CLAIM

Claim No: 123456

Date: 01/01/01

Name: Sam Smith

Hospital:

Diagnosis:

URI

Atopic Dermatitis

Chest Pain – Office Visit

Chest Pain – Hospital Admission

Cholesterol (220)

Diabetes (*weight gain – 50lbs*)

**One Significant
Chronic
Disease**



Appendix —CRG Assignment *continued*

CRG Assignment

CLAIM

Claim No: 123456

Date: 01/01/01

Name: Sam Smith

Hospital:

Diagnosis:

URI

Atopic Dermatitis

Chest Pain – Office Visit

Chest Pain – Hospital Admission

Cholesterol (220)

Diabetes (*weight gain – 50lbs*)

Angina

**Two Significant
Chronic
Diseases**



Appendix —CRG Assignment *continued*

CRG Assignment

CLAIM

Claim No: 123456

Date: 01/01/01

Name: Sam Smith

Hospital:

Diagnosis:

URI

Atopic Dermatitis

Chest Pain – Office Visit

Chest Pain – Hospital Admission

Cholesterol (220)

Diabetes (*weight gain – 50lbs*)

Angina

End Stage Renal Disease

Dialysis

Catastrophic Conditions

