Report on a Health Financing Structure in support of Bermuda's National Health Plan

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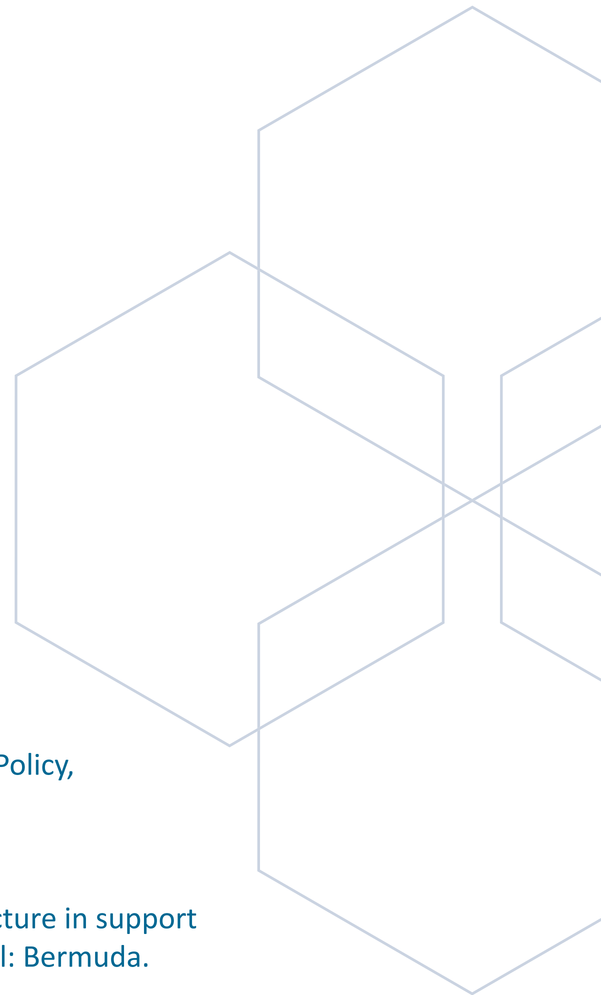

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Commissioned by:
The Bermuda Health Council (Not published)
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Reference as:
Morneau Shepell (2012) Report on a Health Financing Structure in support of Bermuda's National Health Plan. Bermuda Health Council: Bermuda.

This ***Report on a Health Financing Structure in support of Bermuda's National Health Plan*** was produced for the Bermuda Health Council with the input and direction of three National Health Plan task groups: the Finance and Reimbursement Task Group, the Benefit Design Task Group, and the Steering Committee. The report's analysis and conclusions benefited from Task Group members' peer review and feedback, and we are indebted to them for their time and contribution.

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December 2012

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Introduction

Morneau Shepell has been engaged by the Bermuda Health Council (BHeC) and we are pleased to present our report on a Health Financing Structure in support of Bermuda's National Health Plan (NHP).

The main purpose of this report is to:

- outline our understanding of the current challenges within the health system,
- present a costing of the benefits package contemplated under the NHP,
- summarize criteria used in the development of alternative financing structures,
- present two specific financing structures and comparatively analyze their relative features,
- provide an analysis of various options for funding the system.

While not the focal point of this report, we do though provide commentary on general issues relating to cost containment, performance criteria, monitoring, and implementation.

Executive Summary

In November 2011, the Ministry of Health published the National Health Plan: Bermuda Health System Reform Strategy. The purpose of the NHP "is to reset the direction of Bermuda's health system. It lays the foundation to make healthcare more affordable and improve access and quality." Reforming Bermuda's health financing structure (which is explored in this report) will be critical in determining the extent to which the country may achieve these goals.

In response to the reform strategy laid out in the NHP, we explored two health financing structures that offer alternative ways of organizing the health insurance system in Bermuda - and we did so in the context of the core values stated in the NHP, namely "equity and sustainability".

To guide the development of these two options, discussions were held with the NHP's Steering Committee and its Finance and Reimbursement Task Group. These discussions led us to identify certain challenges and criteria against which to judge the alternatives.

Criteria	Context
Financial Risk Protection and the Scope of Coverage	The financing structure should ensure an adequate level of coverage (including for example certain physician services and coverage for chronic conditions), for the entire resident population. Because low income individuals (including the indigent and unemployed) are unlikely to be able to fully fund their own care, the financing structure will need to generate sufficient funding to provide coverage to them at a rate they can afford.
Contain Cost Increases to Ensure Affordability	Health care costs in Bermuda can be expected to increase for a number of predictable reasons: ageing, changing disease patterns, new technology, increased demand due to expansions in coverage, and growth of the local hospital. The system should be able to restrain cost increases while at the same time, raise enough funds to accommodate cost increases that nonetheless do occur.
Consistency between the financing structure and the benefits coverage	Revenue to fund the system should be relatively predictable and grow with expected changes in expenses over time. This requirement is based on the assumption that funding commitments from government continue to grow at the same rate they would have if the existing system of subsidies and grants were maintained - even if the form of government's commitment changes, as we expect it will.
Administrative Efficiencies	The structure should minimize the cost of collecting funds as well as the costs of paying claims.
Risk Pooling	Pooling risk across a larger number of individuals is desirable since it improves the ability of an insurance system to absorb short term variations in expenses.
Impact on Community	The financing structure should be consistent with the realities and concerns of Bermudian society.

Our review of the current system leads us to the view that it is not compatible with the principles and goals established under the NHP. The current system does not ensure financial risk protection. A significant part of the resident population remains uninsured and many more are only partially insured. In part this because not all persons are currently required to maintain health insurance but also because today, applicants for insurance who insurers deem to be poor risks can be denied coverage. In addition the Standard Hospital Benefit does not cover many primary care services. The current system is also organized in a complicated and fragmented manner and government subsidies are untargeted (i.e. not based on need or ability to pay). As a result, no entity is managing the system and healthcare costs (and premiums) have been escalating rapidly. In the future, given the ageing of the population, costs are likely to become so high as to be difficult to sustain.

1. Costing of Benefits

A costing analysis was undertaken to determine the estimated claim payments expected under 3 benefit packages prepared by the NHP's Benefit Design Task Group. A model of the Bermudian population was also developed to estimate future claim payments.

- The estimated total Fiscal 2013 claim payments under the plans range from $484 million per annum to $513 million per annum (or $333 - $363 million net of current government subsidies and grants - assuming that current government subsidies and grants were continued based on current policies). These estimates are based on the assumption that age-specific rates of utilization of services would remain constant.
- The estimated total Fiscal 2013 monthly claim costs per-capita (if the claims were spread over the total resident population) range from $628 per person per month to $667 per person per month (or $433 - $471 per person per month net of current government subsidies and grants – again assuming that current government subsidies and grants were continued based on current policies).
- The model estimates that in Fiscal 2013, the claims would be split approximately 80% Locally and 20% Overseas. Locally, the split between Bermuda Hospitals Board (BHB) and Non-BHB claims is estimated to be 65%/35% respectively.
- Government is a significant funder with currently subsidies estimated to be approximately $150.3 million in Fiscal 2013.

- The utilization of healthcare services increases with age (and rises particularly rapidly from age 60). The current government subsidies absorb many of the high costs associated with ageing.
- The claim payments for younger insured individuals are relatively small compared to other age groups.
- The Bermudian population is ageing. In 20 years, the senior population will be nearly double its current level. Consequently, healthcare costs can be expected to increase.
- If continued in their current form, government subsidies would be significantly increased by the ageing of the population and would represent a major sustainability challenge to the government's overall fiscal condition.

2. Foundational Elements in the Design of a Financing Structure

Consistent with the goals and principles of the NHP, the new financing structures we explored were based on the following design elements:

Design Element	Description
Universal Coverage	All legal residents of Bermuda would have insurance coverage.
Uniform Minimum Package of Benefits	That insurance would cover a specified minimum set of benefits.
Guaranteed Access	All residents would have access to insurance regardless of health status with no exclusions or waiting periods to obtain the minimum package of benefits.
Community Rating	Any premium payments involved in funding the minimum package of benefits would be community rated based on island-wide claims experience.
Funding from Government	Funding from government would continue to grow, as it would if current obligations were continued, however the basis for providing subsidies would be reformed to target them more effectively at those most in need.
Consolidation of Government Plans	The current government operated insurance plans would be consolidated. This would include the Government Employees Health Insurance Plan which could continue within the new structure(s).
Supplemental Benefits	Insurers could continue to offer and underwrite supplemental benefits (i.e. benefits beyond the minimum package of benefits) in the same manner as they do presently.

These foundational aspects address many of the difficulties and sources of unsatisfactory performance within the current system.

3. The Financing Structures

Two financing structures were analyzed in detail. For convenience we refer to these as the **Unified System** and the **Dual System**.

A. In a **Unified System** the total resident population of Bermuda would be insured for the specified benefit package under a single risk pool.

- Revenues from a variety of funding sources (e.g. premiums and levies) would be collected and managed to cover the relevant claims expenses.
- The administration of the insurance system would be done by an entity that was financially and administratively separate and accountable. This could be a semi-autonomous public agency, a private contractor, or some combination of the two.

B. In a **Dual System** a number of private risk pools would coexist with a single public pool.

- Subject to certain restrictions on eligibility, individuals and employers would be insured either through various private pools or in the public pool.
- Insurers would not be allowed to charge more than the community rated premium for the minimum package of benefits.
- A transfer mechanism would be established to balance risk among the pools.
- In order to receive government premium subsidies, eligible insured persons would be required to belong to the public pool.

An illustration of these systems can be found in Section D.4. and D.5. Organizationally, the structures are less fragmented, less complicated and less administratively costly than the current system (which is illustrated in Section A.3.).

4. Comparing the Financing Structures

We evaluated these two structures in terms of the following criteria:

Evaluation Criteria	
• Size of Risk Pool	• Cross Subsidy achieved in Funding
• Financial Strength	• Ability to limit Adverse Selection
• Continued Coverage for the Population	• Financing of the Structure
• Sustainability	• Administrative Efficiency
• Cost Containment Capability	• Consistency of Benefits
• Governance, Transparency and Accountability	• Regulatory Oversight

The significant differences between the systems are as follows:

Criteria	Unified System	Dual System
Size of Risk Pool	Results in a single risk pool.	Results in risk pools of various sizes.
Cross Subsidy in Funding	The options by which cross subsidies could occur are numerous.	Less extensive than what might be achieved under a Unified System.
Financial Strength	Relatively well positioned to withstand the risk of unpredictable adverse and severe outcomes.	A transfer mechanism, which balances risk across the pools, is required to provide adequate financial strength in the system.
Sustainability	Given the dependence of the population on the Unified System, the likelihood that it would be allowed to fail is small.	The financial sustainability of one or more of the insurance pools could be challenged by the ageing of the population and rising healthcare costs. Also there is no guarantee that all the private insurers would continue to operate in the market.
Administrative Efficiency	This approach has the potential to reach high levels of administrative efficiencies.	Multiple pools are unlikely to achieve the same administrative efficiency as a Unified System.
Cost Containment	Offers the best buying power for both local and overseas care. Also most able to use different payment options as alternatives to simple fee-for-service.	Individual insurers are less well positioned to bear the administrative costs of innovative payment methods, or to have the same bargaining power. However the public pool under this system should be able to take some advantage of significant cost containment initiatives.

5. Funding Options

We have analyzed the funding options that we consider as relevant under the NHP ("relevant" in that they align with the objectives under the NHP and they are capable of generating funding sufficient for the cost of the benefits). The funding options we have analyzed are: premiums, a payroll levy, collecting funding through the Contributory Pension Fund (CPF), and land taxes.

The following table lists the various criteria against which the funding options are evaluated.

Criteria for Comparison	
• Population Groups Contributing	• Population Groups Not Contributing
• Ability for Cross Subsidization	• Efficiency of Collection
• Funding Sensitivity	• Match of funds collected to Benefit Costs
• Volatility of Funding	• Transparency in Funding
• Implementation and Flexibility	• Compliance in Payment

The compatibility of each funding option with either the Unified System or the Dual System is outlined in the following table:

Funding Option	Compatibility with Financing Structure
Premiums	• Compatible with both a Unified System and Dual System
Payroll, CPF and Land Taxes	• Compatible with a Unified System • Under a Dual System, these could be used by government to collect funds for the provision of the premium subsidy

The selection of a funding option should depend on the objectives the government wants to achieve. For example, if the objective is to have the financial burden vary with each individual's economic status, then payroll and/or land taxes are relevant candidates (note that a premium rate structure that varies by income could achieve a similar result).

6. Government Funding

We have assumed that government would reform the system of subsidies that currently flow to providers based on service utilization by the elderly and the youth. Instead, the subsidy would flow to individuals and vary based on a means test. In this way government funding could be directed to those most in need and be decoupled from the short term variability in the utilization of services. Moving to premium subsidies does not necessarily imply that government would be spending less than it would have spent under the current system of patient subsidies. The expenditure by government could be greater or less, depending on the extent of the premium subsidy and the number of people covered by the subsidy.

7. Alignment to Objectives

The following table provides commentary on how the financing structures and funding options align with the NHP objectives, goals and principles.

Item	Comment
Financial Risk Protection	The extent to which either structure protects residents against risk will depend on the extent to which government provides sufficient subsidies to individuals in need (in order to offset their premium costs).
Proportional Financial Burden	Under either structure, the extent to which the financial burden will vary with economic circumstances will depend on the size of the premium subsidies and the tax system used to raise those funds.
Risk Pooling	A Unified System with a single risk pool has inherent advantages over a Dual System with multiple pools, although a Dual System with a transfer mechanism and certain centrally insured risks could potentially perform equally well.
Sustainability in Spending	Due to economies of scale, a Unified System could potentially deliver lower funding and administrative costs, better buying power and be better able to introduce different provider payment options. However this is all conditional on the effectiveness of the governance arrangements of the Unified System.
Consistency between the Funding and Cost of Benefits	If the funding rates are set appropriately, the funding options under both systems are capable of producing sufficient revenue to cover the cost of benefits. However, under both systems, long run predictability and stability are difficult to achieve given likely demographic changes and possible changes in health care costs due to new technology.

8. Impact on Stakeholders

The following table provides commentary on how various stakeholder might be affected by the financing structures and funding options that have been outlined above.

Stakeholder	Comment
Providers	• A Unified System would allow providers to deal mainly with one administrator for reimbursement and eligibility checks. • Under either option, the increase in covered benefits could create an increase in the demand for services. To avoid over-loading providers, certain benefit provisions might best be phased in.
Insurers	• A Unified System could lead to a decrease in the number of private health insurers. Insurers may retain a role as providers of administrative services under contract from the unified pool. • In the Dual System, and where supplemental coverage is purchased, it would be convenient for employers or individuals to have all their coverage in one place. • With all residents requiring insurance, the size of the insurance market (and hence business opportunity) increases.
Individuals	• All residents would be required to have health insurance. • Under both systems, there would be no barriers to accessing insurance. Residents would continue to have access to medically necessary care (including care overseas). Optional supplemental benefits could continue to be purchased. • In a Dual System, individuals would be covered by the insurer of their (or their employer's) choice.
Government	• The reform presents an opportunity to overhaul the current system of subsidies. • Government may be able to exit from the direct administration of health insurance activities (note that a public pool would still exist but government could outsource the administrative functions).
Employers	• Under a Unified System and under the Dual System, approved schemes would no longer exist. • Employers may choose to only offer the minimum package of benefits (with no additional supplemental benefits). • The total funding paid by an employer (under each system) could be more than or less than their current funding for healthcare insurance This could be due to numerous factors such as differences in benefit provisions, differences in the demographic profile of an employer's workforce, differences in the premium rate structure and funding options, etc… • An increase in an employer's funding requirements (or an individual's funding requirements) could be problematic, particularly in the current economic environment. Consideration might be given for phasing in any aspect of the reform that potentially results in an increase in employer or individual funding requirements.

9. Comparison to Current System

The following table provides a comparison between certain aspects of the current system and the Unified and Dual Systems.

Feature	Current System	Unified System	Dual System
Universal Coverage	×	✓	✓
Uniform Minimum Package of Benefits	✓	✓	✓
Guaranteed Issue	×	✓	✓
Community Rating for Minimum Package	✓	✓	✓
Existence of Public Insurance Pool	✓	✓	✓
Existence of Private Insurance Pools	✓	Supplemental Only	✓
Size of Risk Pools	Various	One pool	Various
Funding (non-government)	Premiums	Premiums and Other	Premiums
Government Funding	✓	✓	✓
Cross Subsidy in Funding	✓	✓	✓
Risk Management	✓ (e.g. MRF and reinsurance)	✓ (e.g. reinsurance)	✓ (e.g. transfer mechanism, reinsurance)
Reimbursement of Providers	Fee-for-service for Outpatient and a fee based on a Diagnostic Related Group (DRG) for Inpatient	Fee-for-service, DRG and Other	Fee-for-service and DRG

10. Reimbursement, Costs and Cost Containment

We understand that as part of this round of reform, the intention is for fee-for-service reimbursement to continue as the basic method for reimbursing providers, with perhaps selected additional pay for performance incentives. Even under such circumstances, experience around the world suggests that unified systems have the potential to do better on cost containment than systems with multiple payers. In particular insurers in a divided, multi-payer system, are likely to

have less potential bargaining leverage than the insurer who operates a unified system - regardless of the form reimbursement takes.

Experience also shows that if a public insurer inside a multi-payer system tries to restrain cost, providers become ever more strongly incentivized to find profitable activities (such as increased volume) in order to defend their incomes. And it is easier for them to find such options if they can evade public sector cost control pressures by seeking increased income from private insurers.

There is also the countervailing possibility that in a unified system too much political and economic power could be concentrated in the public insurer. As a result there is the risk that it could abuse its authority in various ways - an outcome that needs to be guarded against by creating appropriate governance arrangements for such an insurance entity. Regardless of what option is chosen, there needs to be someone in the system responsible for monitoring system wide utilization to track whether or not the various possible unhelpful behaviors do develop.

11. Conclusion

As alternatives to the current system, this report presents two financing structures – a Unified System and a Dual System. The extent to which one system is more suitable than the other will depend on one's perspective and preference. The National Health Plan's core values of "equity and sustainability" provide a framework. In considering the future of Bermuda's healthcare system, and in the context of this report, the country will be required to answer the following questions:

1. Is the minimum package of benefits (as contemplated under Plan 3a) adequate?
2. Should Bermuda reform the current healthcare financing structure?
3. If the answer is yes, is it preferable to adopt the Unified System or the Dual System?
4. Does Bermuda agree with the foundational design elements on which the Unified System and Dual System have been designed? And in particular, the suggested reform of the government patient subsidies.
5. How should the system be funded?
6. Should there be any adjustment to the current model of fee-for-service as reimbursement?

We believe that the Unified System or the Dual System are both viable options and are implementable in Bermuda. We also believe that these systems address many of the difficulties and challenges within the current system. A further extensive effort and significant resourcing would be required in order to successfully implement any one of these systems and consideration for implementation in stages is strongly recommended.

Section A - Background

A.1. The National Health Plan

In November 2011, the Ministry of Health published the National Health Plan: Bermuda Health System Reform Strategy. The purpose of the National Health Plan "is to reset the direction of Bermuda's health system. It lays the foundation to make healthcare more affordable and improve access and quality."

The NHP states that the core values for the health system "will be equity and sustainability. Equity is defined as equal access to basic healthcare and proportional financial burden. Sustainability is defined as spending growth in line with inflation and a health system resourced to be affordable for the economy, payors, providers, employers, individuals, and families. These values will be the founding principles for all health system decisions in Bermuda."

The NHP establishes various goals for Bermuda's health sector. The goals are built around three themes: access, quality and efficiency. Equity and sustainability are the underlying values that inform the pursuit of each of these goals.

Reforming Bermuda's health financing structure (which is explored in this report) will be critical in determining the extent to which the country may achieve these goals.

A.2. Development Process

At the launch of the NHP, the Ministry of Health established a number of Task Groups to develop options for implementing the various Health Plan goals. The structures and options explored in this report were developed through the resulting iterative process: having discussions, holding workshops, and obtaining input and direction from three of these task groups - the Benefit Design Task Group (BDTG), the Finance and Reimbursement Task Group (FRTG), and the Steering Committee.

The BDTG formulated three initial benefit package designs that were subject to a preliminary costing analysis. Upon review by the BDTG and the Steering Committee, adjustments and

refinements were made to the design of one of the options which then became the benefits package we used in our further work. Further detail is presented in Section C.

Likewise, the financing structures and funding options that are discussed below were selected in collaboration with the FRTG and the Steering Committee. Further detail is presented in Sections D to J.

The technical analysis we conducted of the benefit plans, financing structures and funding options has continued to benefit greatly from the continued input and feedback from all of these groups.

A.3. Bermuda's Healthcare Insurance System (at a glance)

According to Bermuda's National Health Accounts Report (2012), the total healthcare system financing and expenditure for Fiscal 2011 was $679 million. This amounted to 11.8% of Bermuda's 2010 nominal gross domestic product. Approximately one-third of the healthcare system is financed by the public-sector. Health expenditure per-capita in Fiscal 2011 was $10,570, which over the space of 5 years, has increased by approximately 60%.

The Health Insurance Act 1970 requires that all employees and their non-employed spouses be insured with benefit coverage that is no less than the Standard Hospital Benefit (which consists primarily of inpatient and selected outpatient benefits). For other non-working persons, there is currently no requirement to maintain health insurance. For the youth, elderly and indigent persons, the government provides patient subsidies[1] to cover the total or the majority of cost under the Standard Hospital Benefit (SHB). It is estimated that 6% of the population are uninsured; however the percentage is higher amongst low income residents.

[1] For those that are age 65 and over, if they satisfy a 10 year residency requirement, the government provides an 80% subsidy for claims under the SHB. The subsidy increases to 90% from age 75. For youth, the subsidy is 100%. The insurance provider is then responsible for payment of SHB claims that are not covered by the subsidy.

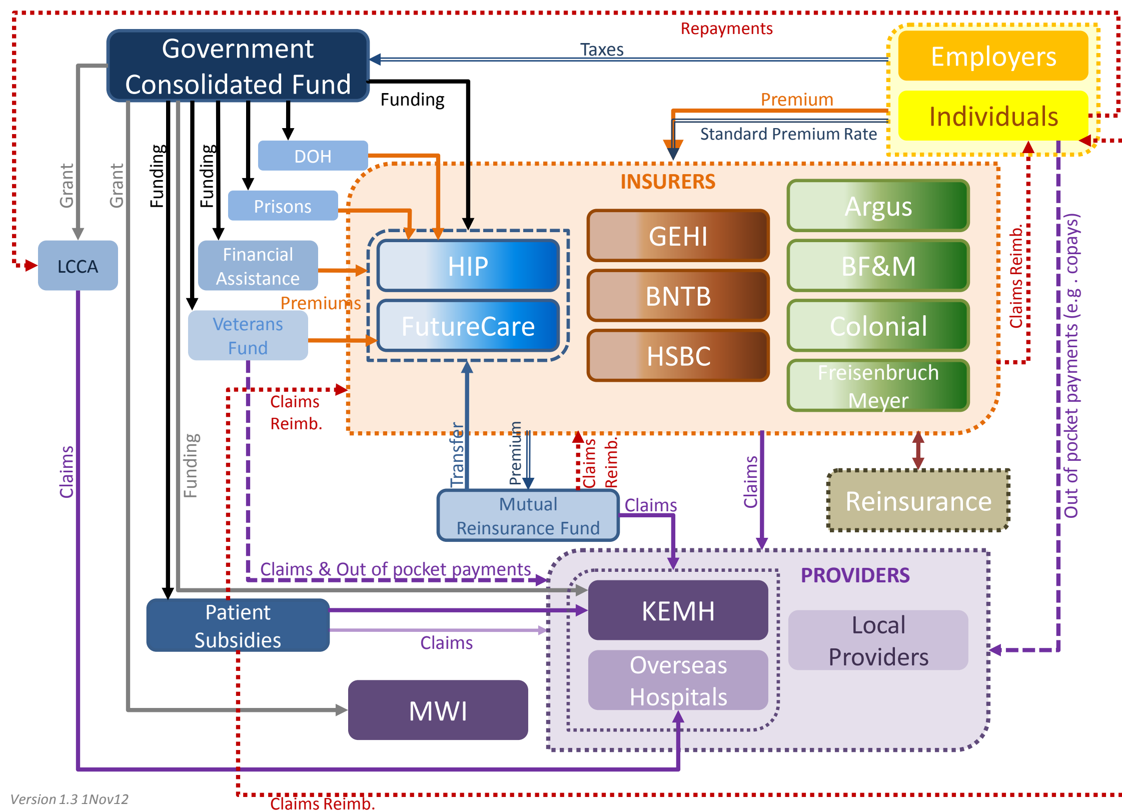
The premium for the SHB is community rated (i.e. set as an average rate for all insured participants)[2] and this sets the ceiling rate that may be charged for SHB coverage. Health insurance plans[3] mostly provide coverage (or supplemental benefits) beyond the SHB (e.g. coverage for primary care, prescription drugs, vision and dental coverage); however the premiums for supplemental benefits may be based on various rating factors such as an individual's state of health, age, gender, occupation and lifestyle. Exclusions for pre-existing conditions may also be applied[4].

[2] As is the premium for the Mutual Reinsurance Fund, a fund which pools certain of the island's high costing healthcare events.

[3] Which are accessed either through private health insurance companies, an employer (through a self-funded insurance scheme known as an "approved scheme") or insurance plans administered by the government.

[4] The Health Insurance Plan (HIP), which is administered by the government, has semi-annual open enrollment periods whereby persons can apply for coverage without any evidence of health. In this way, HIP acts as the insurer of last resort.

The following diagram illustrates of the flow of funds within the current health insurance system:



Notes: Within the insurer boxes, the light shading represents the Standard Hospital Benefit and the dark shading represents the supplemental benefits. The diagram excludes Public Health Services.

Section B - Defining the Problem

Based on our own analysis, as well as discussions with and feedback from the Bermuda Health Council (BHeC) and the NHP's Finance and Reimbursement Task Group, we believe it is possible to identify the challenges facing Bermuda's healthcare system. That discussion in turn suggests the guidelines that should be followed in developing a new financing structure, as well as the criteria (largely implicit in the NHP strategy) by which any new financing structure should be judged.

B.1. Current Challenges and Guidelines

1. Financial Risk Protection[5]
    - The NHP should ensure adequate insurance coverage for the entire resident population. Currently there is no requirement for non-working persons (such as retirees or where both adults in a spousal unit – or a single family unit - are not working) to maintain health insurance.
        - An estimated 6% of the population is uninsured (approximately 10% among low income residents).
        - Many youth under 18 may not be fully insured (the current youth government subsidy covers hospitalization only, while in school).
        - A small minority (estimated at less than 5%) of seniors do not have insurance.
        - Unemployed persons (and possibly some self-employed individuals or those working for small, informal enterprises) may not be insured.
        - The Bermuda Hospital's Board (BHB) has to make assessments on a patient's ability to pay in order to identify those eligible for free or subsidized care and high thresholds for Financial Assistance can leave some exposed to significant costs.
    - The funding structure needs to recognize that the indigent and unemployed are unlikely to be a source of full funding for their own care so the structure needs to generate funding on their behalf.

[5] Per the World Health Organization, financial risk protection is lacking when seeking care can lead to financial harm.

- Pre-existing conditions can currently result in insurance coverage exclusions which is problematic for those with chronic conditions. Some mechanism – such as requiring guaranteed acceptance and non-cancellation of policies - needs to be put in place if the system is to provide risk protection to all residents.

2. Expansion of the Scope of Coverage
   - There is a need for better insurance coverage of outpatient care, especially as the burden of illness increasingly is in the form of chronic and non-communicable diseases.
   - Expansion of outpatient coverage may also prevent higher future hospitalization costs, since it can foster the use of cost effective outpatient primary health care services.
   - Certain physician and non-physician health care services are also not covered under the current system - which also would be desirable to cover in a revised financing structure.

3. Contain Cost Increases to Ensure Affordability
   - Achieving this goal means trying to control, and yet be prepared for, cost increases caused by a number of predictable developments in the Bermuda health system including:
     - Changing disease patterns.
     - Ageing of the population.
     - Increased demand due to coverage expansions.
     - Continuing changes in medical technology.
     - Capital, operating and volume-based cost increases resulting from the expansion of the local hospital.
     - Expansion of services at the BHB.

B.2. Criteria for the Financing Structure

The following are some of the criteria that the financing structure should respond to:

1. Consistency between the financing structure and the benefits coverage
   - The revenue generated by the financing structure should match the expected level of expenses produced by the scope of coverage provided by the benefit package.

- To achieve that goal it would be ideal if revenue streams were relatively predictable in both the short and long run and their expected growth was matched to expected changes in expenses over time.
- To generate sufficient revenue, it is important not to undermine existing financing mechanisms so that these can continue to contribute to the revenue pool. These mechanisms include existing government subsidies, expenses covered by vehicle insurance, and the role worker compensation plays in paying for costs arising from workplace accidents.
- Revenue sources must be sufficient to cover the needed subsidies for those population groups that cannot contribute enough to cover their own costs.

2. Minimization of administrative costs
   - Where possible it would be desirable to utilize existing collection systems (such as premiums, payroll taxes, land taxes, the retirement system, vehicle registration), since these mechanisms have well established administrative systems.
   - New revenue sources also need to be designed to minimize administrative costs.
   - Insurance options should also be designed to minimize the costs of enrolling individuals, checking eligibility, and the administration, adjudication and payment of claims.

3. Improve risk pooling
   - The cost of health care for any one individual in any one year is not fully predictable. Because of the averaging effect of "the law of large numbers", the larger the number of individuals in an insurance pool, the less short term variation there will be in the pool's total costs of care.
   - Pooling risk across a larger number of covered individuals thus improves the ability of an insurance system to absorb such variations in expenses. This is especially important in small populations, as is the case in Bermuda.

4. Consider the implications for the local community and businesses
   - The collection mechanisms need to be matched to local reality.
     - In Bermuda, there are many small employers and individuals with seasonal or multiple jobs.

  - Some retirees are “land rich but cash poor” so it may be difficult to raise mandatory contributions from them (although they currently do pay health insurance premiums).
  - Any premium or contribution mechanism for non-working and self-employed persons needs to be designed to function more-or-less automatically so that it is difficult to not contribute (for example, vehicle license renewal could be denied should health premiums not have been paid).
- In-so-far as possible the financing system should avoid options that will raise local consumer goods prices.
- The new system should not produce any decrease in appropriate benefits now provided to key groups (e.g. subsidized populations, veterans, GEHI members).
- The relative overall benefits and costs under a new system should not deter international business from choosing to operate (or continue to operate) in Bermuda.

5. Respect fairness in the distribution of burdens and benefits
   - To respond to one of the primary goals of the National Health Plan, the new system should be both universal and offer a uniform benefit package.
   - Such a system could be designed to pool contributions from various sources and segments of the population and thereby spread the burden of covering individuals with high expenses over the largest possible revenue base.

Section C - Benefit Costing

In this section, we present the costing analysis of the benefit packages as found in the report "Policy options for redesigning Bermuda's basic package of health benefits: A pre-actuarial report" (dated 2nd April, 2012) prepared by the NHP's Benefit Design Task Group (BDTG).

The BDTG (which was established in November 2011) comprises of a mix of healthcare professionals. The group was tasked with developing options for a new benefit package for Bermuda that would increase the minimum mandated insurance coverage beyond hospitalization (Standard Hospital Benefit), to include primary care, prevention and health maintenance.

BDTG focused on including benefits that would promote prevention and early intervention, and reserve the use of hospital care for acutely ill patients. In this vein, BDTG determined that the benefit package should cover interventions that are:

- Medically necessary and clinically appropriate
- Medically proven as effective
- Focused on primary and secondary prevention
- Enable early intervention
- Ensure the right care, delivered in the most cost-effective setting
- Include medically necessary overseas care, not available locally

Exclusions from the minimum package were also identified, including cosmetic treatment, unapproved experimental treatment, treatment for medically futile cases, in vitro fertilization, gender re-assignment surgery, chronic long-term care, and high-cost diagnostics when clinically proven alternatives are available.

The benefit packages in the BDTG's report were generally described as[6]:

- Policy Option #1 Basic cover
- Policy Option #2 Moderate cover
- Policy Option #3 General cover

In August 2012, a summary of the costing analysis was presented to the BDTG, with further modeling presented in September 2012. The NHP Steering Committee favored the most generous plan (Option 3), but requested that the benefits be adjusted to reduce the cost. Clarity regarding certain benefit provisions was also provided to us so that the costing analysis was better able to reflect the intention of the BDTG. In October 2012, an analysis of a revised Option 3 (which included copayments and reduced coverage for certain provisions) was presented to the BDTG and the revised Option 3[7] was adopted as their preferred plan.

For a complete description of the benefits covered under the plans, assumptions made in the costing and modeling, and a list of the data sources that were used, please see the Appendices.

Note that unless otherwise indicated, the model assumes constant unit prices (i.e. the cost of services are not assumed to increase) and assumes that age-specific utilization (i.e. the rate at which healthcare is "consumed" at each age) remains constant over the lifetime of the model. Under this method, the impact of the ageing of the population can be better illustrated.

It is important to note that actual outcomes will vary based on the actual experience under these plans.

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[6] In our charts, these are referred to as Plan1, Plan 2 and Plan 3 respectively.

[7] Referred to as Plan 3a in our charts

C.1. Key Results – Assuming Constant Unit Prices and Constant Age-Specific Utilization of Services

	Item	Current Period (under Plan 3)[8]	Future Projection[9] (under Plan 3)	Reference to Chart in Appendix
1.	Total Claim Costs	$490 million ($539 million)	Increases to $680 million in 2033 and peaks at $705 million in 2043 – an increase of almost 25%, and 30% respectively, over the current level. The increase is due to the ageing of the population.	F2013 Chart 1 Projection Chart 5
2.	Total Claim Costs – Net of Current Government Subsidies and Grants	$341 million ($375 million)	Increases modestly to $408 million in 2033. This is due to the current government subsidy which absorbs much of the increase in costs (see no 5. below).	F2013 Chart 2a Projection Chart 6
3.	Total Monthly Claim Costs Per Capita[10]	$636 per month ($700 per month)	Increases to $943 per month million in 2043 – an increase of almost 35% over the current level.	F2013 Chart 7a Projection Chart 5
4.	Total Monthly Claim Costs Per Capita – Net of Current Government Subsidies and Grants	$443 per month ($487 per month)	Increase modestly to $528 per month in 2033.	F2013 Chart 8 Projections Chart 14
5.	Government Subsidies and Grants	$149 million ($164 million)	Increases significantly to $272 million in 2033 and $307 million in 2043 – an increase of 66%, and 87% respectively, over the current level.	Projection Chart 5 and 6
6.	Ageing of the population	14% of the population over age 65 (8,600 people)	Increases to 25% of the population in 2033 (16,400 people – almost double the current level)	Projection Chart 1, 2 and 3
7.	Dependency Ratio	4.8 persons of working age for every person age 65 and over	Declines to 2.2 persons by 2033.	Projection Chart 4
8.	Ageing and Healthcare Costs	Healthcare costs increase with age, and particularly after age 60 when they begin to accelerate rapidly.		F2013 Chart 13

[8] The numbers in brackets include an allowance for claims administration. This is to be consistent with the figures in the projections which already include an allowance for claims administration.

[9] These figures are expressed in terms of 2013 dollars (i.e. the projections assume constant unit prices and constant utilization).

[10] If the claims costs are spread over the total resident population.

Section D - Considering Financing Structure Options

On May 9, 2012, a workshop was held with members of the NHP Finance & Reimbursement Task Group (FRTG) and the NHP Steering Committee to discuss a variety of financing structure options:

1. Creation of a single unified insurance system
2. A coexistence of private plans together with a unification of the government insurance plans
3. A reconstructed current system (with greater regulation)
4. A continuation of the current system
5. Supplementing the above systems with medical savings accounts
6. A tax-supported, government operated system

During the discussion there was general agreement that Options 1, 2, and 3 were potentially viable while Options 4, 5 and 6 were not compatible with the principles and goals established under the NHP. In addition Options 4, 5 and 6 did not satisfy many of the criteria outlined in the previous section of this report. In particular, Option 4 provided no way to respond to current challenges nor any way to improve on current outcomes, Option 5 did not provide for adequate financial risk protection (as risks are not pooled between the sick and the healthy), and Option 6 - a system completely supported by taxes and administered by the government - was not considered suitable in the Bermudian context.

The participants at the workshop were asked to express their preferences as to which of the remaining three financing structures they found most appealing. The participants were provided with three alternative ways to express their preferences - most appealing, an acceptable alternative, and options to which they were opposed. The participants had to indicate an exclusive preference under each option (i.e. they could not mark two options as most appealing). Options 1 received the highest number of “most appealing” selections, Option 2 received the highest number of “alternative” selections, and Option 3 received the highest number of “least favorable” selections. As a result of this process, it was decided to explore and analyze more fully Option 1 and Option 2. This analysis can be found in the next section of this report.

Section E - The Financing Structures

In this section, the two financing structures that emerged from the workshop discussion (mentioned in the previous section) are presented and analyzed.

E.1. Foundational Aspects of the Structures

Consistent with the goals and principles of the NHP, the key features of the two possible new financing structures are based on a number of common foundational design elements. These have been explicitly designed to address many of the previously noted difficulties and challenges within the current system.

Design Element	Description
Universal Coverage	All legal residents of Bermuda would have insurance coverage.
Uniform Minimum Package of Benefits	The insurance would cover a specified minimum set of benefits. If additional supplemental benefits coverage is desired, these would be optional. An insurance contract offering supplemental benefits would have to be explicitly separated from one covering the minimum package of benefits.
Guaranteed Access	All residents would have access to insurance regardless of health status, with no underwriting conditions, exclusions or waiting periods under the minimum package of benefits.
Community Rating	Any premium payments involved in funding the minimum package of benefits would be community rated[11] based on island-wide claims experience. This is similar to the way the Standard Premium Rate is determined under the current Standard Hospital Benefit.
Funding from Government	Funding from government would continue to grow, as it would if current obligations were continued, however the current distribution of subsidies would be reformed to target these funds more effectively to cover the expenses of those most in need.
Consolidation of Government Plans	The current government operated insurance plans would be consolidated. This would include the Government Employees Health Insurance Plan which could continue within the new structure.
Supplemental Benefits	Insurers could continue to offer and underwrite supplemental benefits (i.e. benefits beyond the minimum package of benefits) as they do in the present day.

[11] That is to say that the same premium rate will apply to all persons (or to all persons within a group).

E.2. The Financing Structures

The two financing structures analyzed are as follows:

1. A “**Unified System**” under which the total resident population of Bermuda would be insured for the specified benefit package under a single risk pool.
    - Revenues from a variety of funding sources (e.g. premiums and levies) would be collected and managed to cover the relevant claims expenses.
    - The administration of the insurance system would be done by an entity that was financially and administratively separate and accountable. This could be a semi-autonomous public agency, a private contractor, or some combination of the two.

2. A “**Dual System**” in which a number of private risk pools would coexist with a single public pool.
    - Subject to certain restrictions on eligibility[12], individuals and employers would be insured either through various private pools or in the public pool.
    - Insurers would not be allowed to charge more than the community rated premium for the minimum package of benefits.
    - A transfer mechanism would be established to balance risk among the pools.
    - In order to receive government premium[13] subsidies, eligible insured persons would be required to belong to the public pool.

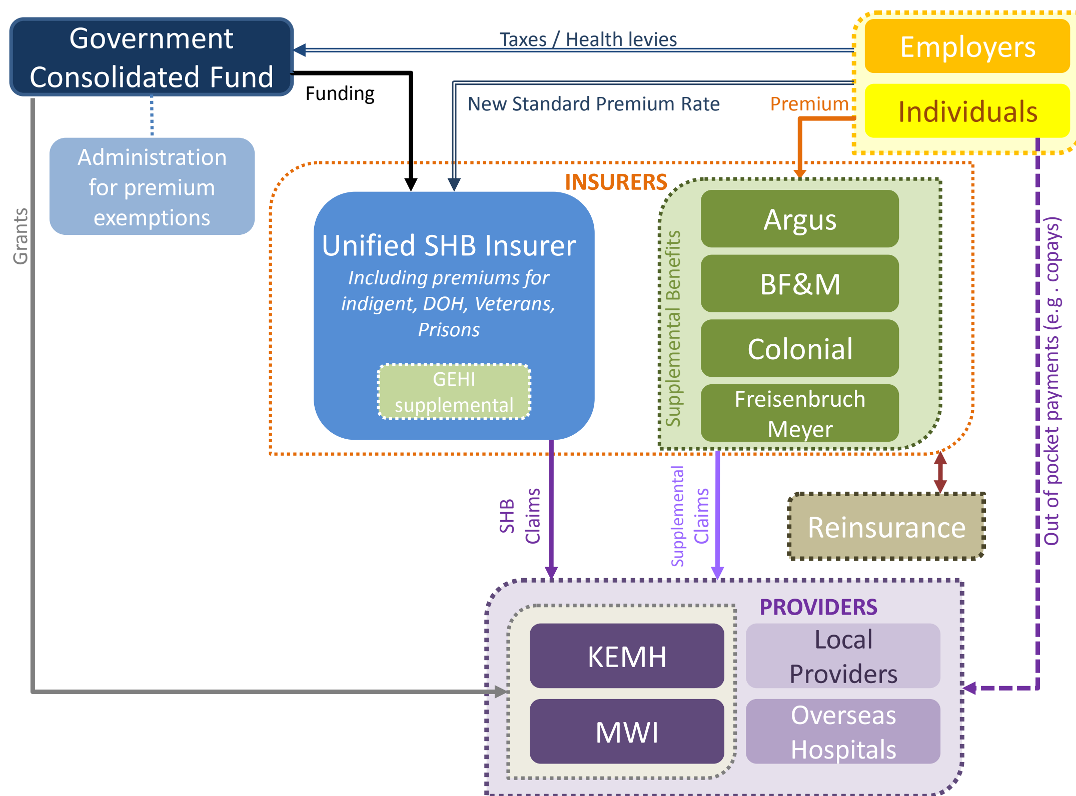
[12] Private pools would be required to unconditionally accept (i.e. guaranteed issue) employers and all their employees and dependents. The same applies for groups. Private pools would however have discretion as to whether they wish to accept and individual’s application for insurance. The public pool would provide guaranteed issue to all applicants.

[13] Note that with the exception of the funding collected by government to provide for the premium subsidy, the Dual System is based on a premium paying funding model. See illustrations over page.

E.3. Flow of Funds

Under the Unified System, the funds from the financing sources (see next section) would be collected and held within a single pool. For the sake of transparency and accountability, we would recommend that the funds be held and managed separately from the government's consolidated fund. The funds would be applied to make payments to service providers (and administration providers) for the services they provide to the insured population. Both fund management and the administration of the insurance system could be done by an independent agency that might be structured in a variety of ways to ensure it functioned effectively. The funding arrangement could be illustrated as follows:

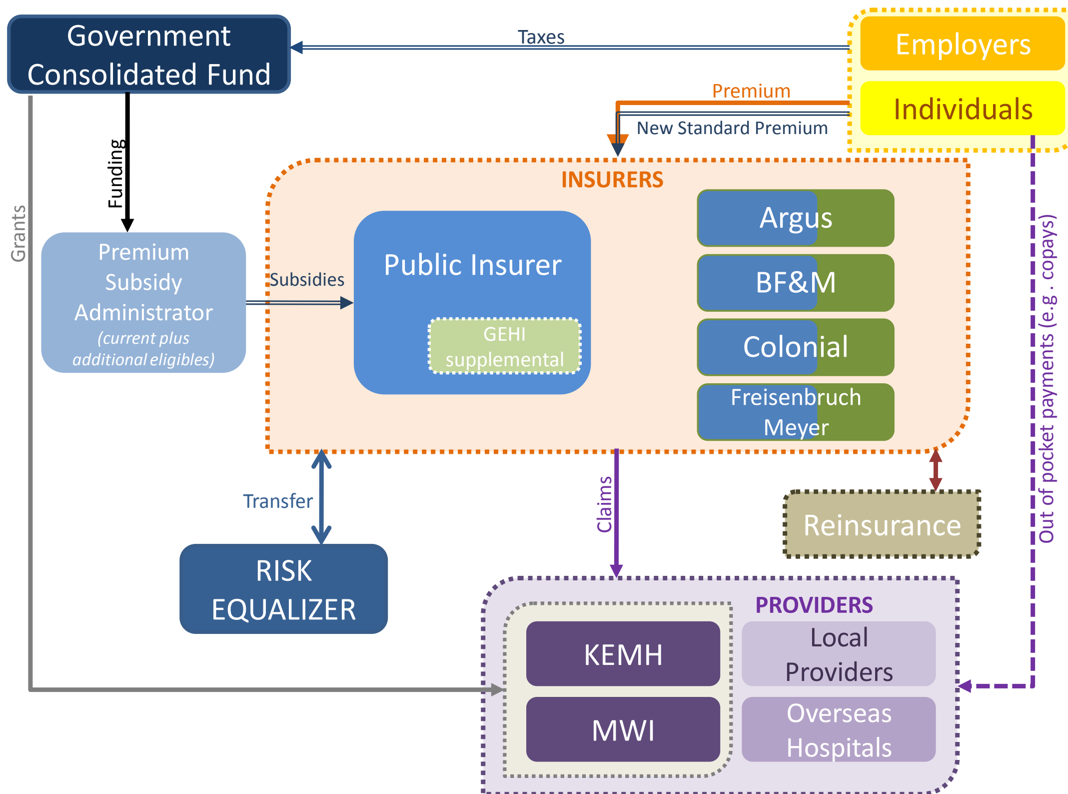
E.4. Illustration of the Unified System



Notes: Within the insurer boxes, the blue coloring represents the Standard Health Benefit and the green coloring represents the supplemental benefits. The diagram excludes Public Health Services.

Under a Dual System, there would be multiple private insurance pools as well as a public pool. A transfer mechanism would be established to balance the risk between the pools. A central reinsurance fund could also be established to help the pools cope with certain risks (as is currently the role of the Mutual Reinsurance Fund). The funding arrangement could be illustrated as follows:

E.5. Illustration of the Dual System



Notes: Within the insurer boxes, the blue coloring represents the Standard Health Benefit and the green coloring represents the supplemental benefits. The diagram excludes Public Health Services.

E.6. Comparisons of the Financing Structures

The following table lists various criteria and uses them to comparatively evaluate the two financing structures.

		How do the Financing Structures Compare	
Criteria	**Description**	**Unified System**	**Dual System**
Size of Risk Pool	The number of lives insured in the risk pool. The greater the number of lives, the better the ability of the pool to cope with and to spread risk (i.e. the better the ability to absorb severe and infrequent costs without compromising the financial integrity of the pool).	Under this approach the risk pool comprises the total resident population. As such, the pool has the best ability to cope with risk and to spread risk among the pool's participants. For example a single event costing $1 million would require $1.40 per month of funding if shared across the resident population, as opposed to $7.00 per month is shared across a pool one-fifth the size. Despite the relatively large size of the unified risk pool, the modest size of Bermuda's population means that reinsurance may be desirable to protect the pool from unpredictable total claim costs exceeding a certain threshold amount or from catastrophic risk.	This approach can result in risk pools of various sizes (for example, presently in Bermuda insurance risk pools range in size from under 1,000 lives to over 10,000 lives). In order to cope with risk, smaller pools will require greater risk management in their operations and are likely to require a greater degree of reinsurance (as is presently the case for many of the existing risk pools in Bermuda) in order to provide protection against severe infrequent costs and catastrophic risk.
Cross Subsidy in Funding	The manner in which the participants fund each other's costs (i.e. a subsidy occurs when one pays more or less than one's own direct costs). Within the context of health insurance, community rated premiums is an example of a cross subsidy.	Under this approach, the options by which cross subsidies could occur are numerous. For example, cross subsidies could exist by: • Age • Gender • Health Status • Income and Wealth Levels • Employment Status • Family Size	Some significant cross subsidies across individuals of different health risks would be achieved through the community rating mechanism (see Foundational Aspects above, and note that the Dual System is based on a premium paying funding model). Cross subsidies across individuals of varied income and wealth levels would not be possible, except perhaps through the tax-based funding of need-based government premium subsidies.

		How do the Financing Structures Compare	
Criteria	**Description**	**Unified System**	**Dual System**
Financial Strength	The ability to cope with adverse financial outcomes (such as costs exceeding claims). A pool that holds a large reserve (or is able to access additional funds) is better able to withstand such variations. Note that even a financially strong system that suffers continued adverse financial outcomes would need to find increased funding in the long run. In this context, "financially strong" refers to the ability to cope with and withstand transitory adverse financial outcomes.	For the following reasons, a Unified System could be relatively well positioned to withstand the risk of unpredictable adverse outcomes: • So long as the pool has the ability to borrow or a funder (such as government) provides funding to tide the pool over the near term until the funding can be increased, a unified pool can remain financially sound with minimal need to maintain reserves (i.e. excess capital need not be "tied up" inside the pool, however see comments on surplus below). • There is no renewal risk in that after an adverse outcome, the participants can't exit the pool and leave the pool in financial difficulty or ruin (i.e. future funding is always secured through compulsory participation). • Finally, if necessary much of the extreme risk can be managed through reinsurance. As a further note, should surpluses arise in the pool, these funds would belong to the pool and could be applied for the benefit of the pool. For example, surplus could be used: • as a provision against future adverse outcomes, • to reduce future funding requirements, • to mitigate volatility in funding rates, or • to increase benefit provisions. As such maintenance of a surplus position is likely desirable.	Under a Dual System, the risk profiles within the various risk pools can differ significantly. Further, the impact of an adverse outcome for a particular risk pool could be severe particularly for a smaller sized pool (i.e. there would a greater likelihood of volatility within the pool and a greater use of reinsurance may be necessary). A transfer mechanism which balances risk across the pools is required to provide adequate financial strength in the system. In addition, a central reinsurance fund would be desirable to help the pools cope with certain risks (as is currently the role of the Mutual Reinsurance Fund). Within the private pools, any surpluses that remain (after adjustment for the transfer mechanism) would result in profits for the private health insurers (which in turn, could be reinvested in their business to enhance a competitive standing). The ability to withstand the risk of an adverse outcome (and in particular one that is not compensated for by the transfer mechanism) will depend on the following: • The level of capitalization and the ability to recapitalize should there be an adverse outcome. • The extent to which reinsurance may cover losses from an adverse outcome. Note that a private health insurer could exit the market should they come to believe that they would be unable to remain profitable and/or recoup previous losses. As such financial strength need only be assessed on the basis of the ability to meet short-term commitments.
Adverse	This refers to the ability of	The possibility for adverse selection is limited under	Under a multiple pool system, there is the risk that

		How do the Financing Structures Compare	
Criteria	**Description**	**Unified System**	**Dual System**
Selection	participants to maximize their personal outcomes by making insurance decisions that have a detrimental effect on the system as a whole. For example, if health insurance were to be voluntary and there were no conditions on exit or entry to coverage, residents without health insurance may join the pool as they fall ill and exit as they recover, thereby "exercising adverse selection against the system".	a Unified System. This is due to the compulsory nature of the arrangement (i.e. all residents are covered) and the lack of an alternative (i.e. pool hopping is not an option). Consideration should though be given to limiting the ability of Bermudians living abroad to return to Bermuda to take advantage of the system if they fall ill (for example, to be subsidy eligible there is currently is a 10 year residency requirement).	adverse selection can occur. Under the Dual System, the private pools can exercise discretion over whether to provide guaranteed issue to individual applicants. In an attempt to maximize their outcomes, the private pools will act to protect themselves from being selected against and this could result in "dumping" of high cost individuals on to the public pool. Without compensating mechanisms (such as transfers between pools) adverse selection could compromise the sustainability of the system (and the public pool in particular). Under the Dual System pool hopping is a possibility and limitations around the ability to move between pools part way during a benefit year (to take advantage of resetting benefit limits) is desirable in order to limit the ability for participants to adversely select against the system (noting though that this could be difficult to achieve on changes in employment and a degree of co-ordination between the risk pools may be desirable).
Coverage	Ensuring that coverage is maintained for the resident population.	If coverage is not dependent on payment of a premium, this approach can ensure continuation of coverage including continuation on events such as changes in employment status (i.e. new employment, unemployment, and retirement). If coverage is dependent on payment of a premium, coverage could be suspended or terminated on non-payment of the premium. Government would have to respond quickly to those that become eligible for a premium subsidy to ensure that their coverage can continue.	As coverage would be dependent on payment of a premium, the comments made under the Unified System apply also to the Dual System. In addition, under the Dual System, if an individual becomes subsidy eligible (or is in the process of making application for subsidy, and has exited a private pool due to the inability to pay the premium), there may not be immediate awareness on behalf of the public pool that they may be responsible for coverage (which could lead to the public pool having to cover unanticipated costs).

		How do the Financing Structures Compare	
Criteria	**Description**	**Unified System**	**Dual System**
		Further, under a premium paying model, there may also be an element of non-compliance with respect to the obligation on behalf of employers to secure coverage for their employees, or for a self-employed person to secure coverage for themselves.	
Financing (see next section for more detail)	The sources of funding that may be available to fund the pool.	This approach is compatible with many sources of funding. This includes proportional type funding systems or global type collection methods. This approach may also be adaptable to future changes in funding systems. At inception, it is likely that seed funding from government would be required to enable a cash float to meet near term commitments and mitigate any delay in the receipt of funds that are to come through the funding mechanism. The initial funding could be repaid once the cash balance and near term cash commitments have stabilized.	The funding to be paid to the risk pools under the Dual System is dependent on premiums (e.g. paid by employees, employers and self-employed persons). The premium subsidy provided from government could be funded from many sources (e.g. similar to the way government currently collects funding). As under the Unified System, the public pool might require seed funding from government. The private pools would require initial capitalization from private (shareholder) funding.
Sustainability	This may be viewed as the ability to, over the long-term, cope with changes such as: • demographics (and an ageing population) • economic cycles and business conditions • healthcare costs	A unified pool would not be immune to the challenges of sustainability. However the burden of responding to these factors would be more-or-less automatically shared across the entire population as opposed to falling more heavily on one group or segment of society. Given the dependence of the population on the Unified System, the likelihood that it would be allowed to fail is small. Arguably, there will also be more “levers to pull” as a Unified System attempted to respond to future challenges	This approach would also not be immune to the sustainability challenges but structurally, it is different to a unified approach as follows; • One pool could be impacted materially differently than another pool (although the transfer mechanism can in part act as a balancing mechanism). • There is no guarantee that the private pools would continue to operate in the market. Should a private pool withdraw from the market, this could be disruptive to the system (and further present sustainability challenges to the structure). • Arguably, the structure is less flexible in its

		How do the Financing Structures Compare	
Criteria	**Description**	**Unified System**	**Dual System**
			ability to cope with the challenges that may be presented in the future.
Administrative Efficiency	Ability for the system to function with low administrative overhead.	Operationally, due to economies of scale, this approach has the potential to reach high levels of administrative efficiency. Examples of structural efficiencies that might be achieved are as follows: • If eligibility for coverage is not dependent on individual premium payments then this can eliminate the need for eligibility checks, reenrollments, premium reconciliations, and the cost of enforcement and collection. • For most claims, providers will only have one payer to deal with, lowering their administrative costs. • Global type collection methods (see next section) can be administratively effective as a source of funding. A unified system could however become inefficient (or become less efficient than is possible) due to a lack of competition (which can lead to a lack of innovation and a lack of investment in people and technology).	From an operational perspective, multiple pools are unlikely to achieve the same level of administrative efficiency as a Unified System. A high level of collaboration (and hence additional cost) amongst the pools may be required to ensure that there is no adverse selection by participants. An allowance for administrative costs would have to be built into the setting of the community rated premium and possibly within the operation of the transfer mechanism too. This could encourage the pools to become as administratively efficient as possible. Due to the competitive nature of the private pools, they would presumably strive to be administratively innovative (their goal could be either lower costs, higher levels of service, or both). The private pools could be a benchmark against which the public pool's performance could be measured.
Cost Containment	Having an impact on the rate of increase in expenditure or purchasing services at a lower price. For further comments on cost containment, see a later section.	Due to the scale of the pool, this approach offers the best buying power for both local and overseas care. This approach is also most adaptable to different payment options as alternatives to simple fee-for-service (such as global budget - particularly for the local hospital, capitation or episode of illness).	Given the relatively small sizes of the pools, the buying power of the pool is significantly diminished. Further, individual insurers are less well positioned to bear the administrative costs of innovative payment methods and as such, this approach is not likely to result in payment options any different to simple fee-for-service. The approach does not lend itself well to the

		How do the Financing Structures Compare	
Criteria	**Description**	**Unified System**	**Dual System**
		By holding a comprehensive data set on the practice patterns of all local providers, analysis of the data could lead to revisions in benefit design, reimbursement rates, publishing of acceptable billing practices, etc. All of these - if done well - could lead to lower costs and the targeting of care for the best outcomes.	strategic goal of cost containment through the coordinated use of data and the analysis thereof. Though, to gain a competitive advantage, the private pools might be motivated to contain costs and to innovate (e.g. through technology, negotiating with providers, providing supplemental benefits such as wellness programs, substituting overseas care for local care if it were cost effective to do so) to attain better outcomes. Structurally, the combination of certain design aspects of the system (e.g. community rating, guaranteed issue, the transfer mechanism) could have an impact (both positive and negative) on the goal of minimizing claims and promotion of better outcomes. For example, if under the transfer mechanism all risks are rebalanced, then the pools might not be concerned about containing costs.
Consistency of Benefits	Application and administration of the benefit provisions (assuming a uniform package of benefits) in a consistent manner.	Under this approach, the provisions of the plan would be applied consistently across all participants. Administrative policies can be established to provide clarity on whether or not a service (particularly a new service) or drug is covered. If special circumstances (e.g. compassionate or ex-gratia payments) are to be considered, guiding principles for their consideration can be established and precedents can be established. Benefit design could also be modified as a consequence.	Unless the package of benefits is defined in a detailed manner, it is possible that the pools will apply the provisions differently (some of this is already evident in the current system in the understanding and administration of the Standard Hospital Benefit). It is likely that a central body (such as the BHeC) would be required to establish administrative policies for guidance on how to apply the benefit provisions. The central body may also have to respond to complaints from insured participants if claims are denied and there are differences in interpretation between the insured and the insurer (though this could occur too under a Unified System).

		How do the Financing Structures Compare	
Criteria	**Description**	**Unified System**	**Dual System**
Governance, Transparency and Accountability	How the structure operates, the decision making process, the openness in these processes and the accountability and duty to the participants and other stakeholders.	This approach lends itself to be governed either through a government ministry, a Quango or a central body which could include multiple stakeholders. The governance structure should outline the authority for decision making and establish guidelines for publication of various performance measures, as well as requirements for accountability and transparency in all decision making. The risk of a Unified System is that with poor governance the potential gains from the system will not be realized.	While the public pool could operate in a similar way to the Unified System, the private pools would not offer the same level of transparency or accountability (although some of this could be attained through a regulatory process, industry associations, demands from consumers and competitive pressures).
Regulatory Oversight	The role of the regulator and the regulation of the system.	Under a good system of governance, only minimal regulatory oversight would be required. The government could legislate the plan (and any changes thereto) and establish a governance structure which could allow the Unified System a fair amount of autonomy. The regulator may however wish to receive reports (financial, operational or otherwise) to monitor the system to ensure financial soundness and compliance with the regulation. The regulator may also have the role of hearing and adjudicating complaints (from participants, providers, the pool itself, etc…). Enforcement may be required with respect to collection of funds or payment of premiums.	Greater regulatory oversight is required under this approach. As under the unified approach, the regulator is likely to monitor items such as financial soundness, profitability, compliance, pricing, coverage, etc… Adjudication and enforcement are likely to apply under this approach too. This approach would likely require regulatory controls and administrative processes to deal with changes in participant status, job switching, pool hopping etc… The governance structure and operational aspects for the rate setting and transfer mechanism will require contemplation. The behavior of providers may also require regulatory intervention if a situation develops whereby providers have a preference or priority for serving participants of some pools ahead of participants in other pools.

Section F - Sources of Funding

In April 2012, a discussion covering numerous funding options was held with members of the NHP Finance & Reimbursement Task Group (FRTG) and the BHeC. This section analyzes the funding options that were considered as relevant under the NHP ("relevant" in that they align with the objectives under the NHP and they are capable of generating funding sufficient for the cost of the benefits).

F.1. The Funding Options

The funding options analyzed are as follows:

1. Premiums
    - Insured participants could be required to pay a premium. The premium could be community rated and within this structure, the premium rate could vary by income band, by family size, or by status (retired, unemployed, indigent). Certain sectors of the population could be eligible to receive a premium subsidy from the government.
2. A Payroll Levy
    - This could be collected in the same way that the payroll tax is currently collected. The payroll levy could be a single uniform rate, a rate that varies with income, or a dollar amount that varied across income bands.
3. Collect funding through the Contributory Pension Fund (CPF)
    - A flat rate pension funding contribution is currently collected under the CPF. To fund healthcare benefits, a levy could be added to the CPF contribution. In addition, during retirement a deduction could be taken from the CPF pension.
4. Land Tax
    - A healthcare levy could be added to the land tax. The levy could either be a flat rate or vary with the assessed value of the land and property.

Consistent with the goals of the NHP, the following table lists various criteria (such as compliance in funding, population groups making funding, efficiency of collection, etc…), against which the funding options can be evaluated. The funding sources under the current system are illustrated in Appendix 5.

		How do the Funding Options Compare			
Criteria	**Description**	**Premiums**	**Payroll**	**CPF**	**Land Taxes**
Population Groups Contributing	The segments of the population from which funding would be collected.	• Potentially all residents • Employers	• Employees • Employers • Self-Employed Persons	• Employees • Employers • Self-Employed Persons • Retirees (potentially through a deduction from their pension)	• Land owners (including resident and non-resident land owners, non-working persons and the indigent if they are property owners)
	For completeness, we have also included the segments of the population from which funding would not be collected.	• Unlikely that premiums would be collected from the indigent and from persons requiring financial assistance (i.e. they might receive a full subsidy from the government) • Non-working persons / households may also be subsidy eligible	• Retirees • Non-working persons and the indigent	• Non-working persons and the indigent	• Although non-land owners would not be directly impacted they would be indirectly impacted through rental adjustments
Cross Subsidization	Given the same set of benefits, the measure by which the funding option has one group pay more than another group. Note that all the funding options would cross-subsidize between the healthy and the sick – a fundamental principle of insurance.	Depending on the structure of the premium rate table, premiums can cross-subsidize by: • Family Size • Family Composition • Age (a basic feature of community rating) • Income	A highly effective mechanism to achieve a cross-subsidy between high income and low-income individuals / unemployed persons. Working persons and employers would subsidize the retired population.	If a health levy were collected in the same manner as the pension contribution (which is a flat rate per person, with adjustment for persons age 65 and over) then limited cross-subsidization would occur.	If a health levy were based on assessed value of the property, a cross-subsidy would occur between “high-end” and “low-end” properties (which, indirectly, is between the wealthy and the poor). A subsidy would also be received from non-resident land owners.
Efficiency of	The ease and cost	Collection of premiums	A pre-existing	As with payroll, a pre-	As with payroll and the

		How do the Funding Options Compare			
Criteria	**Description**	**Premiums**	**Payroll**	**CPF**	**Land Taxes**
Collection	effectiveness in the collection of funds.	from employers could perhaps be done on an efficient basis. Collection from individuals (such as retirees and self-employed persons) is likely to be administratively intensive. Funding could be received on a monthly basis.	infrastructure is already in place which provides for a low cost efficient method for collection of funds. A single rate would be administratively most simple (particularly for small employers or persons with seasonal or multiple jobs). Note that under the current system funding would be received on a quarterly basis.	existing infrastructure is already in place which provides for a low cost efficient method for collection of funds. Note that under the current system funding would be received on a monthly basis.	CPF, a pre-existing infrastructure is already in place which provides for a low cost efficient method for collection of funds. Note that under the current system funding would be received on a semi-annual basis.
Funding Sensitivity	The economic and social factors that affect the amount of revenue collected (or subsidy required from government). This is considered exclusive of the costs of the benefits (and the future escalation thereof) to which the funding would have to respond (see "Match of funds collected to Benefit Costs" below).	While the total premium obligations must be met in order for coverage to remain in effect, the population eligible for premium subsidies would vary with economic conditions and hence funding required to be collected by government (and the amounts paid as a subsidy) are sensitive to changes in the economy.	The funding is sensitive to: • Changes in employment and self-employment (which is indicative of the performance of the economy). • The level of wages and the future growth thereof.	The funding is sensitive to changes in the number of persons employed and number of persons self-employed (which is indicative of the performance of the economy).	Funding is sensitive to any changes in the assessed value of properties (or a change in method of assessment).
Match of funds collected to Benefit Costs	The extent to which the cost of benefits is matched by the funds	High premiums can create a "vicious circle" whereby healthy participants feel	Mismatches occur as follows:	Similar to payroll, in an economic contraction funding would decline	Similar to payroll, in an economic contraction funding would decline

Criteria	Description	How do the Funding Options Compare Premiums	Payroll	CPF	Land Taxes
	collected (i.e. if the cost of benefits increase, would the funding collected adjust by increasing accordingly). Note that for all the funding options, there is no perfect linkage (and therefore an imperfect match) between the funding and the cost of benefits. Our comments merely illustrate how a mismatch might occur.	the need to claim benefits in order to obtain value for money, thereby driving up utilization and increasing premiums even further.	• In an economic contraction, funding would decline while the costs stay steady or rise. • Funding would decline as the ratio of retirees to working persons increase. • Healthcare costs have historically escalated at rates beyond the growth in wages.	while the costs stay steady or rise. However, to the extent that a deduction may be taken from a retiree's pension, the funding may be more immune to an ageing population.	while the costs stay steady or rise.
Volatility	Extent to which the funding rate requires adjustment (or sudden adjustment).	Note that to the extent that an adverse mismatch occurs (as mentioned above) the funding rate under any funding option would require adjustment. Absent any surplus within the financing structure (or the ability for the financing structure to tide itself over until the financial position recovers), the required adjustment would be immediate and the funding rate could experience significant volatility.			
Transparency in Funding	Extent to which funding is seen as being directed toward healthcare.	Under a Unified System, if the premiums are held in a fund dedicated for healthcare (and are not collected by an existing collection agency) it is likely that a high degree of transparency can be achieved. Further any change in the premium rate would be highly transparent.	Although a separate rate could initially be established for healthcare purposes, in time it could blend with the existing payroll rate and future adjustments in the rate (and the reasons therefore) or the application of funds collected may not be distinguishable.	Given that the CPF funding rate is mostly held steady for a period of time (as has been the case since 2008) and that the CPF contributions are invested outside of the government's consolidated fund, this funding option offers a high level of transparency that any additional funds collected through the CPF would be applied for healthcare	The comments under payroll apply here too.

		How do the Funding Options Compare			
Criteria	**Description**	**Premiums**	**Payroll**	**CPF**	**Land Taxes**
				purposes Also any changes between the pension and healthcare funding components would be distinguishable.	
Flexibility	Ability to make adjustments to the rules under the funding option.	This option is likely to offer a high degree of flexibility.	Flexibility may possibly be limited by the ability of the Office of the Tax Commissioner to cope with divergent practices and rules between payroll taxes and healthcare levies. Further, payroll tax has recently provided special relief to the hotel and restaurant sectors. While there is no requirement to have the healthcare levy follow the same rules as the payroll tax, if they do "blend" as mentioned above, this could impact flexibility.	Flexibility may possibly be limited by the ability of the Department of Social Insurance (the agency through which funding would be collected) to cope with divergent practices and rules between CPF contributions and healthcare contributions.	Comments similar to payroll and CPF apply here too.
Compliance	Extent of compliance amongst those required to make funding payments (and likelihood of avoidance).	Likely to provide strong compliance amongst the corporate sector, but possibility for non-compliance amongst informal sector, delinquent employers, self-employed persons and non-working	Likely to provide strong compliance but possibly some avoidance amongst the informal sector or delinquent employers.	As with payroll, likely to provide strong compliance but possibly some avoidance amongst the informal sector or delinquent employers.	Likely to provide strong compliance with possibility of attaching lien against property on non-compliance.

Criteria	Description	How do the Funding Options Compare Premiums	Payroll	CPF	Land Taxes
		persons.			
Implementation	Ease with which the funding option could be put into operation and administered efficiently.	Under a Dual System, a premium collecting infrastructure already exists. If a Unified System is to be established, it would require a financial and administrative infrastructure which either would have to be developed or outsourced. Collection from individuals would require individual enrollment.	Coordination would be required with the Office of the Tax Commissioner. Presumably there would be few barriers to implementation and it could possibly be accomplished in a short space of time.	Coordination would be required with the Department of Social Insurance. We understand that the CPF is undergoing a review and rapid implementation could be challenging (both for funding and for deduction of a premium from the CPF pension).	We believe that land taxes are collected by with the Office of the Tax Commissioner the comments are the same as those for Payroll.

F.2. How to Choose a Funding Option?

Certain funding options are more suitable or appropriate depending on the financing structure. The table below illustrates the compatibility of each funding option with the Unified System and Dual System.

Funding Option	Compatibility with Financing Structure
Premiums	• Compatible with both a Unified System and Dual System
Payroll, CPF and Land Taxes	• Compatible with a Unified System • Under a Dual System, these could be used by government to collect funds for the provision of the premium subsidy

Under a Unified System (or for providing government funding under a Dual System), the funding option would depend on the objectives the government wants to achieve.

If, for example, the objective is to have the financial burden vary with each individual's economic status, then payroll and/or land taxes are relevant candidates (note though that a premium rate structure that varies by income could achieve a similar result).

If the objective is to collect the same amount from each per person, the CPF is a relevant candidate, as might be flat rate premiums. A variable premium rate structure could be used if the objective is to collect a rate that varies by person (say for example by status – whether retired, working or unemployed).

If the objective is to collect funding from beyond employers, employees and self-employed persons, premiums and/or land taxes could be relevant options.

F.3. Government Funding

- Government currently funds 32% of health expenditure (per the National Health Accounts Report 2012) and we understand that the plan is for government funding to continue under whatever new structure is developed.

- Government currently provides funding in the form of patient subsidies (e.g. an aged, youth, indigent and geriatric subsidy) as well as other funding (primarily to the BHB and the public insurance plans currently administered by government – such as the Health Insurance Plan and FutureCare). Government, in its role as an employer, also pays premiums to the Government Employees Health Insurance Plan.
- The patient subsidy component of government's funding is highly dependent on the utilization of services by those covered by the subsidy, which makes it a difficult item for government to accurately forecast and budget[14]. Further, the government subsidies are untargeted (i.e. not based on need or ability to pay).
- In outlining the financing structures (see previous section), we have assumed that government would reform their subsidies and provide a subsidy in the form a premium offset to make the cost more affordable to those in need (i.e. the subsidy would be means tested by income and/or assets). Note that this does not necessarily imply that government would be spending less than the amount that it would have spent under the current subsidies. The expenditure by government would depend on the extent of the subsidy and the number of people covered by the subsidy.
- In this way government funding can be decoupled from the short term variability in the utilization of services as well as some of the inflationary effect of the cost of the services - although funding for the latter contingency would then have to come from other sources. It could also potentially insulate government from the impact of an ageing population (although again, this would then shift this burden to the other funding sources).
- Under a Unified System, by adjusting the amount of subsidy, government can set the balance between the funding that is to come from government (and hence from tax sources) and the funding that is to come directly from the contributing population. Under a Dual System flexibility in this regard is limited to the funding government collects for the purposes of the premium subsidies directed at those covered by the public pool.
- Government could also act as a re-insurer under a Unified System or to the public pool under a Dual System approach.

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[14] Given the demographic profile of the population, the current government subsidies will also be faced with formidable sustainability challenges as the population ages. See the modeling charts in the Appendix.

- As mentioned earlier, government would likely provide seed funding under a Unified System or to the public pool under a Dual System approach.

F.4. Funding Transfers (between pools)

- Under a Dual System, the risk profiles within the various pools are likely to differ significantly.
- Transfer payments would therefore be required to balance the risk between the risk pools.
- What are the various bases on which such a transfer might be calculated?

1. Risk Factors
   The transfer approach would consider relevant individual risk factors within each pool such as age, gender, type of chronic condition, income and occupation. While it would not be difficult to calculate transfers based on gender and age, transfers based on additional risk factors would require a fair amount of data and this might be difficult to accomplish given the limits on the readily available information.
2. Underwriting Results
   The transfer could be based on the underwriting results of the individual pools - for example, the profits in one pool could be transferred to other pool(s). Under this system, the private pools may make extensive use of various devices (such as related-party reinsurance or administrators) to extract surpluses and their pool would then appear to have a neutral underwriting result. The transfer may also fail to produce the desired intent if none of the pools achieve favorable underwriting results.
3. Community Rated Experience
   Pools with low per-capita costs would transfer funds to pools with higher per-capita costs. Under this transfer mechanism, the incentive for a pool to manage costs or to innovate to produce better outcomes may also be decreased (particularly if the pools are considered not as risk taking but simply as a provider of administrative services - which might present a moral hazard). As such, the transfer mechanism would likely require that the risk pools maintain an insurable interest (with possible reward for improved outcomes).

4. Achieving a Funding Objective

In the assessment of the funding rates required by the public pool, the private pools could be considered as a source of funding and a transfer rate set so that the overall funding objective of the public pool is met accordingly. Under this method, the transfer can be achieved "indirectly" (i.e. without requiring information or assistance from the private insurers) using proportional type funding or global collection methods (such as payroll taxes or the CPF). A direct transfer could also be taken out of the premiums paid to the private pools (as is done presently under the MRF).

It should be noted that the transfer mechanism required under the Dual System might require a high degree of complexity in its design and operation.

Section G - Alignment to Objectives

The following table provides an analysis of how the financing structures and funding options align with the NHP objectives, goals and principles as set out earlier in this report.

Item	Description	Comment
Financial Risk Protection	Ensuring insurance coverage for the full resident population, especially those currently uninsured.	If the funding options are not reliant on collecting premium payments from individuals (which is only possible under a Unified System), a Unified System will perform well by ensuring that coverage is at all times maintained for the full resident population. It will also obviate the need for the BHB to assess whether an individual has the ability to pay. Under a Dual System (and in a premium dependent Unified System) a lapse in coverage can occur on a change in employment status or on non-payment of a premium. Some lives among the informal sector may remain uninsured. Government would have to respond quickly to those that become eligible for a premium subsidy so that they can maintain their coverage. On lapses in coverage, if the public pool bears the costs at the time healthcare services are required, it could then lead to the public pool having to cover unanticipated costs.
Proportional Financial Burden	Cross subsidization in the funding mechanism and recognizing that the indigent and unemployed are unlikely to be a source of funding.	Under either structure, the extent to which the financial burden will vary with economic circumstances will depend on the size of the premium subsidies and the tax system used to raise those funds.
Risk Pooling	Create larger insurance pools to improve the ability of the system to absorb the risk (i.e. to pool low and high risk groups).	A Unified System with a single risk pool has inherent advantages over a Dual System with multiple pools (although a Dual System with a transfer mechanism and certain centrally insured risks could potentially perform equally well).
Sustainability in Spending	Attempting to control costs and maximizing efficiencies.	Due to scale, a Unified System could potentially deliver lower funding and administrative costs and better buying power for both local and overseas care. The system is also most adaptable to different provider payment options. All of the aforementioned is, however, conditional on the effectiveness of the governance arrangements of the Unified System. A Dual System may perform more poorly in this regard (although the risk pools could be incented to achieve better outcomes).
Consistency between the Funding and Cost of	Generating sufficient revenue to cover the expected cost of benefits and ideally having	If the funding rates are set appropriately, the funding options under both systems are capable of producing sufficient revenue to cover the cost of benefits.

Item	Description	Comment
Benefits	predictable and stable revenue streams that match the short and long run expected growth in the cost of benefits over time.	However, under both systems, long run predictability and stability are difficult to achieve: • The cost of benefits will vary with changing disease patterns, ageing of the population, on-going changes in medical technology, etc… Stability may be increased through global budget payment agreements and long-term fixed price contracts. • Funding that references salary, an asset level (such as land taxes), or the working population will be subject to year-over-year volatility. Under relatively stable benefit costs, a premium per-capita type funding option probably has the best ability to produce stability in funding.

G.1. Impact on Stakeholders

The following table provides some additional commentary on how various stakeholder might be impacted by the financing structures and funding options that have been presented in the prior sections.

Stakeholder	Comment
Providers	• A Unified System would allow providers to deal mainly with one administrator for reimbursement and eligibility checks.[15] • Under either option, the increase in covered benefits could create an increase in the demand for services which could lead to a shortage in the number of providers and a delay for the public in their access to services. In the long run supply and demand should balance. Given this risk, consideration should be given for phasing in certain benefit provisions or aspects of the program.

[15] If a patient also has supplemental insurance coverage, it is possible that a claim may have to be submitted to both the unified insurance pool and to the supplemental insurance provider (as the supplemental insurance provider may need to track claims under the minimum package of benefits to determine when the supplemental insurance coverage becomes payable).

Stakeholder	Comment
Insurers	• A Unified System could lead to a decrease in the number of private health insurers. Insurers may retain a role as providers of administrative services under contract from the unified pool. • If the minimum package of benefits is expansive, there may be limited demand for supplemental insurance benefits. Insurers may elect to exit the market (and individuals that desire supplemental benefits may not be able to obtain them). • In a Dual System, a shrinking amongst the insurers may also occur but perhaps on a lesser scale. • In the Dual System, and where supplemental coverage is purchased, it would be convenient for employers or individuals to have all their coverage in one place (convenient for claims submission, and perhaps easier to understand overall level of benefit coverage). • With all residents requiring insurance, the size of the insurance market (and hence business opportunity) increases.
Individuals	• All residents would be required to have health insurance. • Under both systems, there would be no barriers to accessing insurance, no underwriting or exclusions for pre-existing conditions. Residents would continue to have access to medically necessary are (including care overseas). Optional supplemental benefits could continue to be purchased. • However under a Unified System, and in the absence of supplemental benefits, individuals would have less options in choice of insurer. • In a Dual System, individuals would be covered by the insurer of their (or their employer's) choice.
Government	• The reform presents an opportunity to overhaul the current system of subsidies. • Government may be able to exit from the direct administration of health insurance activities (note that a public pool would still exist[16] but government could outsource the administrative functions). • Government may have to offer supplemental benefits to participants of the Government Employees Health Insurance (GEHI) plan. The reform may also result in government no longer having to make a provision in their financial statements for the GEHI costs expected to be covered during a GEHI participant's retirement years.

[16] In the Dual System, the public pool serves to provide guaranteed issue to individual applicants. Note that under a Dual System, maintaining a strong public pool has its advantages. For example, the public pool could provide stability (or a failsafe option) if any private pool withdraws from the market. Also, a strong public pool has better purchasing power and can act as an agent for change within the system.

Stakeholder	Comment
Employers	• Under both systems, approved schemes would no longer exist[17]. Employer or group self-funded schemes could continue to operate for supplemental benefits (and, for example, have an “administration service only” contract with an insurer to share in profits relating to their own supplemental benefit plan experience). • Employers which presently offer plans with more expansive coverage than the minimum package of benefits may amend their plans so that only the minimum package of benefits is provided (with no additional supplemental benefits). • The total funding paid by an employer (under each system) could be more than or less than their current funding for healthcare insurance. This could be due to numerous factors such as differences in benefit provisions, differences in the demographic profile of an employer’s workforce, differences in the premium rate structure and funding options, etc… An increase in an employer’s (or an individual’s) funding requirements could be problematic, particularly in the current economic environment. Consideration might be given for phasing in any aspect of the reform that potentially results in an increase in employer or individual funding requirements (for example, improvements in the minimum package of benefits could be phased in).

[17] Under the Unified System or the Dual System, an approved scheme is redundant (particularly under the Unified System) and contrary to the principle of equity and guaranteed access by the public.

Section H - Comparison to Current System

The following table provides a comparison between certain aspects of the current system and the Unified and Dual Systems.

Feature	Current System	Unified System	Dual System
Universal Coverage	No. Coverage is not mandatory.	Yes.	Yes
Uniform Minimum Package of Benefits	Yes, the Standard Hospital Benefit.	Yes, an enhanced benefit package.	Yes, an enhanced benefit package.
Guaranteed Issue	Only available through the Health Insurance Plan and FutureCare.	Yes.	Yes
Community Rating	Yes, the Standard Premium Rate. Does not apply to supplemental benefits.	Yes, various options exist.	Similar to current system but for a broader array of benefits.
Existence of Public Insurance Pool	Yes, but fragmented.	Yes.	Yes, but consolidated.
Existence of Private Insurance Pools	Yes.	Yes, for supplemental benefits only.	Yes.
Size of Risk Pools	Pools of various sizes exist.	One risk pool.	Similar to current system but more ability to pool risk.
Funding (non-government)	Premiums from individuals and employers.	Various options exist.	Similar to current system.
Government Funding	Patient subsidies are provided.	Premium subsidies are provided and/or government provides funding to the single risk pool.	Premium subsidies.
Cross Subsidy in Funding	Yes, through a community rated Standard Premium Rate.	Yes, various options exist.	Yes, through community rated premiums and collection of funding for government premium subsidies.
Risk Management	Each pool manages their risks (some with use of reinsurance). Central reinsurance fund exists (the MRF) and transfers made to the public pool.	Risks managed in single pool, reinsurance may be desirable.	Similar to current system although a transfer mechanism balances some of the risks between the pools.
Reimbursement of Providers	Fee-for-service for Outpatient and DRG for Inpatient.	Adaptable to different payment options.	Likely to be based on fee-for-service and DRG.

H.1. Premiums under the Unified System and Dual System

While we are unable (for reasons listed below) to determine a premium under any one of the systems, we have tabled below a hypothetical premium rate together with some potential points of comparison (although we do caution that in order to make a valid comparison of premium rates, many of the difference between the plans – such as benefit coverage, rate table structures, the demographic of the insured lives – need to be understood and "normalized" before a comparison can be made):

Insurance Plan	Benefit Coverage	Fiscal 2013 Monthly Premium Rate
Standard Premium Rate	Standard Hospital Benefit	$272
Health Insurance Plan (HIP)	Basic	$390
FutureCare	Moderate	
• Phase 1		$385
• Phase 2 and Phase 3		$635
Govt. Employees Health Insurance Plan[18]	Extensive	$585
Minimum Package of Benefits[19] under the Unified System and Dual System	Extensive	$487 (see notes below!!)

Notes on the Hypothetical Premium Rate under the Unified System and Dual System

The hypothetical premium rate tabled above represents the estimated Fiscal 2013 monthly claims expected under Plan 3a (net of current government subsidies and grants), spread over the total resident population and assumes the cost of administering the insurance plan is 10% of the claims. At this time, it is not possible to determine a premium rate under the Unified System or Dual System for the following reasons:

- Under the Unified System, the funding sources are not yet determined (see Section F for Sources of Funding). If premiums are to feature in the Unified System, the premium will depend on how much funding it, together with any other funding source, is required to generate.

[18] With Basic Dental.

[19] As described under Plan 3a in Appendix 3.

- Under the Dual System (which is a premium based system), the structure of any premium table has yet to be determined (for example, the premium might vary with family size or there may be no premium in respect of children, etc…). There are many possible variations which would result in different rates of premium. The same is true under the Unified System.
- The shape and form of funding from government will also influence the premium rate.
- The premium rate will be influenced by the actual costs of administration.
- Certain features of the insurance plan have not been finalized (such as the rates of reimbursement that are to apply to physician and other services).

Once a financing structure has been selected and the above mentioned items (including other details not mentioned above) have been clarified, only then will it be possible to determine a premium rate (and the premium rate may differ significantly from the figure tabled above).

Section I - Reimbursement, Costs and Cost Containment

I.1. General Ideas

The overall costs of the health care system depend on the price for each unit of service and on volume (number of units provided). The way unit prices are set varies from system to system. In general there is often some interaction and/or negotiation between healthcare providers on the one side and some payer and/or price-setting authority on the other.

The volume of services provided in any system depends on changes in the burden of disease, changes in treatment patterns and the incentives created by the payment system. Those incentives depend on the mode of payment (e.g. fee-for-service versus capitation) as well as on the specific relative prices paid for different services. Volume may also be affected by regulatory measures - such as efforts to limit investment in expensive medical technology or the utilization of expensive on-patent pharmaceuticals.

It is also the case that the distribution of various risks between payers and providers varies with the design of the payment system. For example, if hospitals are on fixed budgets, unanticipated increases in disease become a problem hospitals have to cope with. In contrast, in a fee-for-service system such an increase becomes an increase in expenses that payers then have to find a way to fund.

The apparent plan under either a Unified or a Dual System is to keep fee-for-service payment as the basic tool, to be supplemented by selected pay for performance efforts designed to increase clinical and service quality

It is worth noting that the anticipated increases in costs to Bermuda as a result of population ageing will, we believe, make it highly desirable for the government to consider alternative payment systems - with less inflationary implications - over the medium term. Moreover beyond 2013 the estimated costs of the total healthcare system in Bermuda are expected to increase by almost 30% - even assuming that unit prices remain the same and per-capita age specific utilization does not change (see Projections Chart 5 in the Appendix). If however one projected a 3% rate of cost increase (due to changes in prices and use) the cost of the system will more than

double over the next thirty years (see Projections Chart 9 in the Appendix). These possibilities make the need to consider changing the basis of reimbursement from fee-for-service to various alternatives even more imperative (e.g. capitation for outpatient care and per-admission payment for inpatient care).

So the question of cost and cost containment in a Unified versus a Dual System is a question of how the price setting and regulatory systems will operate under each contingency.

I.2. Forecasting Risks and Results

It is not possible to be sure exactly how each system would develop in the Bermudian context. However experience around the world suggests that unified systems (e.g. the U.K. or Canada) do better on cost containment than systems with multiple payers (e.g. Switzerland or the U.S.).

In multiple payer systems providers can always try to compensate for tight controls from one payer by pushing hard for higher payments from others. This has happened repeatedly in the U.S. When the large public system (Medicare) has tried to contain costs, providers have often been able to win higher reimbursement from private insurers. In addition, when private insurance reimbursement is higher than public reimbursement, it can draw many providers to give preferential treatment to privately insured patients. This happens today in the United States. In some states where the Medicaid system offers lower payments to physicians than private insurers, individuals covered by that system have well-documented problems accessing care. It also happens in Germany where many leading physicians try to restrict their practice to serving those patients in the 10% of population with private insurance - which provides noticeably higher physician fees than does the public system.

There are also concerns in a multi-payer system with regard to the question of treatment abroad. Under pressure from policy holders, private insurance funds may believe there is a competitive advantage in funding treatment abroad even where it is not appropriate on quality or cost effectiveness grounds - particularly if this is an infrequent condition and/or a high visibility patient. In terms of risk pooling and sustainability, the presence of less restrictive policies in the private sector on treatment abroad could exert pressure on the public system to match even inappropriate private insurance company practices. Similarly a divided, multi-payer system may

lose some of the potential bargaining leverage a unified system would have in obtaining the best possible terms from overseas providers for obtaining treatment abroad.

It is worth noting that under a fee-for-service system providers are very sensitive to not just overall prices but also to the relationship between the prices for specific services and the incremental costs of providing those services. Since prices are often set based on average costs, services that involve heavy capital investment (particularly imaging) often have incremental costs that are well below average costs. That is why in many countries fee-for-service payment has been observed to drive up utilization of those services. Thus it is a risk in multi-payer systems that private insurers might set relative fee-for-service prices that cause just such distortions.

Note too, if the public system tries to restrain cost, experience around the world suggests that providers become ever more strongly incentivized to find whatever clinical activities remain profitable. Once they discover such 'loopholes' they increase the volume of such services - in order to defend their incomes. This has been documented in various countries including Germany, Taiwan and Vietnam.

Moreover in a Unified System one could imagine innovative pricing systems that while maintaining a broad commitment to fee-for-service, also tried to deal with this problem. For example a single payer system could set a fixed fee to cover capital costs and an incremental fee-for-service component to cover variable costs when it came to paying for high-cost medical technology. Similarly it could engage in 'physician profiling' and limit the number or volume of procedures it would be willing to pay for when these were performed by providers whose per-patient rates of care departed significantly from community norms. It is not clear to what extent such experiments would be feasible in a multi-payer system. If there were a large public provider in a dual system, efforts by the managers of the public pool might at least control the costs of publically insured patients - even if that did not extend to those covered by private providers. Indeed, and as noted above, aggressive cost control efforts by the public pool in a dual system might lead providers to behave in ways that put increased cost pressure on the insurers on the private side of the system.

In terms of dealing with providers, the single most important relationship between any payer and the provider community will be with the Bermuda Hospital Board. However well-intentioned, the

decision some years ago to construct a major new inpatient facility will inevitably have the effect of burdening Bermuda with a significant increase in annual capital and operating costs. These increases are not reflected in our modeling. One of the advantages of a Unified System is that it will create a distinct ‘purchaser’ and a counter-weight to the BHB with regard to cost-control negotiations.

It is worth noting that a Unified System also has some risks. With only one agency setting prices, if it gets those prices wrong, there is no counter-weight to the incentives thereby created. Similarly, there is the risk that too much political and economic power could be concentrated in the public insurance purchaser.

It is worth noting that a Unified System also has some risks. With only one agency setting prices, if it gets those prices wrong, there is no counter-weight to the incentives thereby created. Similarly, there is the risk that too much political and economic power could be concentrated in the public insurance purchaser. As a result there is the risk that it could abuse its authority in various ways: e.g. by designing re-imbursement to favor (or take business away from) certain providers or by creating subsidy systems that inappropriately burden or benefit various groups. This is an outcome that needs to be carefully guarded against by creating appropriate governance arrangements for such an insurance entity (as we discuss further below).

Regardless of what option is chosen, there needs to be someone in the system responsible for monitoring system wide utilization, to track whether or not the various possible unhelpful behaviors do develop and to initiate corrective action where needed. Just as there needs to be some ‘checks and balances’ with regard to private insurers there will need to be someone to ‘watch the watchers’ - that is to watch the public insurer - under either a Unified System or a Dual System.

I.3. Possible responses

Counter-measures are available that would decrease some of the risks and drawbacks of a multi-payer system. First there could be mandatory public disclosure of all relevant data from private insurers - including data on who is covered (by age and gender), payment rates and volumes of services paid for (by both patient and provider). This would require a system of unique patient

and provider identifiers and compatible data systems across all insurers - similar to the requirements now in place in various countries such as Germany and Taiwan. Such disclosure would allow a public planning authority (e.g. the BHeC) to track whether or not unhelpful distortions were developing in the volume and mix of services being provided to various groups of patients insured under the various pools. It would also require insurers to track - and enter - comparable data documenting care for all treatment abroad provided to those they covered.

There is also the question of whether or not, or to what extent, expanded public regulation of the private insurance system could be undertaken to counteract some of the possible risks discussed above. In the United States private health insurance companies in most states are regulated by state insurance commissions or some comparable body. Depending on the state, a variety of requirements have been imposed on private insurance sellers including regulation of the benefit package, limitations on the 'spread' in rates that can be charged to higher and lower risk groups, and regulation of the fees that private insurers can pay to private providers. Given the small population of the island, whether any of these initiatives would be politically and administratively feasible in the Bermudian context, and produce sufficiently improved results to warrant their administrative costs, is a different question.

Similarly, if a single payer public system is established, its decision processes should guarantee transparency and accountability. Such an approach would be consistent with the recent international movement that has come to be called "Accountability for Reasonableness" or "A4R". It involves opportunities for public comment on proposed rules and requirements and that decisions be accompanied by analyses and explanations that provide the thinking behind policy decision. (The National Institute for Clinical Excellence (N.I.C.E.) in the U.K. has been a model for such processes.)

In addition to the above, it is also extremely important, if a Unified System is adopted, to make sure that the appropriate governance mechanisms are in place. This means designing a Board of Directors that has both a degree of independence from short term political pressures and also has a high degree of accountability to all segments of the society. Various models exist around the world which need to be considered - including overlapping terms for Board Members, representation on the Board from important economic and civil society groups, creating an independent Inspector General or Ombudsman's Office to deal with complaints etc…

Section J - Implementation and Measurement

J.1. Implementation

We believe that the Unified System or the Dual System are both viable options and they address many of the difficulties and challenges within the current system. We further believe that both systems can be implemented in Bermuda (noting though that under a system which is funded by premiums, consideration in the implementation will be required with respect to achieving compliance of payment of the premium - whether the premium be due from an individual or from an employer). With regards to the adoption of one of these systems, a further extensive effort and significant resourcing would be required in order to successfully implement the system (the details of which fall outside the scope of this report).

It may also be highly preferable to implement the reforms in stages - for example, the minimum package of benefits as contemplated under Plan 3a may be phased in over several years with prioritization for benefits that will enable shifting non-acute care out of the acute care setting; the government administered plans may be consolidated as a first phase, enabling a large public pool to be established and prove its value; certain cost containment measures and incentives for cost effective care may be implemented in stages, rolling out further phases of implementation as cost-containment measures have proven successful; etc…

It is likely that a multi-payer system will have higher implementation costs because it will not be able to achieve some of the same economies of scale in reporting, data processing, analysis etc. Further, the implementation of the transfer mechanism under the Dual System will require a high degree of complexity in its design and operation.

Efforts to use regulation to control costs are also more difficult to implement in divided systems. In a unified system a national social insurance fund can use its payment authority to supplement its efforts to influence provider behavior. In particular it is not at all clear how a mixed system would be able to utilize pay-for-performance incentives to influence care for those Bermudians who are covered by private insurance funds.

J.2. Performance Criteria

How will Bermuda know whether or not the proposed changes in the insurance system have achieved the desired results? That of course depends on what goal the new plan is intended to achieve. Earlier in this report we identified a number of goals that Bermuda is seeking to achieve under the new system, some of which include the following:

1. Minimize the number of the currently uninsured.
2. Have the benefit package for those who are covered be both uniform and inclusive of appropriate outpatient care.
3. Pool contributions from low and high risk groups.
4. Minimize administrative costs.
5. Control total health care costs.
6. Increase the appropriateness of services - especially for chronic conditions and non-communicable diseases.

Each of these goals can in turn be linked to measurable performance criteria

1. Population surveys can be undertaken to determine whether anyone remains uninsured. These results can be crosschecked against hospital records to see who presents themselves for care while claiming uninsured status.
2. The minimum package of benefits can be reviewed for effectiveness.
3. The risk profile of those covered by public and private insurance plans can be compared - again if there is mandatory reporting from the private sector.
4. Administrative costs can be compared for public and private plans and compared with international benchmarks (e.g. Medicare administrative costs in the U.S. and provincial health insurance schemes in Canada). Note that one would expect Bermuda's costs to be higher due to diseconomies of scale.
5. The level, composition and rate of growth of health care costs can be compared for Bermuda and various international benchmarks (Canada, U.S. and U.K.). The National Health Accounts can act as a source for a baseline measurement with annual updates providing information on the performance of the system.
6. If - and this is a big if - uniform electronic medical records are established, then the treatment of individuals with different insurance coverage and various conditions can be

compared against recognized guidelines and clinical pathways. The U.K. and Germany are appropriate resources for such guidelines - as well as the best performing US systems (like Kaiser, Intermountain, and Geisinger).

J.3. Monitoring

In establishing any system of performance monitoring several considerations need to be kept in mind. How costly will the monitoring system be? How accurate will the data be - in part depending on how motivated those responsible for reporting will be to report accurately? And to what extent will the parameters being reported, and any incentives tied to those reports, lead those being monitored to change their behavior in desirable directions?

In the previous section we noted various performance measures that could be used to track whether or not the reforms will move the Bermuda health system in desired directions. International experience suggests that for any such system to function effectively, several requirements need to be met:

- Record keeping systems maintained by providers - and private payers - need to be electronic so that data can be accessed inexpensively. This is especially true for medical records in private physician offices. Those records need to be compiled according to formats and classification systems that are compatible and relatively uniform. In practice this means specifying which private electronic medical record systems meet system standards.
- Every patient-provider encounter needs to be tracked in terms of a unique patient and provider identifier numbers. The Taiwanese “smart card” patient identifier system is a model here. This is the only way to check the appropriateness of patient care across multiple sites of care.
- Cost data similarly needs to be compiled by providers according to a uniform scheme (as in the U.S. system of Medicare cost reports). Otherwise differences in accounting conventions make inter-provider comparisons dubious or impossible. Again, this means deciding which private cost-accounting software packages satisfy system requirements.
- To ensure transparency, mandatory reporting from all insurers and providers - together with systems designed to protect patient confidentiality - are required. German systems for aggregating reports from multiple providers and insurers can serve as a model here.

- If any monitoring program is to be meaningful, there has to be sufficient sophisticated analytical capacity at the central level (e.g. in terms of staff at the BHeC) to regularly review, analyze and develop recommendations based on the data that is accumulated.
- Given incentives for, and the possibility of, misreporting, some sort of auditing function needs to be established to check reports against insurer and provider records. The mere existence of such a function can help ensure reporting is accurate to begin with so it is not necessary for auditors to find many errors to prove their worth.

Section K - Conclusion

As alternatives to the current system, this report presents two financing structures – a Unified System and a Dual System. The extent to which one system is more suitable than the other will depend on one's perspective and preference. The National Health Plan's core values of "equity and sustainability" provide a framework. In considering the future of Bermuda's healthcare system, and in the context of this report, the country will be required to answer the following questions:

1. Is the minimum package of benefits (as contemplated under Plan 3a) adequate?

2. Should Bermuda reform the current healthcare financing structure?

3. If the answer is yes, is it preferable to adopt the Unified System or the Dual System?

4. Does Bermuda agree with the foundational design elements on which the Unified System and Dual System have been designed? In particular:
   - An expanded minimum package of benefits
   - A reform of government funding to cover the expenses of those most in need
   - Consolidation of the current government operated insurance plans
   - Continued ability of insurers to offer and underwrite supplemental benefits

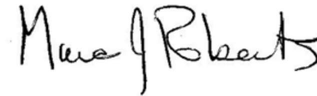
5. How should the system be funded?

6. Should there be any adjustment to the current model of fee-for-service as reimbursement?

We believe that the Unified System or the Dual System are both viable options and are implementable in Bermuda. We also believe that these systems address many of the difficulties and challenges within the current system. A further extensive effort and significant resourcing would be required in order to successfully implement any one of these systems and consideration for implementation in stages is strongly recommended.

We are available to provide any additional information and to answer any questions you may have.

Respectfully submitted,



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December, 2012

Appendix 1 - Key to Costing and Projection Charts, including Observations

The results of the costings are presented in the charts in Appendix 2. The table below provides a key for the information contained on the charts, including select comments and observations on the data in the chart.

No.	Information on Chart	Comment / Observation
	Charts with Fiscal 2013 Figures	
1.	Total estimated Fiscal 2013 claim payments, for each Plan, broken down by Local Claims (BHB and Non-BHB) and Overseas Claims.	The claims are split approximately 80% Local and 20% Overseas. Locally, the split between BHB and Non-BHB claims is approximately 65%/35% respectively. The total difference in claim payments between Plan 1 and Plan 3 is $29.7 million.
2.	Same as Chart 1 except the claim payments are shown net of an estimate of the current government subsidies and grants (that apply under the current Standard Hospital Benefit, and also include the government funding of the MWI).	The current government subsidies and grants are estimated to be $150.3 million.
3.	Compares the current Standard Hospital Benefit with the claims expected under Plan 3.	The overseas claims under Plan 3 are significantly higher than the amount under the current Standard Hospital Benefit. This is due to the assumptions in respect of overseas care (which is to reimburse 100% of in-patient and out-patient care, so long as the care is medically necessary).
4.	Contains various items of Fiscal 2011 expenditure (as taken from the National Health Accounts Report), and compares them with the total Fiscal 2013 claim payments expected under Plan 3.	The difference between the National Expenditure amounts and the claims paid under Plan 3 would represent amounts that could be covered through supplemental insurance or co-payments.
5.	Compares the total Fiscal 2013 claim payments (for each Plan) with the estimated health insurance premiums for Fiscal 2011.	Consistent with the other charts that indicate estimated claim payments in this batch, no allowance for administration has been added to Plan 1, 2, or 3.
6.	Expresses the figures (as found in Chart 1) as a per-capita claim amount (i.e. the claim payments have been divided by the total population).	
7.	Same as Chart 6, except the figures are shown as monthly amounts.	
8.	Same as Chart 7, except the figures are shown net of an estimate of the current government subsidies and grants (ref Chart 2 above).	
9.	The total estimated Fiscal 2013 claim payments have been expressed as a per-capita claim amount based on different population groups.	The figures show how the annual per-capita claim amounts would vary if the total claims were spread over the different population groups.
10.	Same as Chart 9, except the figures are shown as monthly amounts.	
11.	Same as Chart 10, except the figures are shown	

No.	Information on Chart	Comment / Observation
	net of an estimate of the current government subsidies and grants.	
12.	The percentage of the Bermudian population in each age band.	
13.	The estimated annual per-capita claim amounts (under Plan 3) for each age band (i.e. the average annual cost for each person within a specific age band), broken down between Local Costs (BHB and Non-BHB) and Overseas Costs.	The per-capita claim amounts accelerate rapidly after age 60 reflecting the significant utilization of healthcare services during one's later years in life.
14.	Same as Chart 12, except the figures are shown net of an estimate of the current government subsidies and grants.	The current government subsidies absorb many of the high costs associated with ageing.
15.	The percentage of the Bermudian population in each age band (see Chart 10) and the share of that total Fiscal 2013 claim payments (under Plan 3) that is made up by each age band.	To the left of age band 50-54, the younger population take up proportionally less in claim payments than they do in headcount and to the right, the elderly take up proportionally more in claim payments than they do in headcount. This chart underscores the need for a cross subsidy between the young and the old.
16.	The breakdown, for different population groups, of the total estimated Fiscal 2013 claim payments (under Plan 3) (including the breakdown between Local Costs (BHB and Non-BHB) and Overseas Costs).	The claim payments related to the youth are relatively small compared to the other groups.
17	Shows the benefit component breakdown detail of the Local (BHB and Non-BHB) estimated Fiscal 2013 claim payments (under Plan 3). Overseas claim payments are also indicated.	
18.	Same as Chart 17, except only the Local Non-BHB components are displayed and the figures are expressed as an annual per-capita claim amounts (i.e. the component claim amounts have been divided by the total population).	
19.	Same as Chart 18, except the figures are shown as monthly amounts.	

No.	Information on Chart	Comment / Observation
	Projection Charts	
1.	A 40 year projection of the population (shown at 5 year intervals) showing the number of people in the population by age band.	In 20 years, the senior population will be nearly double its current level (while those of working age will have declined).
2.	Similar to Chart 1 but showing the percentage of the population that each age band makes up.	
3.	Same as Chart 2 but has the information "stacked".	The senior population is expected to increase from 14% of the population to 27% of the population in 2038.
4.	The ratio of those of a working age (taken as those between age 20 and 65) to the number of seniors (taken as those age 65 and over). In other words, those of working age is divided by	The "dependency ratio" is expected to drop significantly over the coming years.

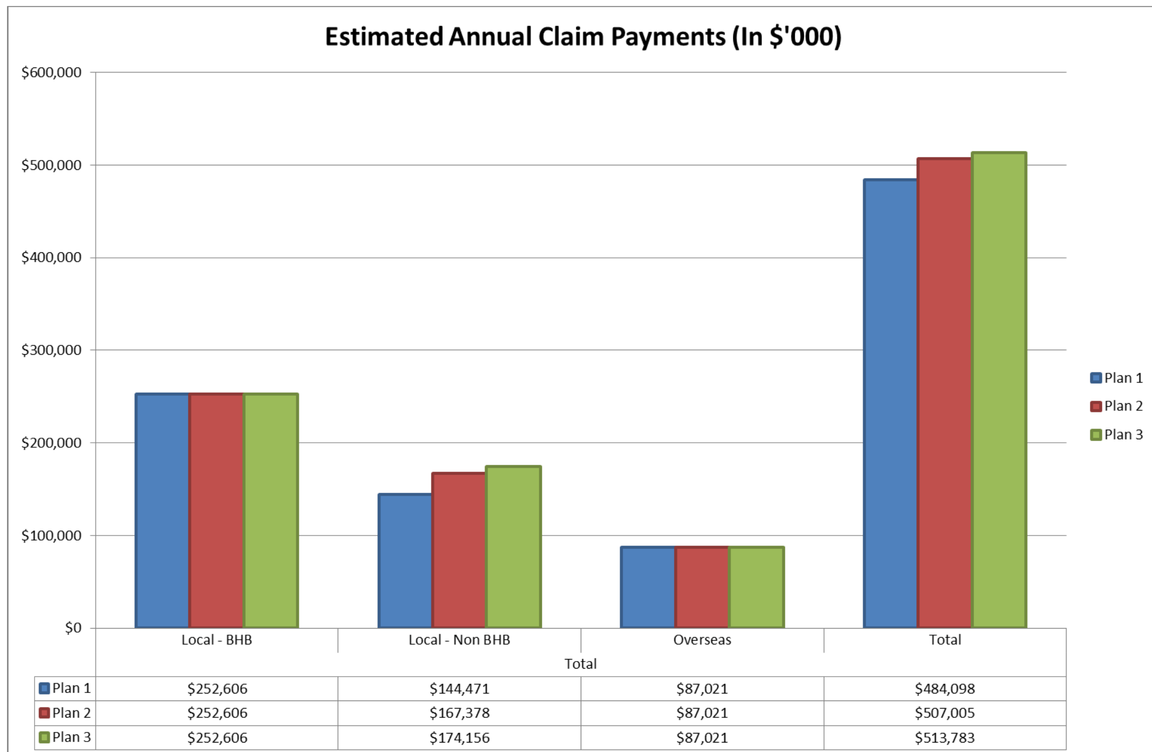
No.	Information on Chart	Comment / Observation
	the number of seniors.	
5.	The estimated total future[20] claim payments (under Plan 3a) and the government subsidy and grants expenditure (that apply under the current Standard Hospital Benefit, and also include the government funding of the MWI).	The chart illustrates the change in the total claim payments and subsidy and grants expenditure due to the change in the demographic of the population. As the population ages, the claim payments increase. The subsidy and grants expenditure rises more rapidly (almost doubling by 2043) and this represents a significant sustainability challenge to the structure of the current government subsidy and grants.
6.	Similar to Chart 5, except the figures are split between the current government subsidy and grants and the non-subsidized costs.	The non-subsidized component remains relatively flat while the government subsidy and grants pick up most of the escalation in claim payments (due to the ageing of the population).
7.	Similar to Chart 6, except the figures show the percentage of costs split between the subsidy and grants and non-subsidized costs.	As the population ages, the current subsidy and grants becomes a large portion of the total claims paid.
8.	Expresses the total future claim payment figures (as found in Chart 5) as monthly per-capita claim amounts (i.e. the claims have been divided by the total population – at that point in time). Also the per-capita claim amounts are shown net of an estimate of the current government subsidies and grants.	As seen on Chart 6, the non-subsidized component remains relatively flat while the total claims per capita rises (i.e. the government subsidy and grants rise).
9.	Indicates the total future claim payment figures (as found in Chart 5), based on various rates of trending (assuming that the total prices increase each year at numerous percentage rates).	Healthcare costs have historically increased at rates greater than general inflation. This chart could be viewed in nominal terms or in reals terms (depending on your perspective). If prices increase in nominal terms at 5% per annum, the nominal expenditure will double approximately every 15 years. If prices increase at 3% above general inflation, then in real terms, the size of the system will double approximately every 24 years.
10.	The estimated total future claim payments in each year (under Plan 3a and shown at 5 year intervals) broken down between Local claim payments (BHB and Non-BHB) and Overseas claim payments.	The ageing of the population affects the local claim payments more than the overseas amounts (i.e. utilization of overseas services is less sensitive to ageing).
11.	Same as Chart 10, except the figures are shown net of an estimate of the current government subsidies and grants.	
12.	The breakdown, for different population groups, of the estimated total future claim payments (under Plan 3a).	The claim payments related to the youth are relatively small compared to the other groups.
13.	The estimated total future claim payments have been expressed as a monthly per-capita claim amounts based on different population groups.	The figures show how the monthly per-capita claim amounts would vary if the total claims were spread over the different population groups. As those of working age decline, the monthly per-

[20] The annual claim payments and subsidy expenditure are based on Fiscal 2013 price levels (i.e. no trending or escalation of prices have been applied). Also utilization of benefits is assumed constant over the period (i.e. that rate at which healthcare services are consumed is held constant).

No.	Information on Chart	Comment / Observation
		capita claim amounts increase most rapidly.
14.	Same as Chart 13, except the figures are shown net of an estimate of the current government subsidies and grants.	
15.	Total estimated Fiscal 2013 claim payments (under Plan 3a) compared with other items (such as National Health Expenditure, Government Revenue, Employment Income, etc…).	This chart provides some context around the total claim payments relative to other economic variables. For example, the total claim payments are approximately 10% of the 2010 GDP.

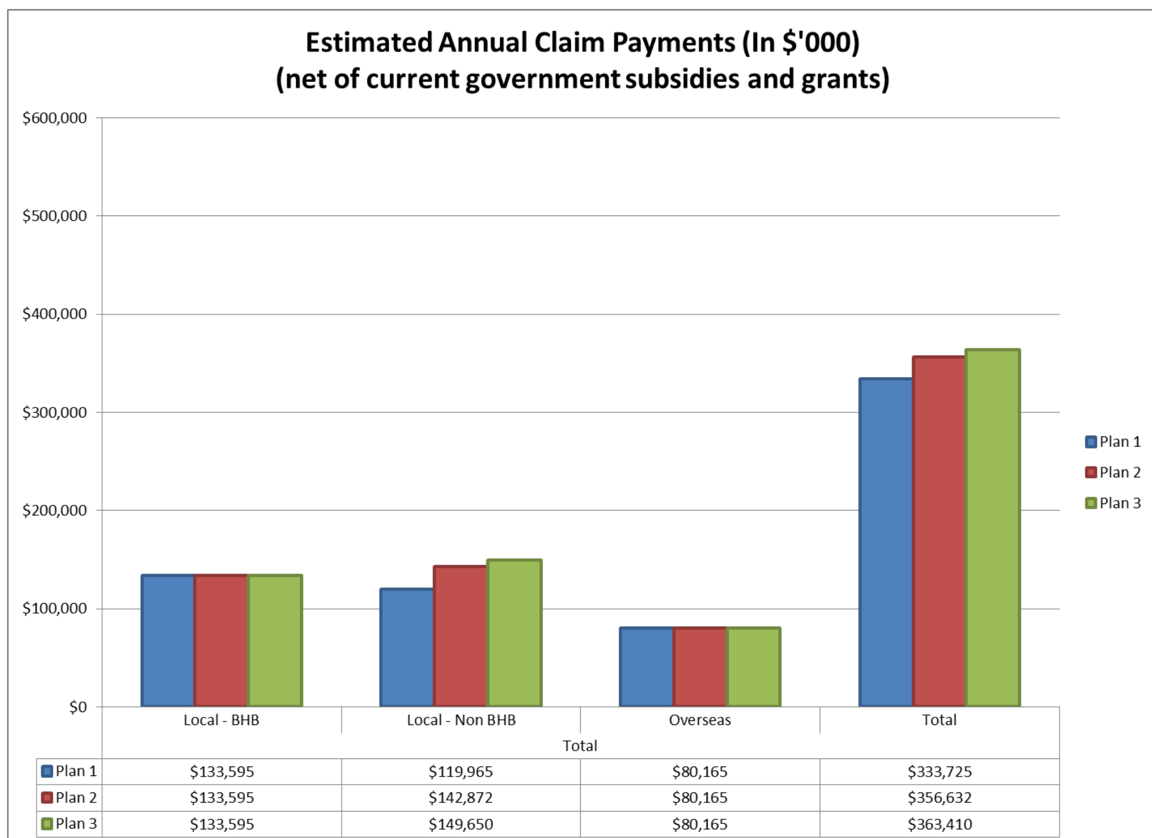
Appendix 2 - Costing Charts

Fiscal 2013 - Chart 1



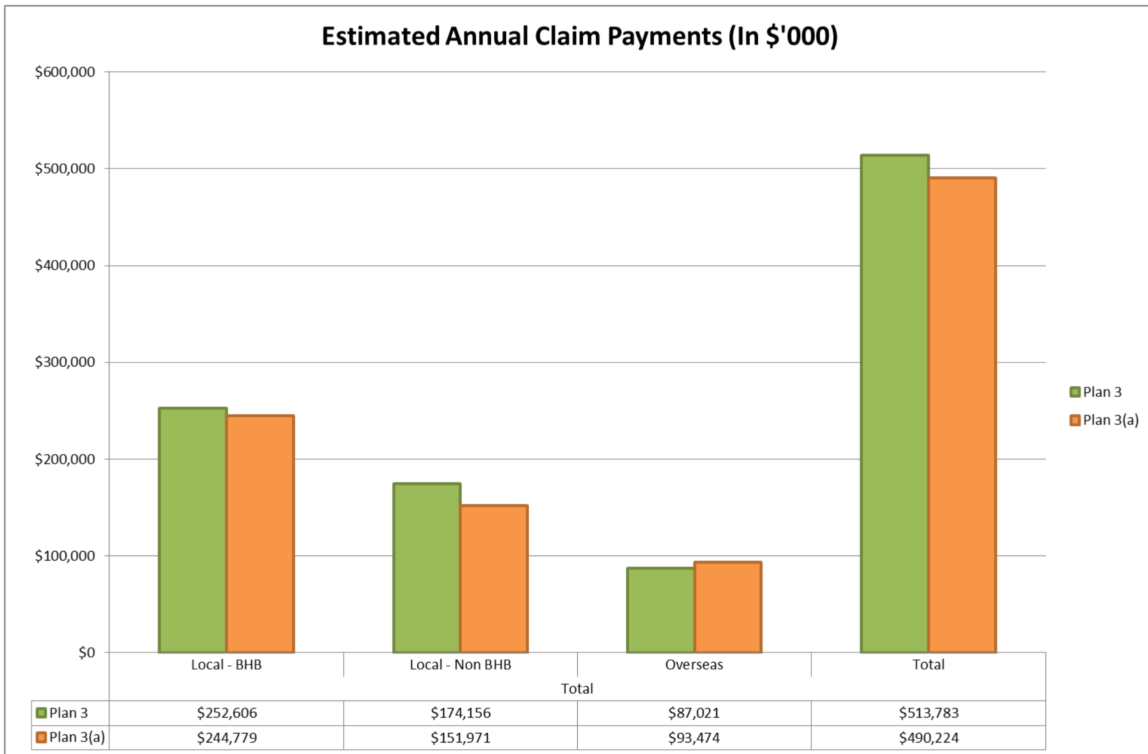
	Local - BHB	Local - Non BHB	Overseas	Total
Plan 1	$252,606	$144,471	$87,021	$484,098
Plan 2	$252,606	$167,378	$87,021	$507,005
Plan 3	$252,606	$174,156	$87,021	$513,783

Fiscal 2013 - Chart 2



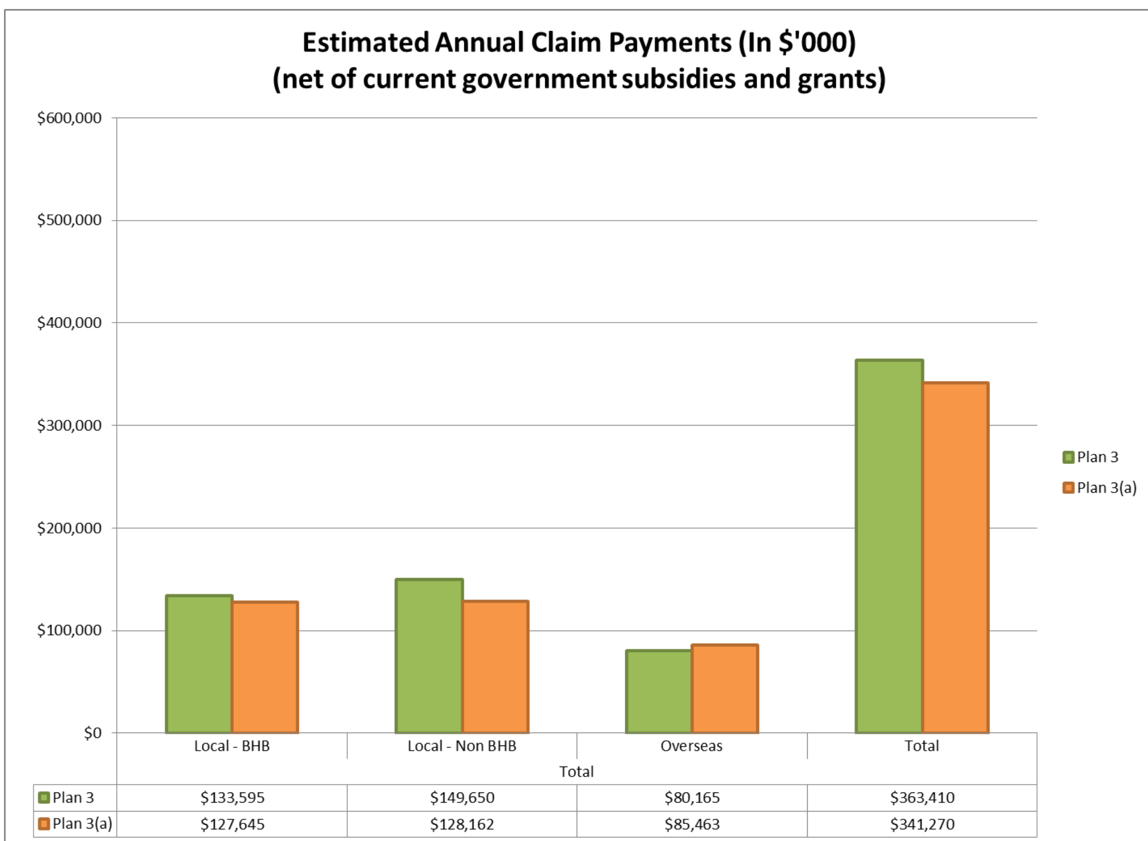
	Local - BHB	Local - Non BHB	Overseas	Total
Plan 1	$133,595	$119,965	$80,165	$333,725
Plan 2	$133,595	$142,872	$80,165	$356,632
Plan 3	$133,595	$149,650	$80,165	$363,410

Fiscal 2013 - Chart 1a, with Plan 3a



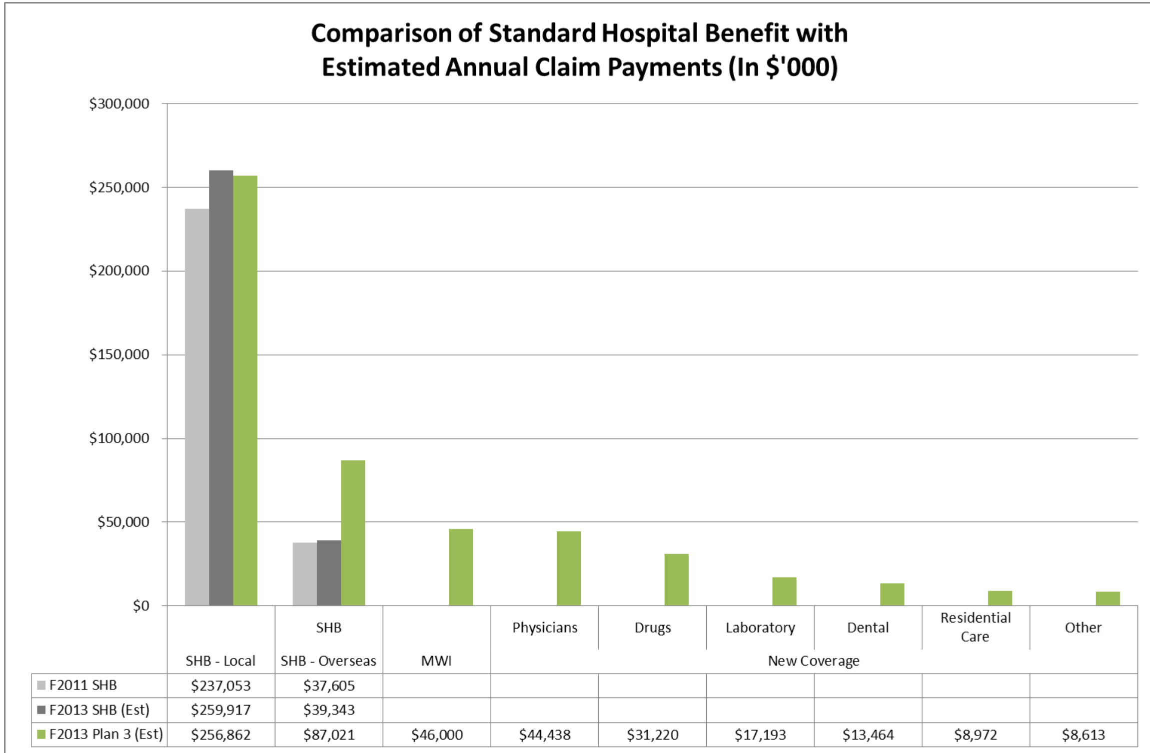
	Local - BHB	Local - Non BHB	Overseas	Total
Plan 3	$252,606	$174,156	$87,021	$513,783
Plan 3(a)	$244,779	$151,971	$93,474	$490,224

Fiscal 2013 - Chart 2a with Plan 3a



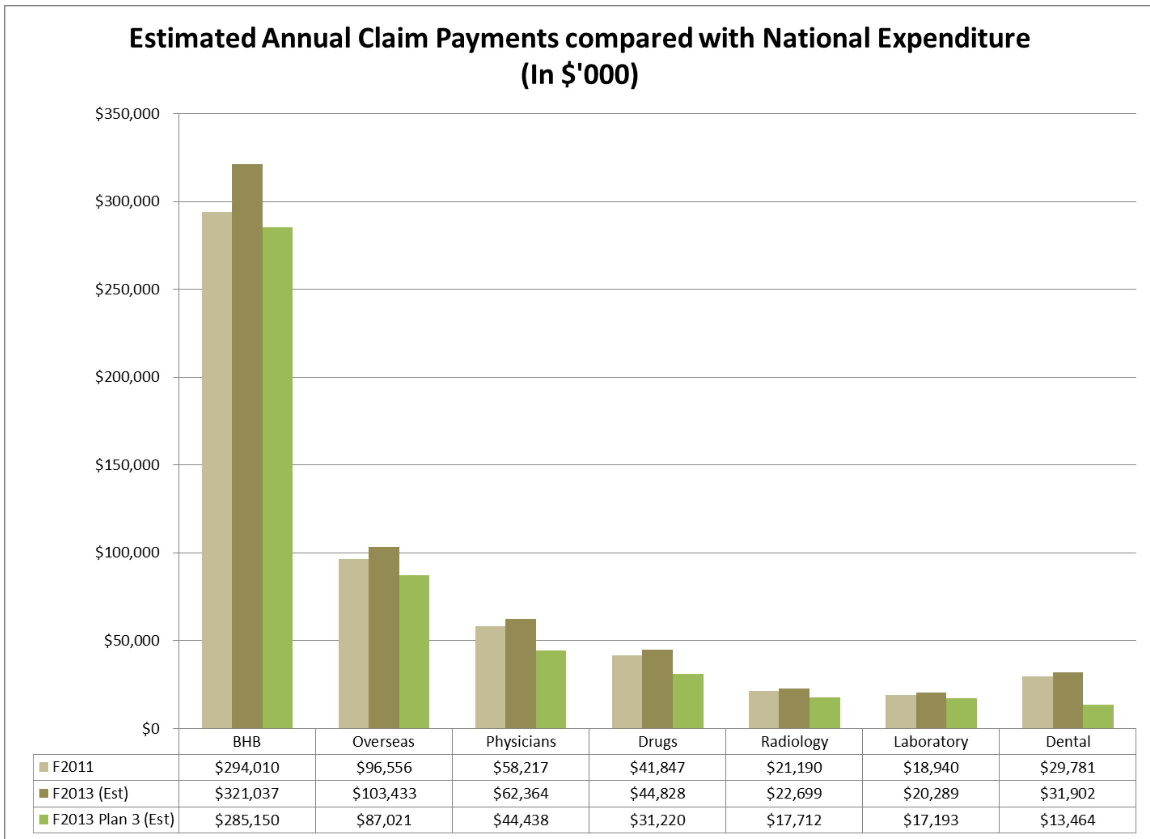
	Local - BHB	Local - Non BHB	Overseas	Total
Plan 3	$133,595	$149,650	$80,165	$363,410
Plan 3(a)	$127,645	$128,162	$85,463	$341,270

Fiscal 2013 - Chart 3



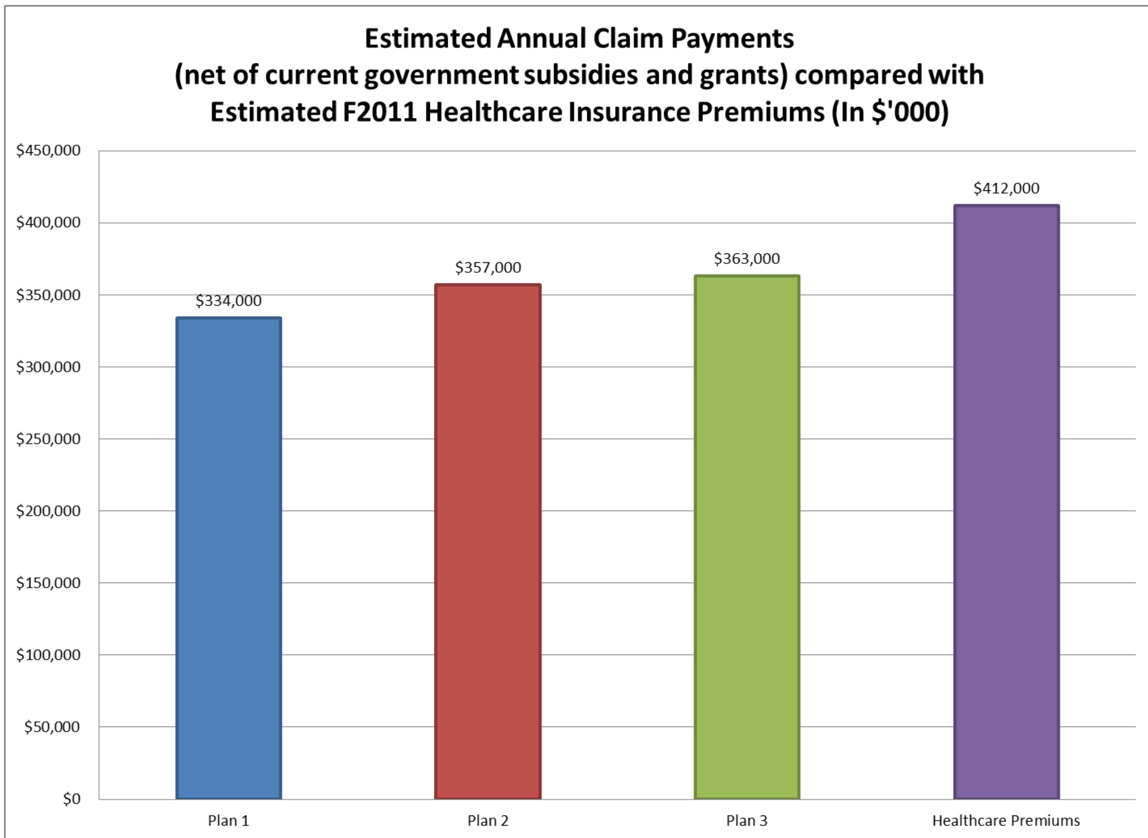
	SHB - Local	SHB - Overseas	MWI	Physicians	Drugs	Laboratory	Dental	Residential Care	Other
F2011 SHB	$237,053	$37,605							
F2013 SHB (Est)	$259,917	$39,343							
F2013 Plan 3 (Est)	$256,862	$87,021	$46,000	$44,438	$31,220	$17,193	$13,464	$8,972	$8,613

Fiscal 2013 - Chart 4

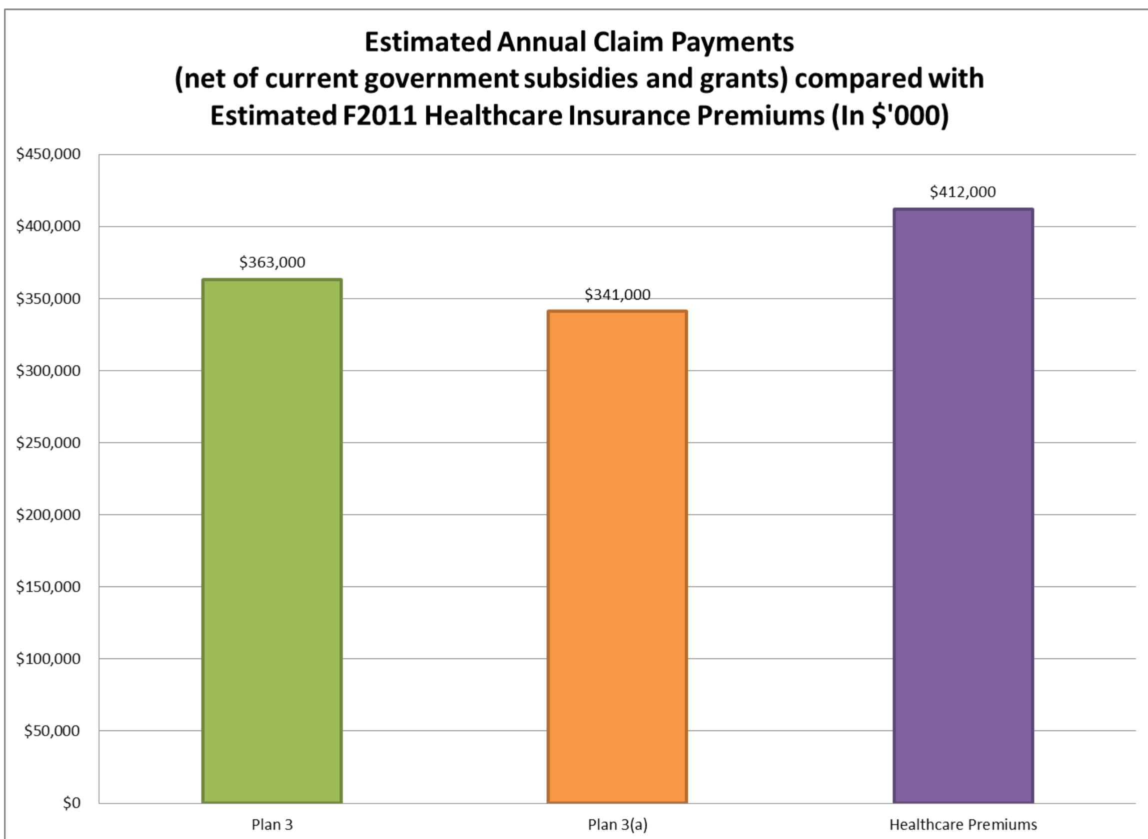


	BHB	Overseas	Physicians	Drugs	Radiology	Laboratory	Dental
F2011	$294,010	$96,556	$58,217	$41,847	$21,190	$18,940	$29,781
F2013 (Est)	$321,037	$103,433	$62,364	$44,828	$22,699	$20,289	$31,902
F2013 Plan 3 (Est)	$285,150	$87,021	$44,438	$31,220	$17,712	$17,193	$13,464

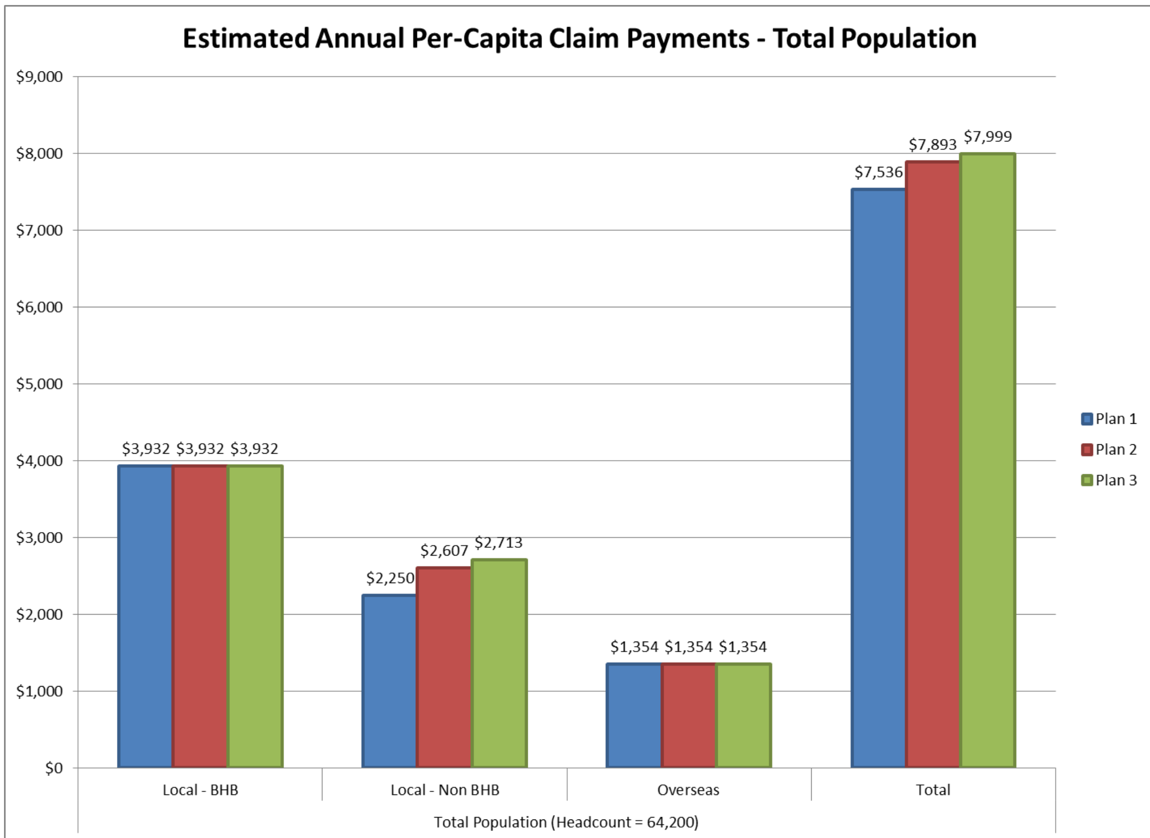
Fiscal 2013 - Chart 5



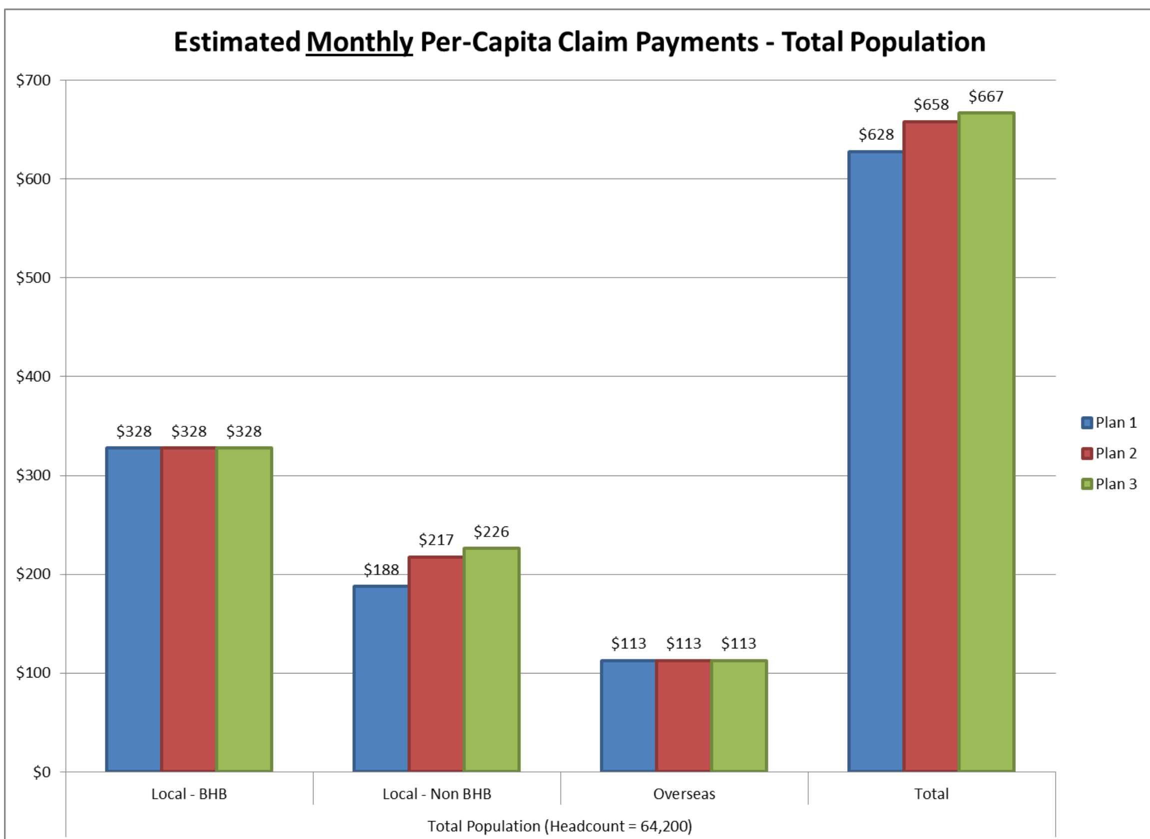
Fiscal 2013 - Chart 5a, with Plan 3a



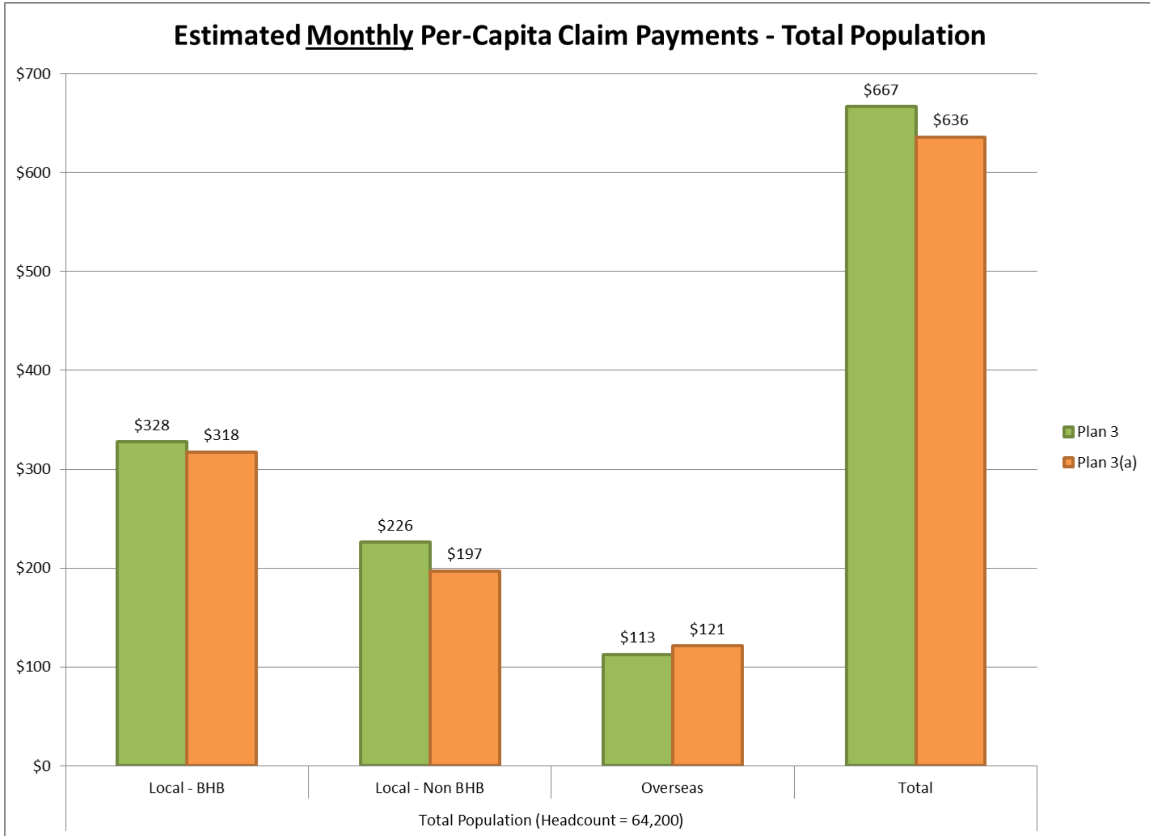
Fiscal 2013 - Chart 6



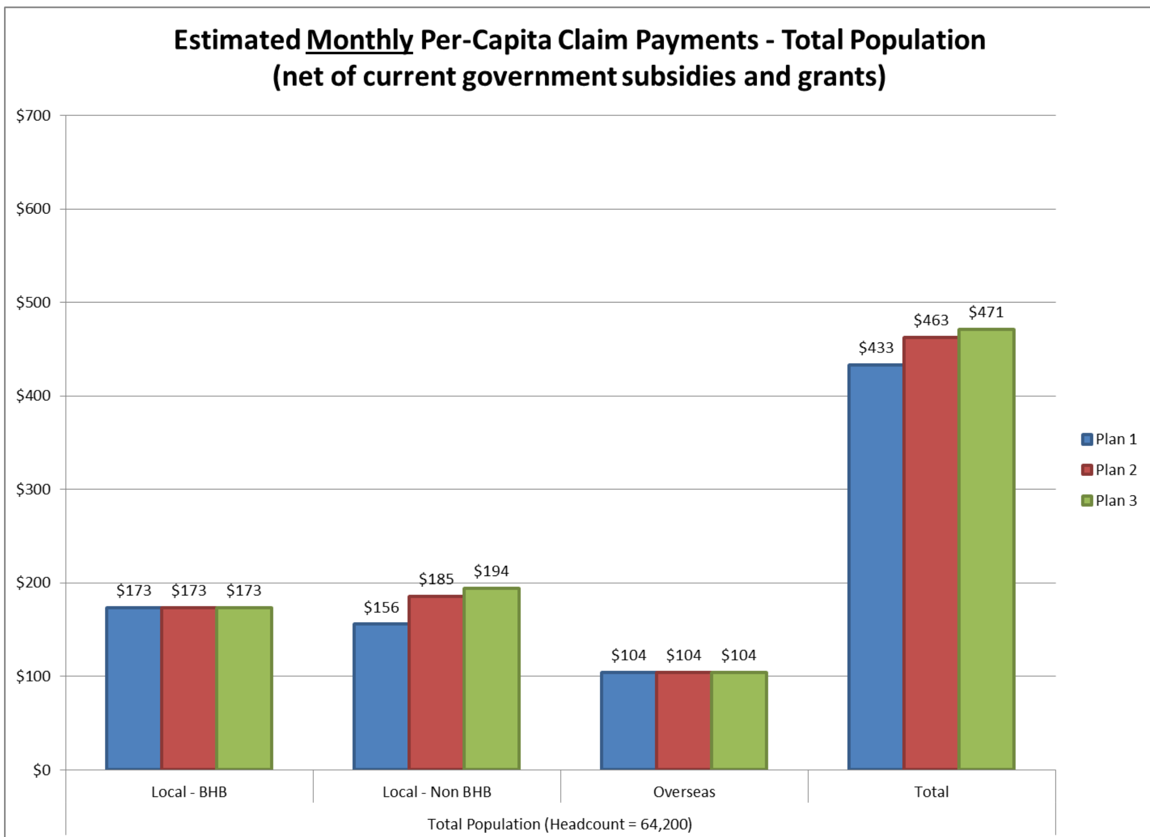
Fiscal 2013 - Chart 7



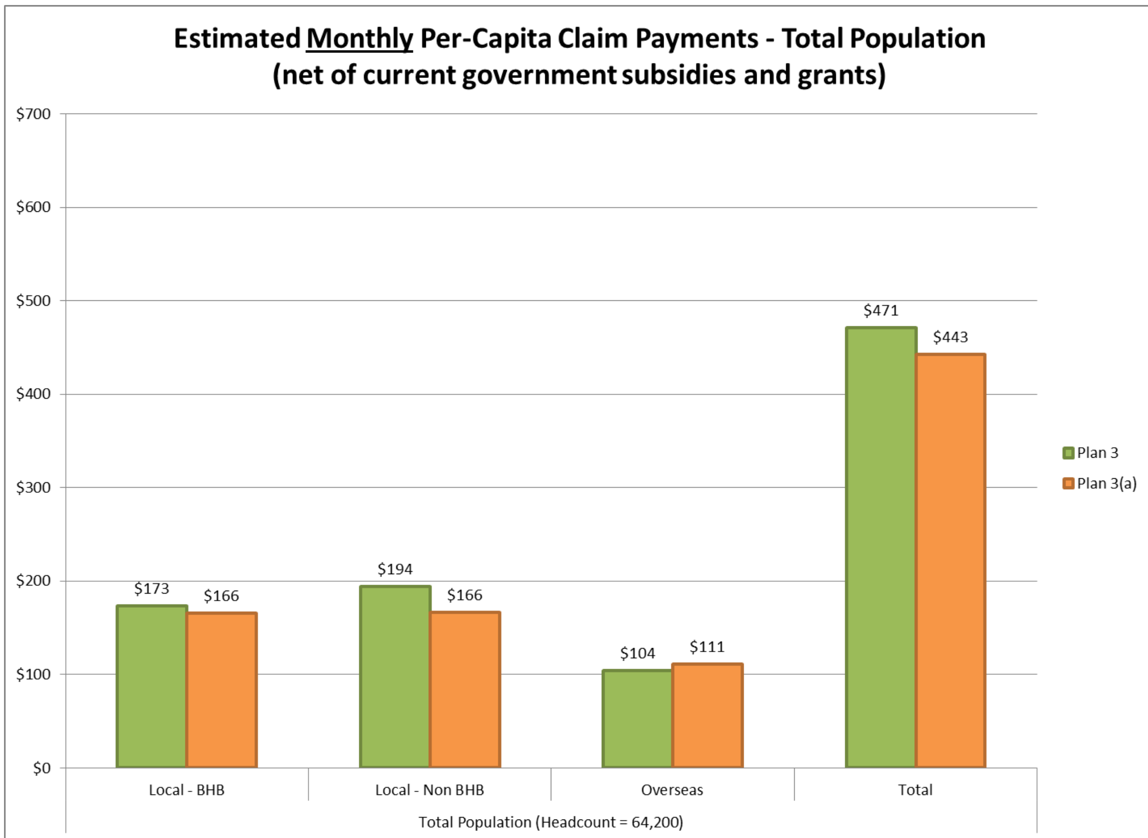
Fiscal 2013 - Chart 7a, with Plan 3a



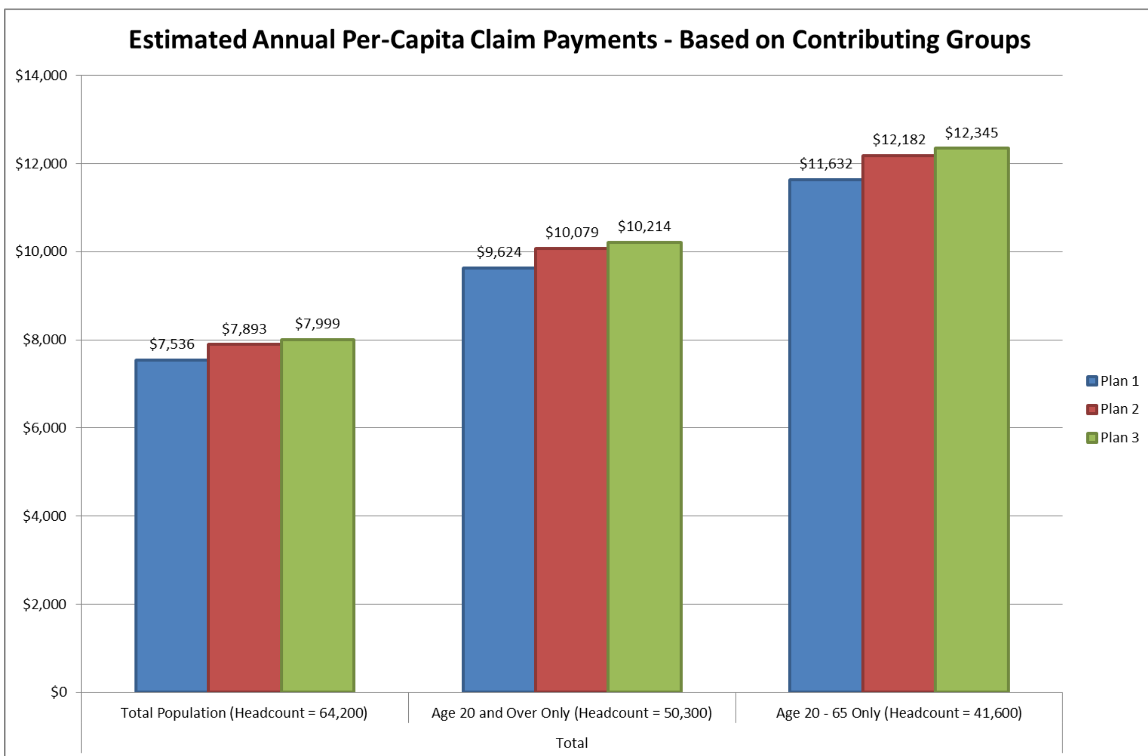
Fiscal 2013 - Chart 8



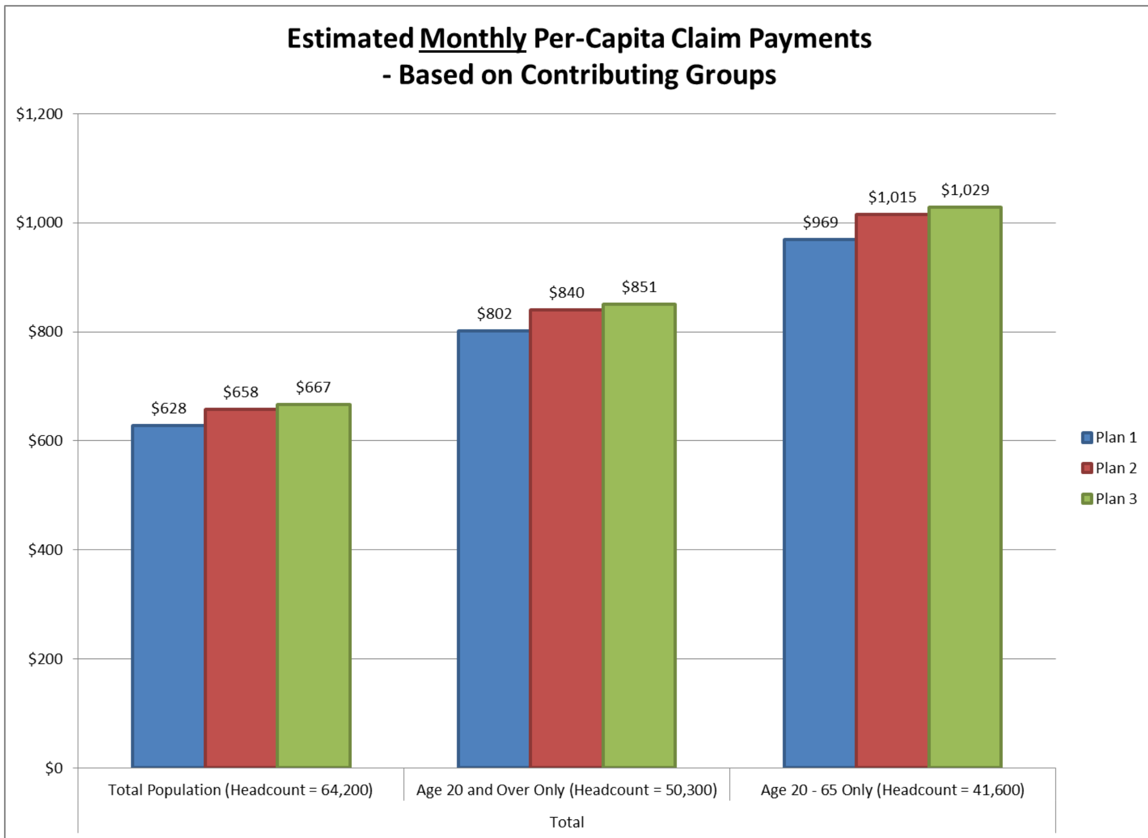
Fiscal 2013 - Chart 8a, with Plan 3a



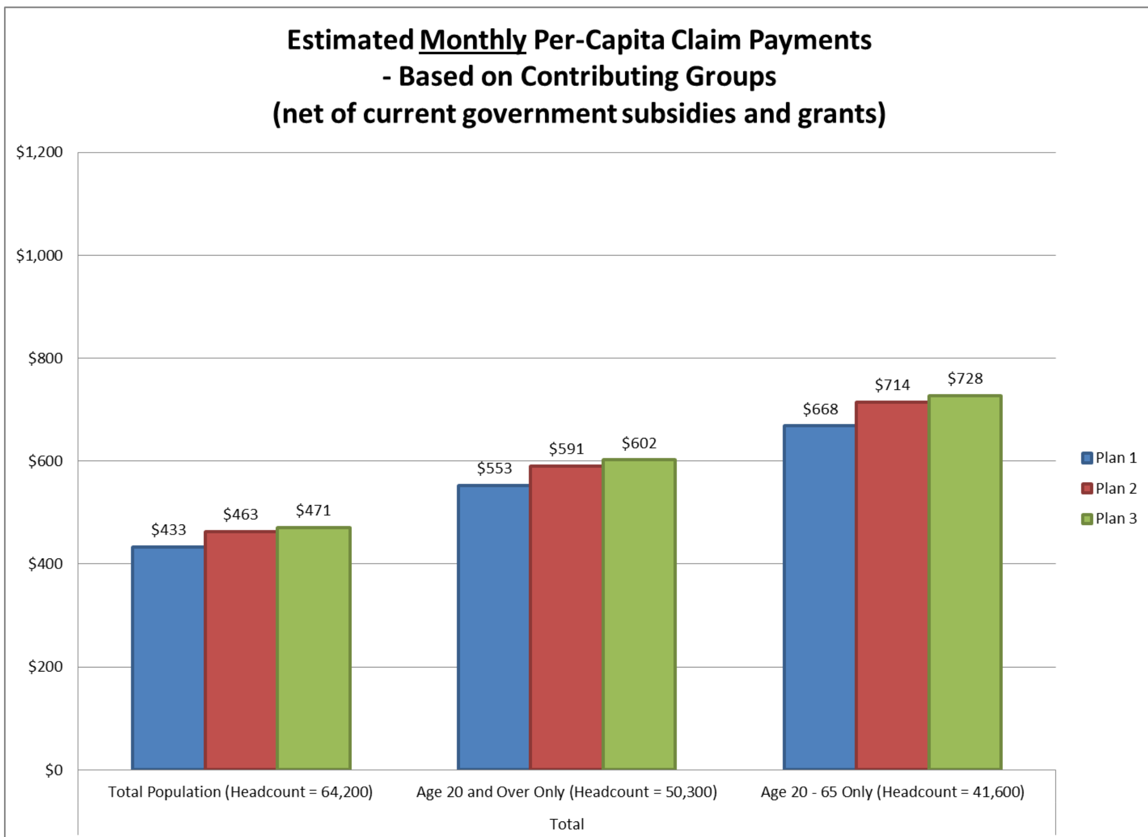
Fiscal 2013 - Chart 9



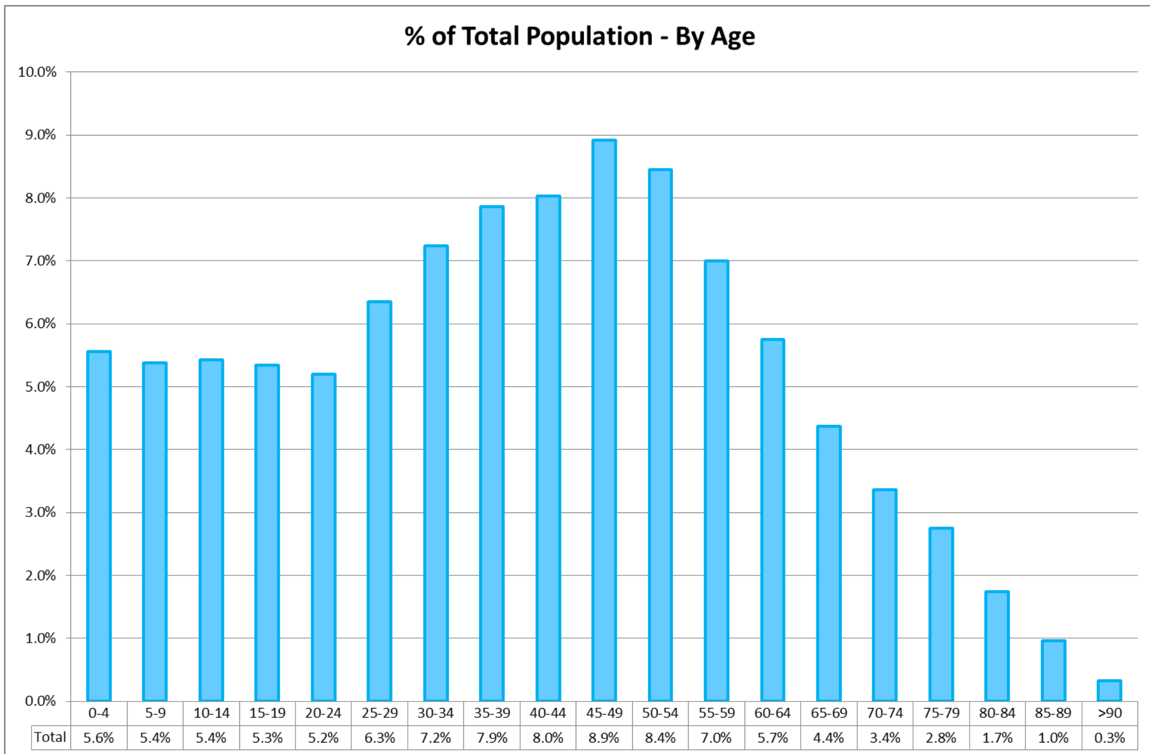
Fiscal 2013 - Chart 10



Fiscal 2013 - Chart 11

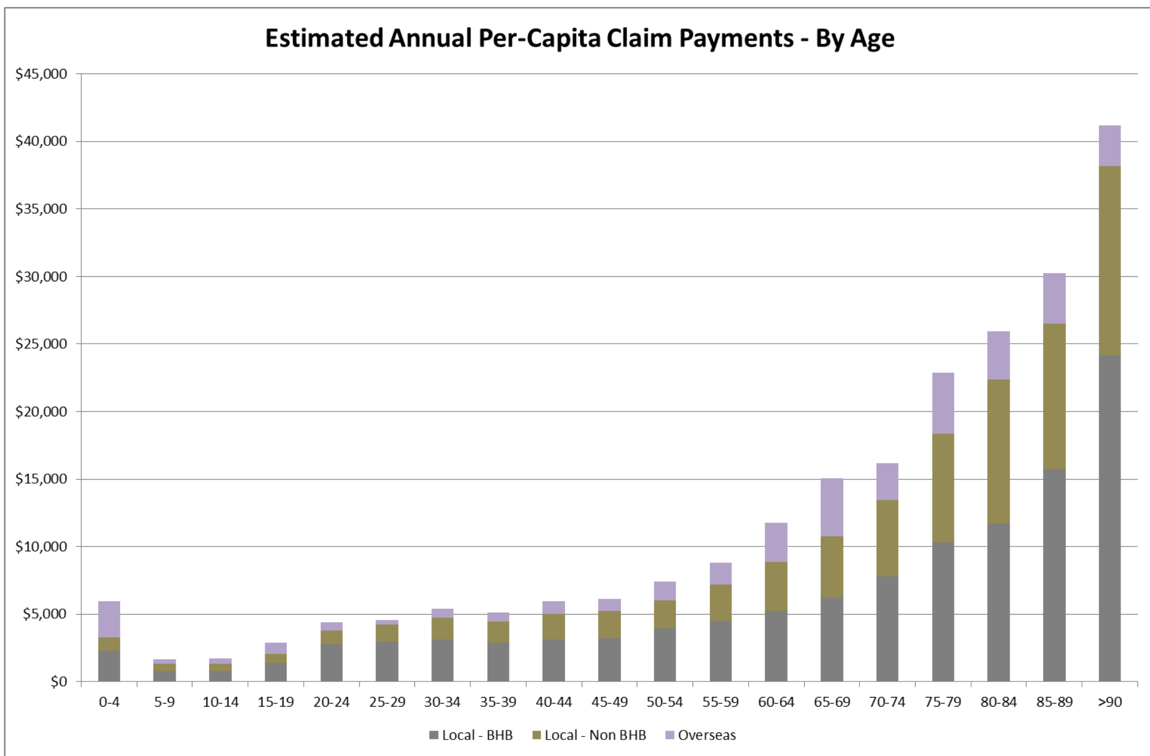


Fiscal 2013 - Chart 12

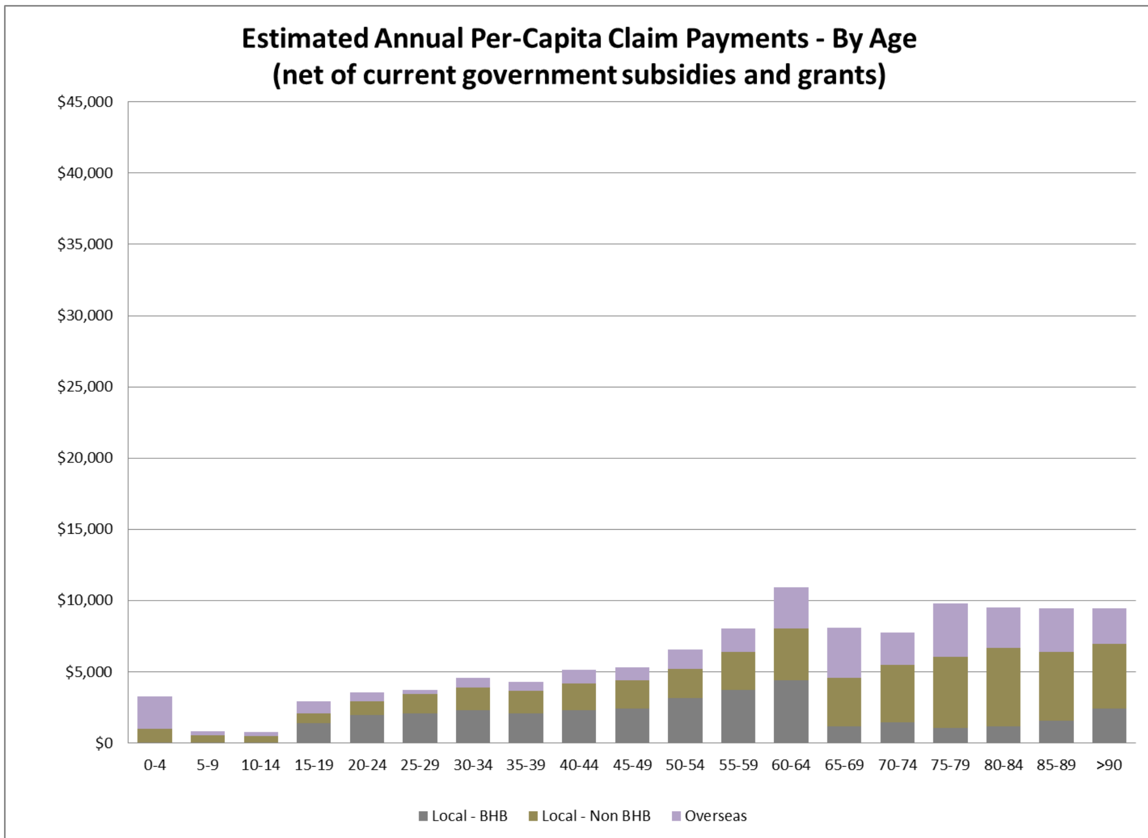


	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	>90
Total	5.6%	5.4%	5.4%	5.3%	5.2%	6.3%	7.2%	7.9%	8.0%	8.9%	8.4%	7.0%	5.7%	4.4%	3.4%	2.8%	1.7%	1.0%	0.3%

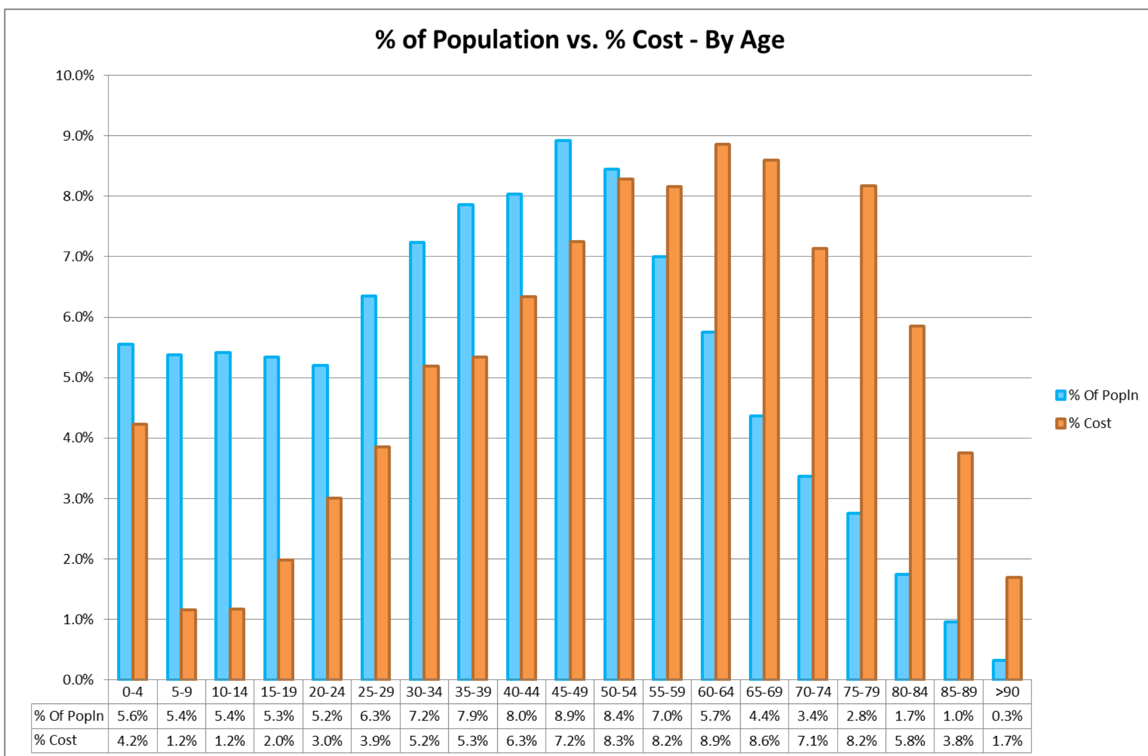
Fiscal 2013 - Chart 13, with Plan 3a



Fiscal 2013 - Chart 14, with Plan 3a

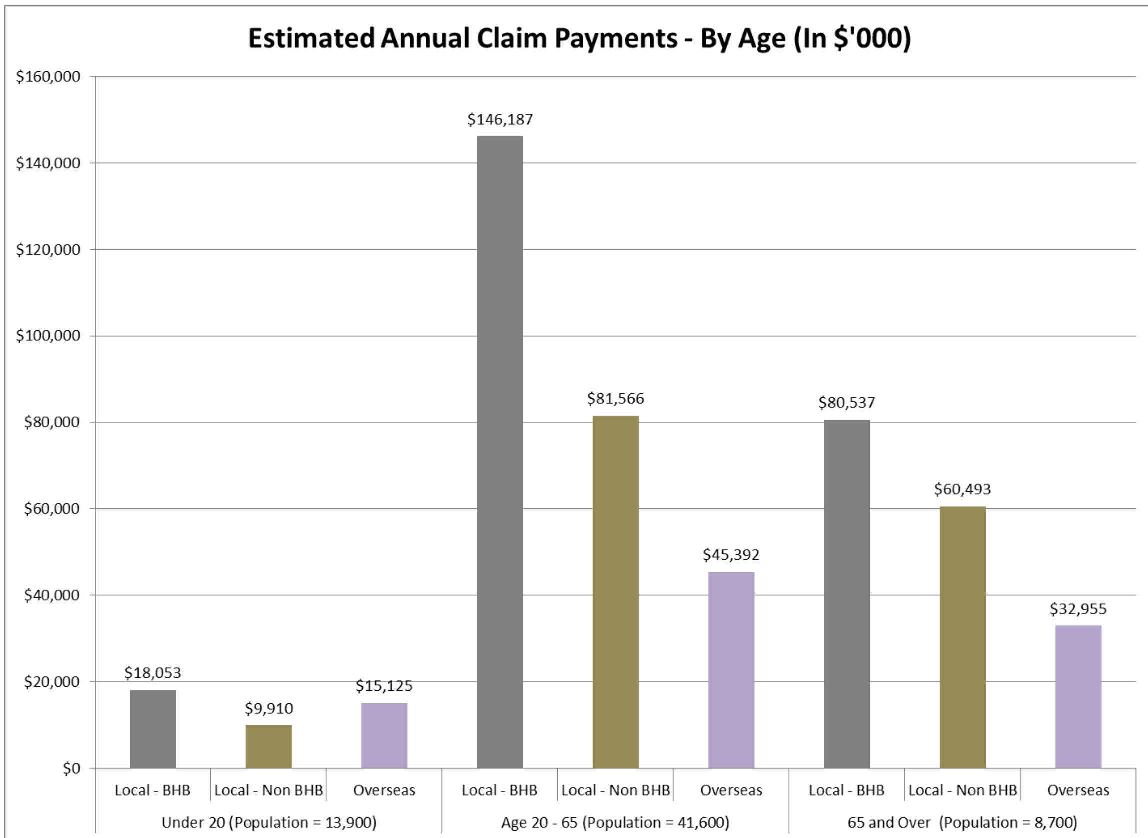


Fiscal 2013 - Chart 15, with Plan 3a

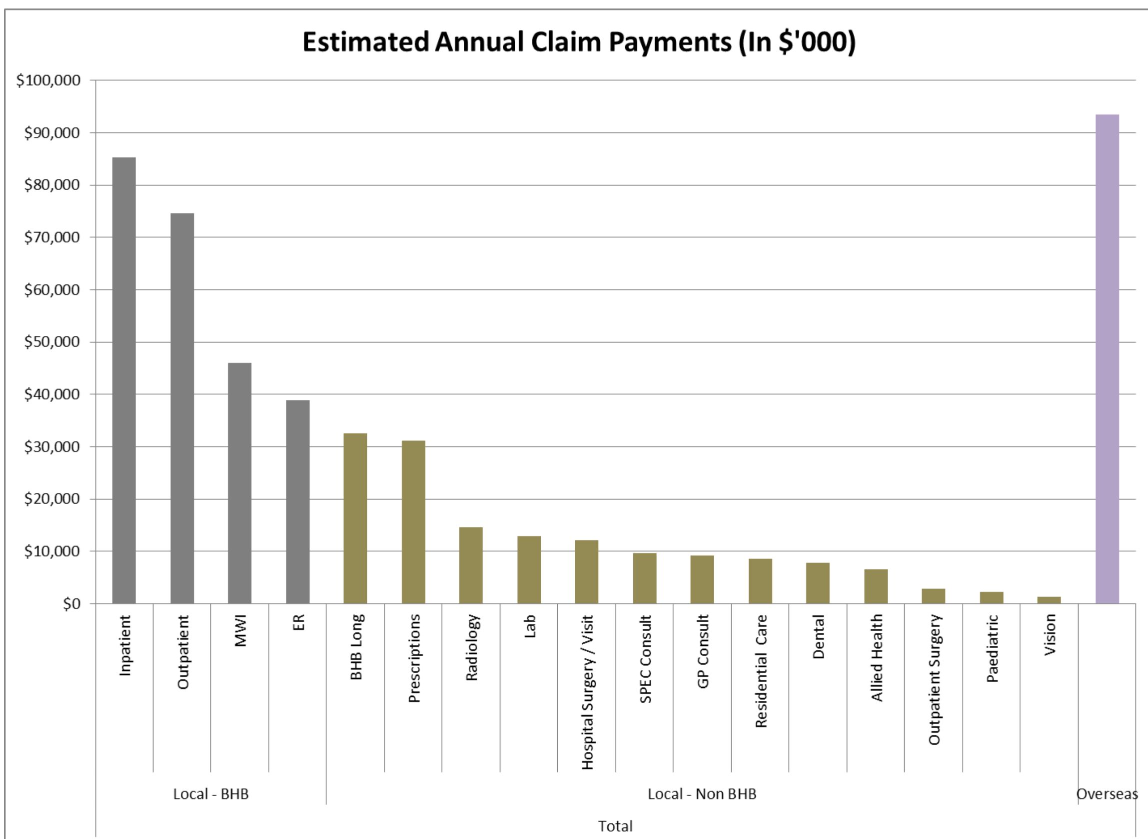


	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	>90
% Of Popln	5.6%	5.4%	5.4%	5.3%	5.2%	6.3%	7.2%	7.9%	8.0%	8.9%	8.4%	7.0%	5.7%	4.4%	3.4%	2.8%	1.7%	1.0%	0.3%
% Cost	4.2%	1.2%	1.2%	2.0%	3.0%	3.9%	5.2%	5.3%	6.3%	7.2%	8.3%	8.2%	8.9%	8.6%	7.1%	8.2%	5.8%	3.8%	1.7%

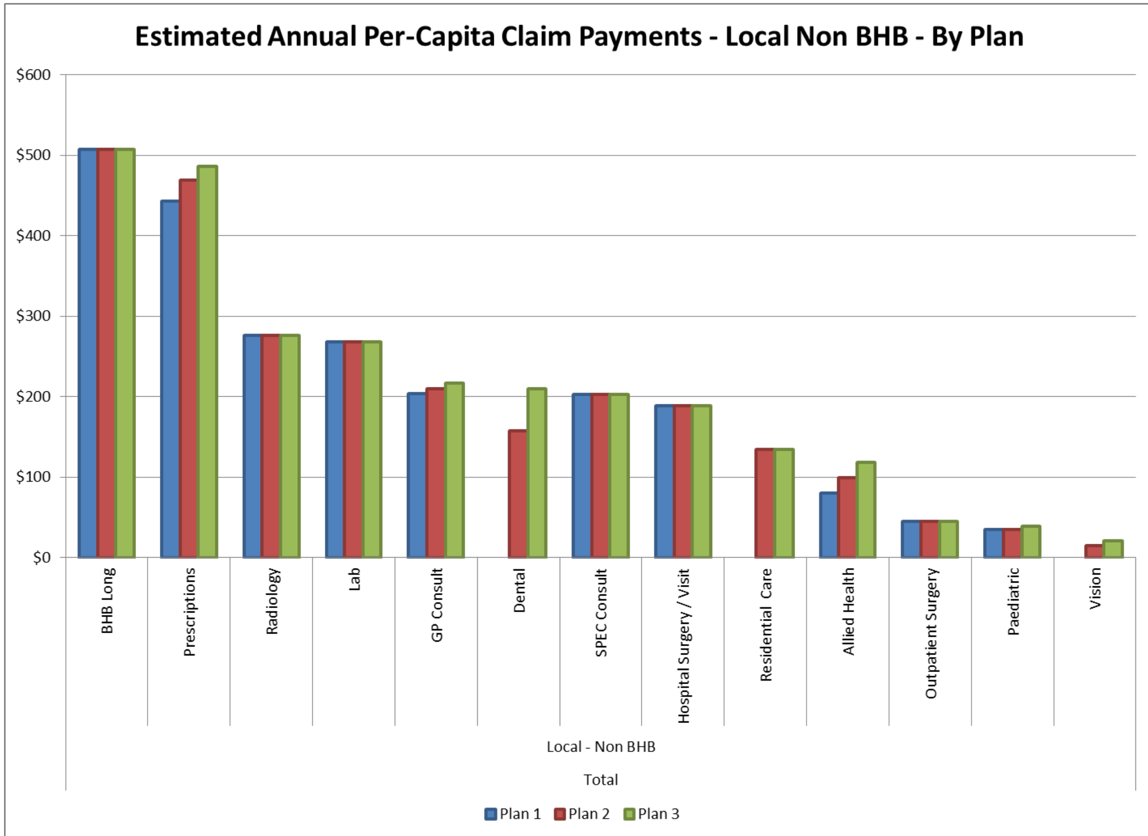
Fiscal 2013 - Chart 16, with Plan 3a



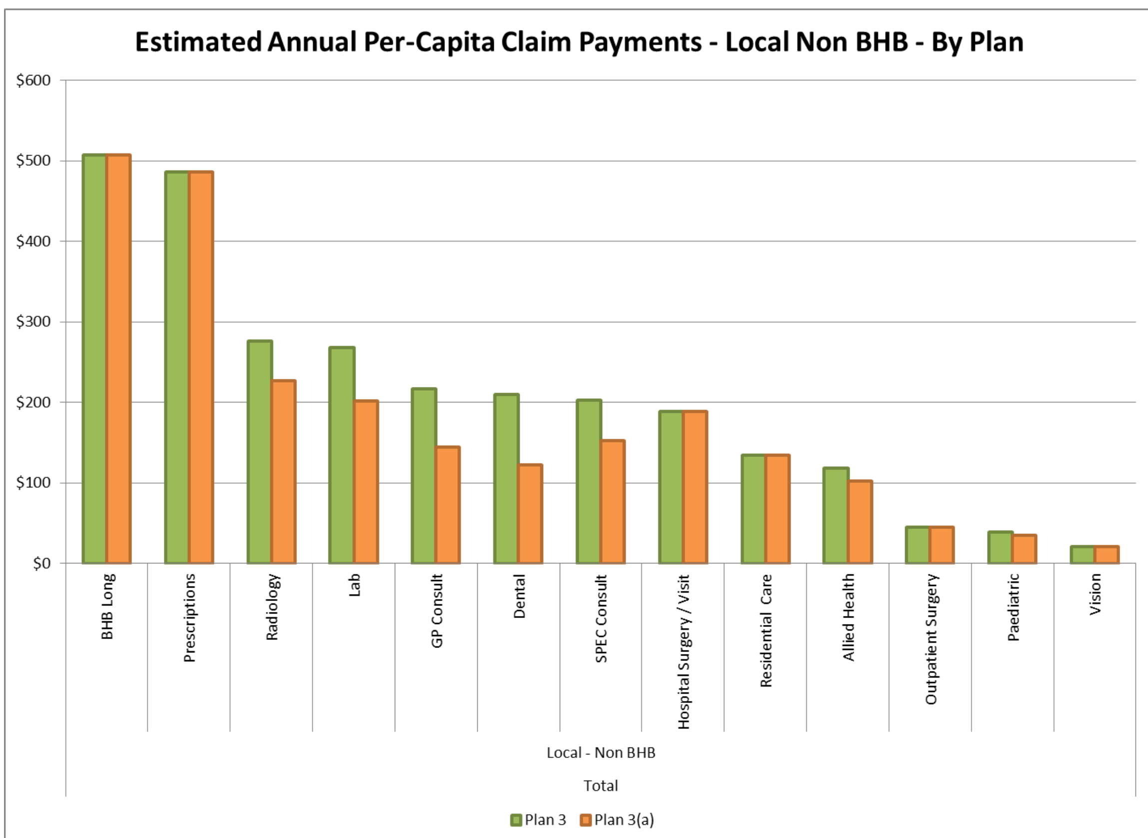
Fiscal 2013 - Chart 17, with Plan 3a



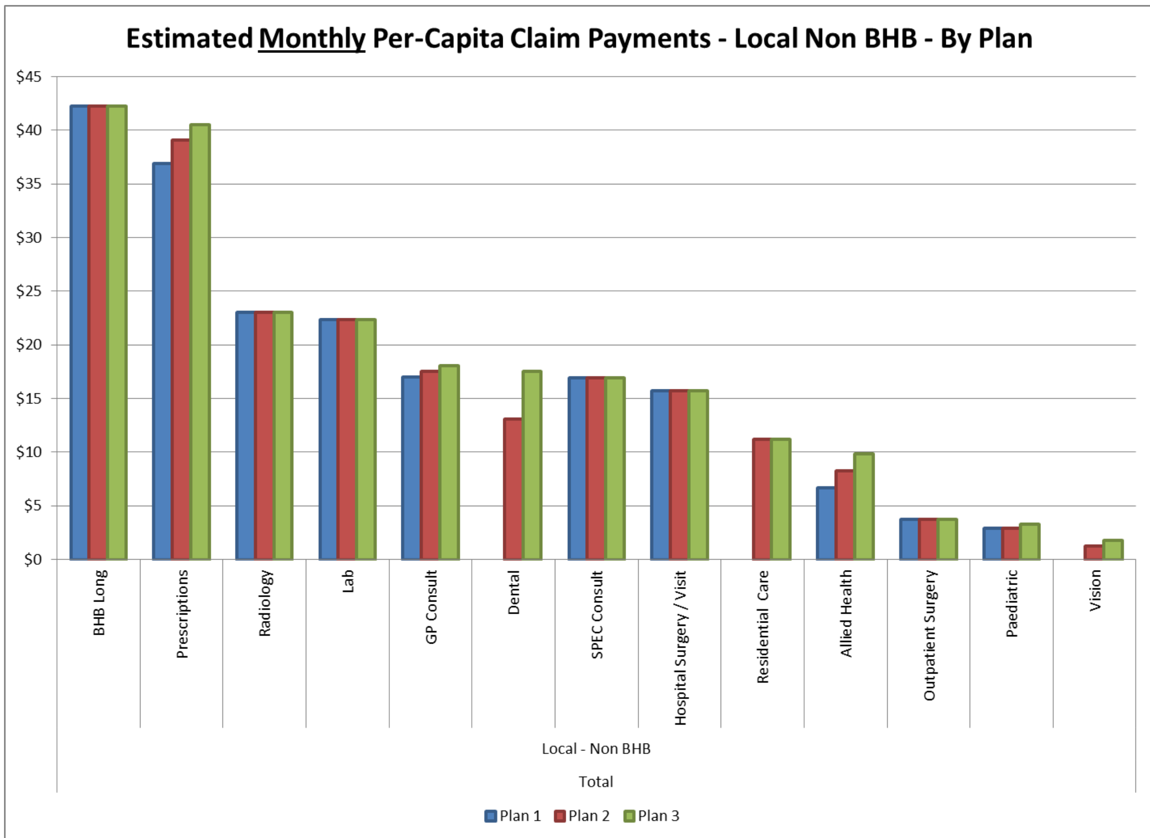
Fiscal 2013 - Chart 18



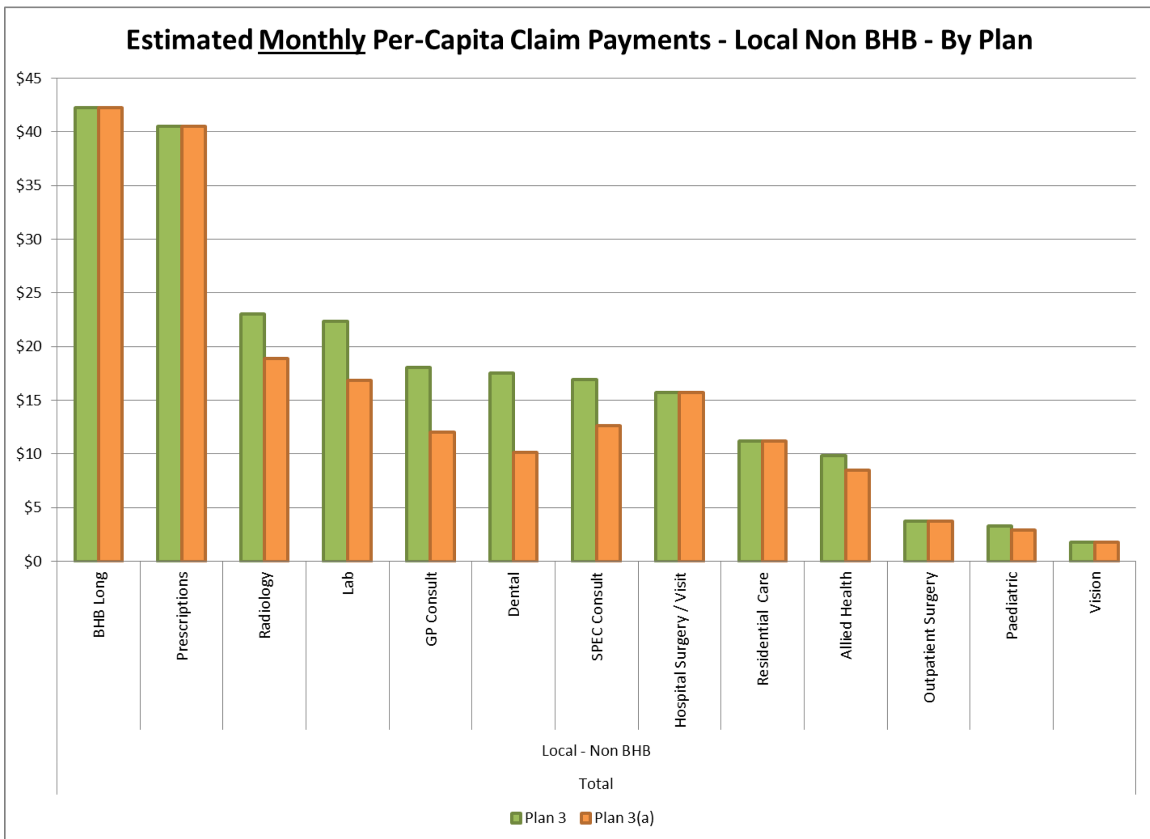
Fiscal 2013 - Chart 18a, with Plan 3a



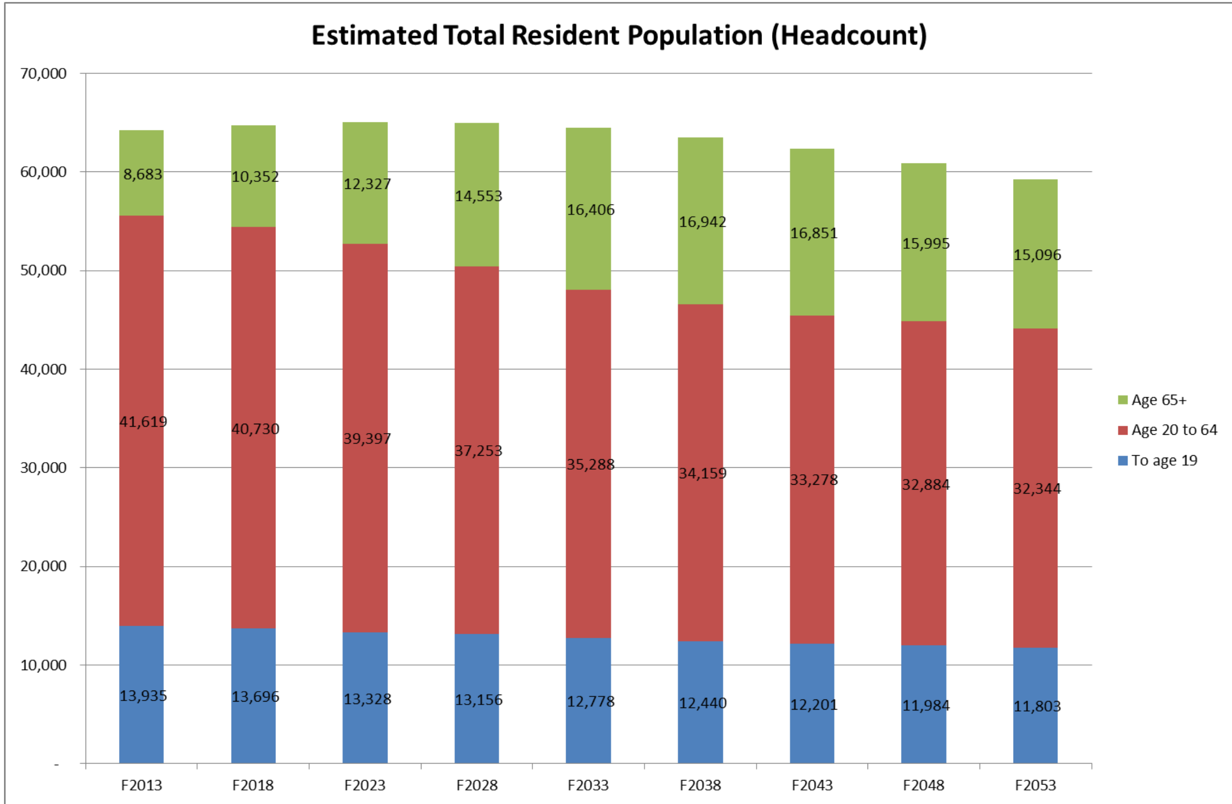
Fiscal 2013 - Chart 19



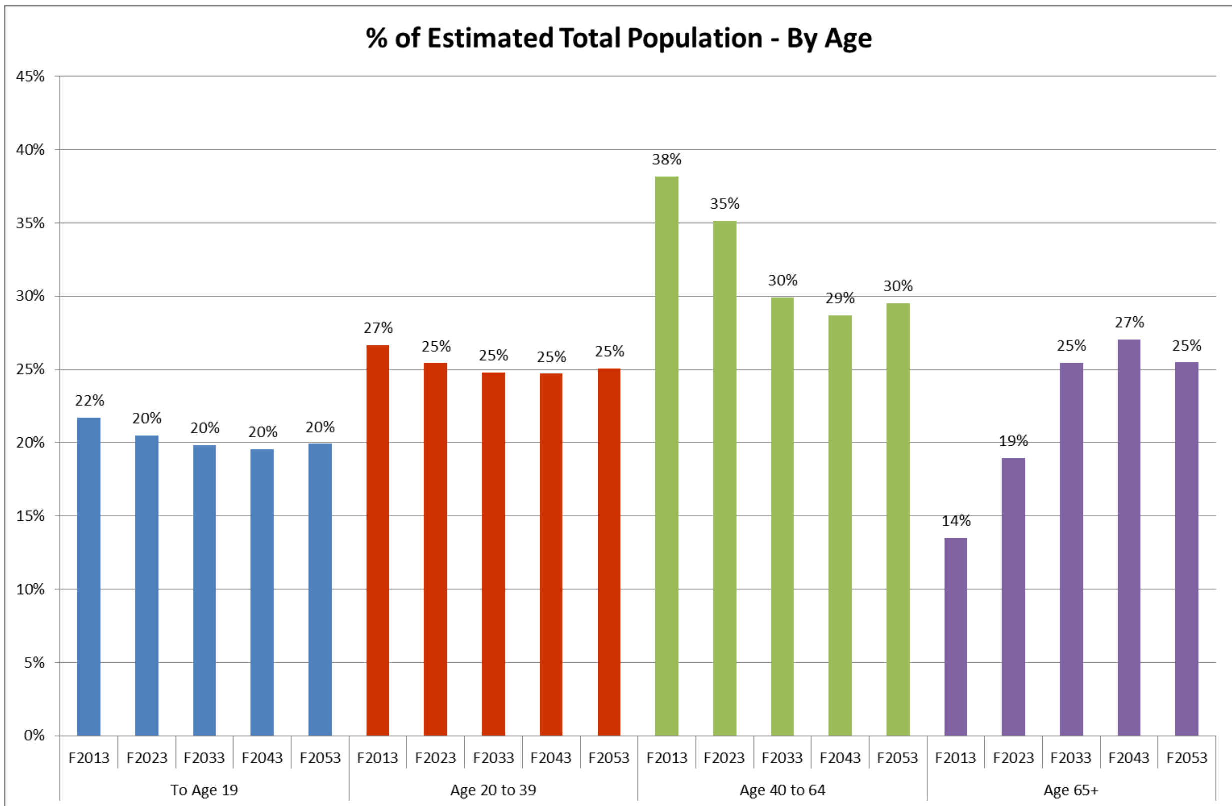
Fiscal 2013 - Chart 19, with Plan 3a



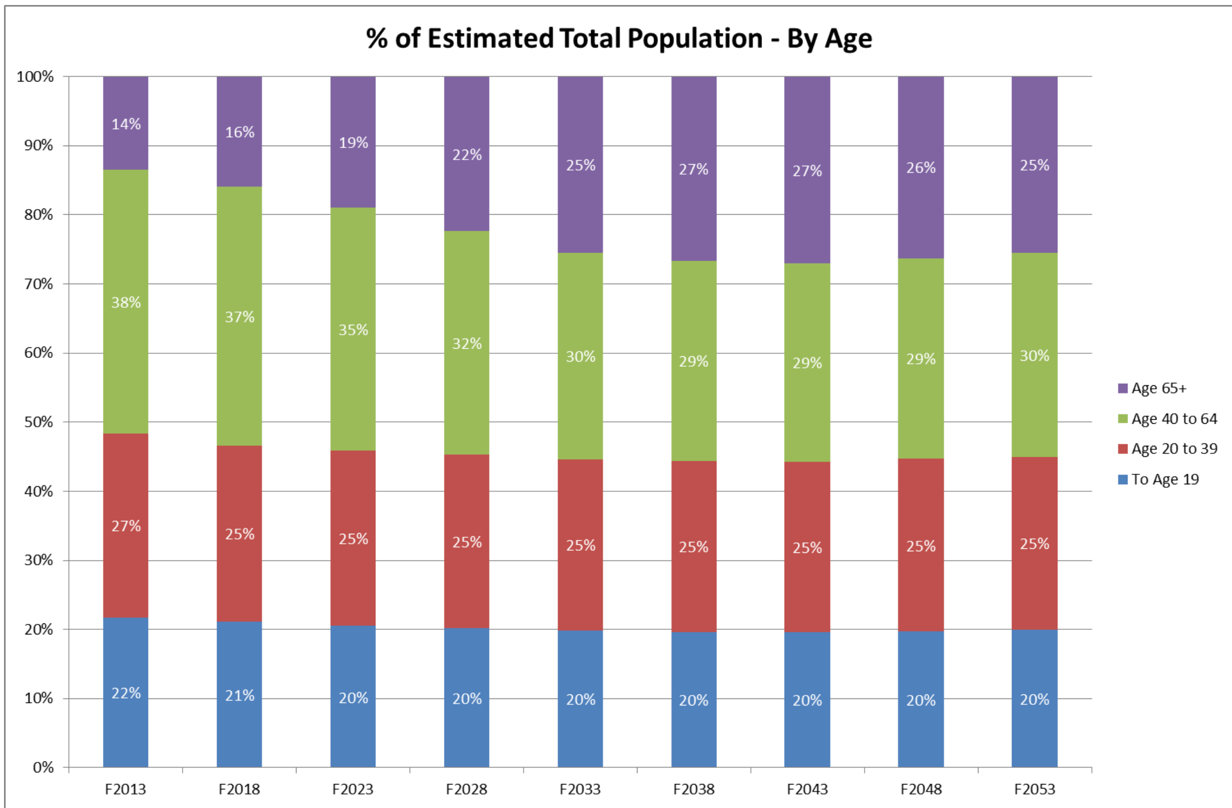
Projections - Chart 1



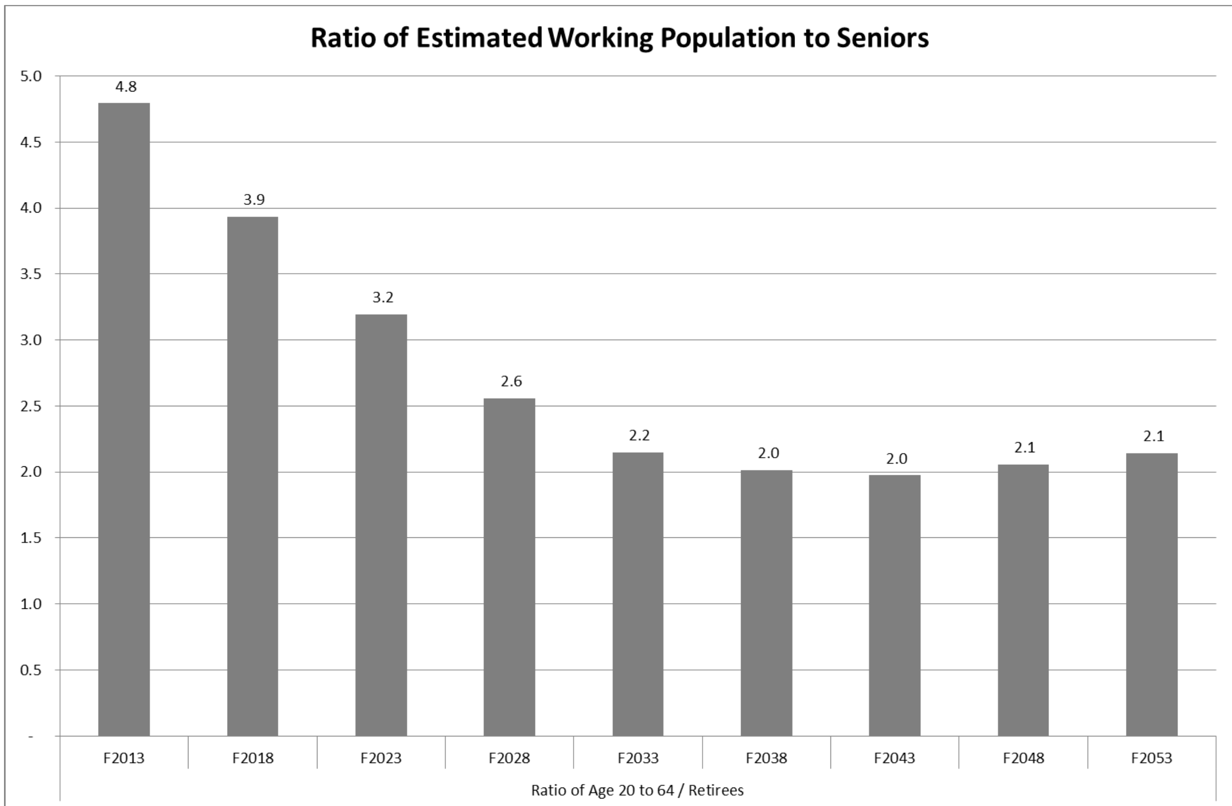
Projections - Chart 2



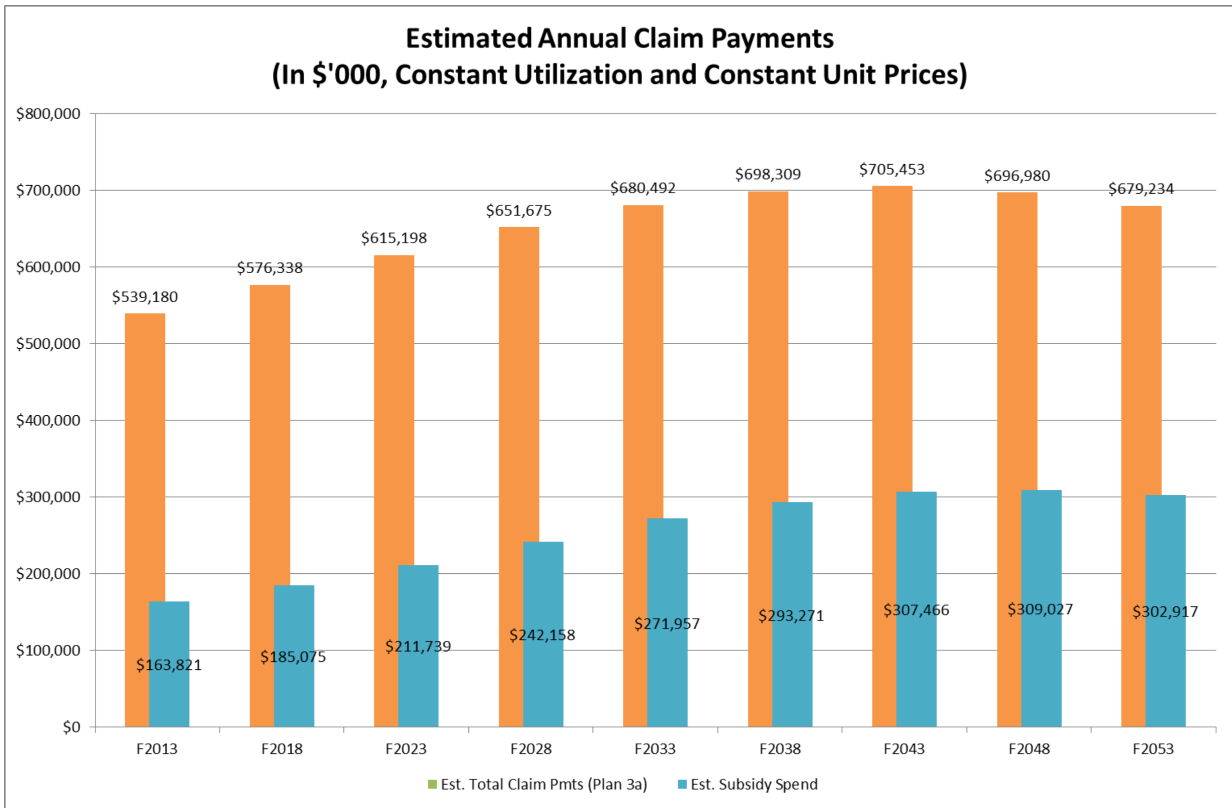
Projections - Chart 3



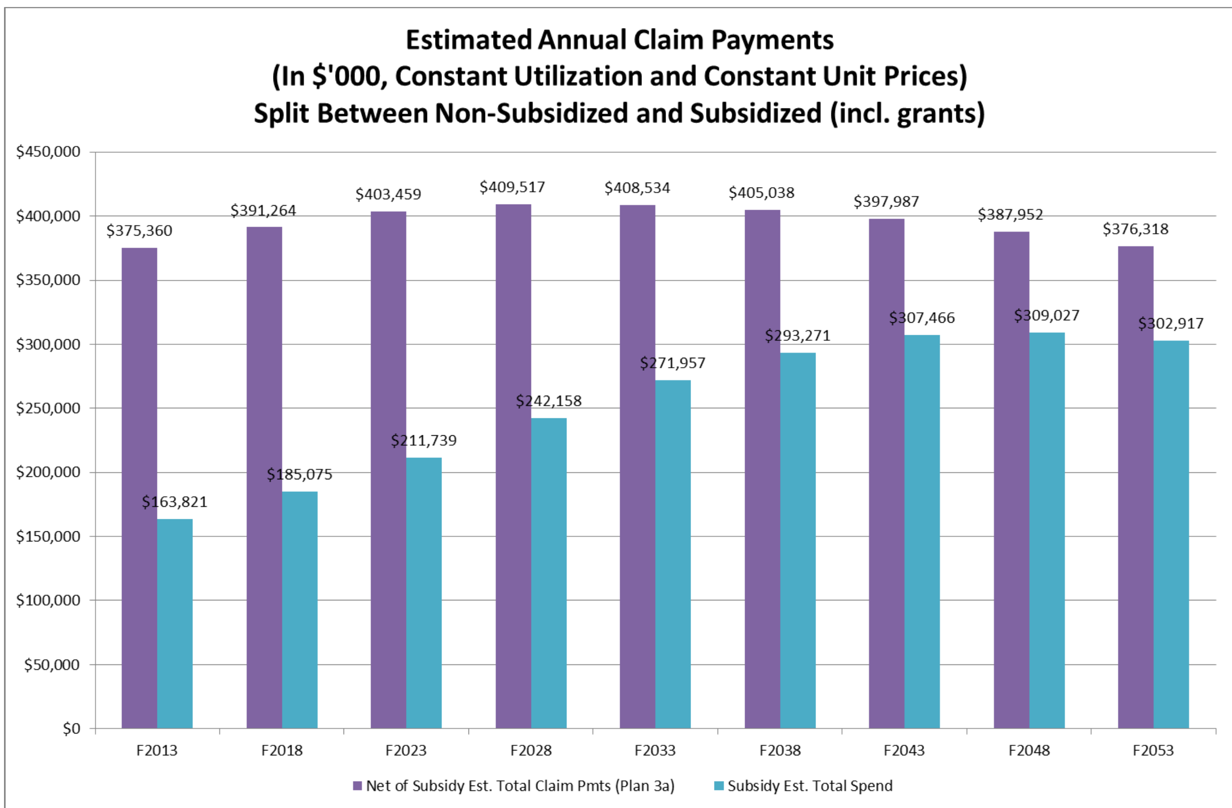
Projections - Chart 4



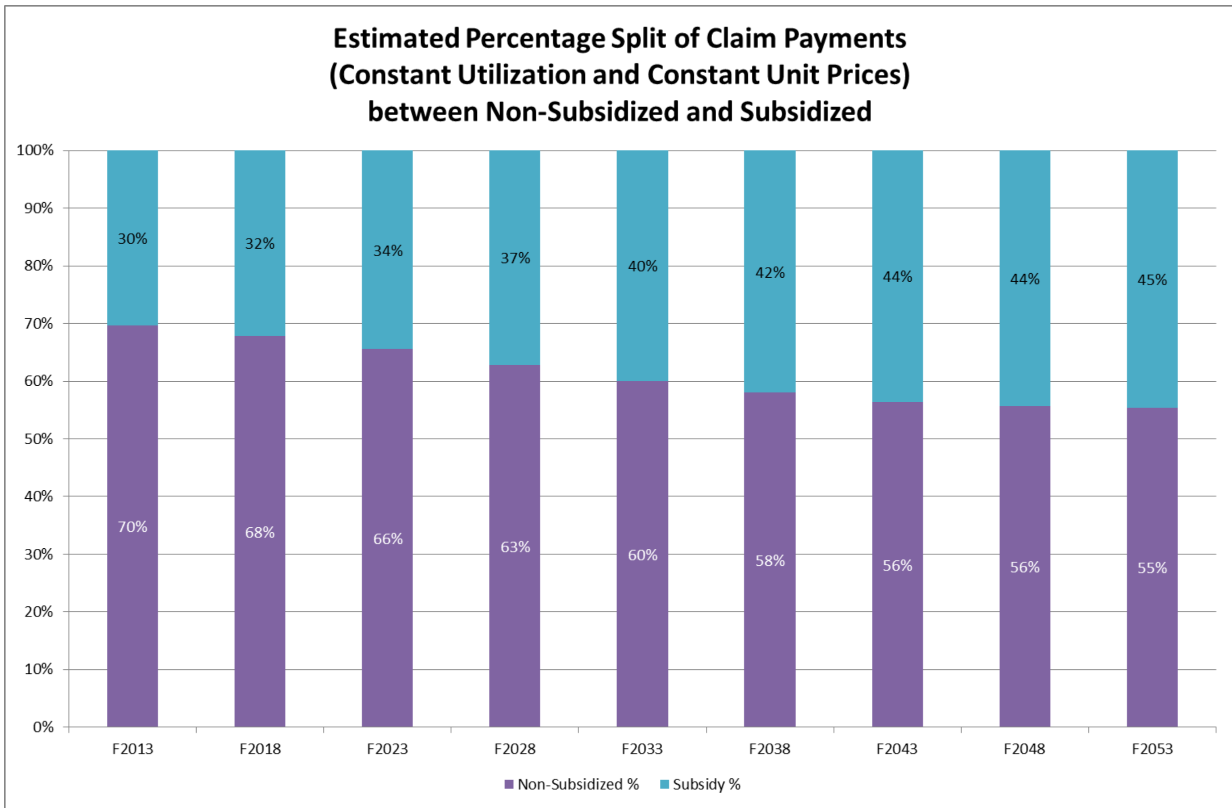
Projections - Chart 5



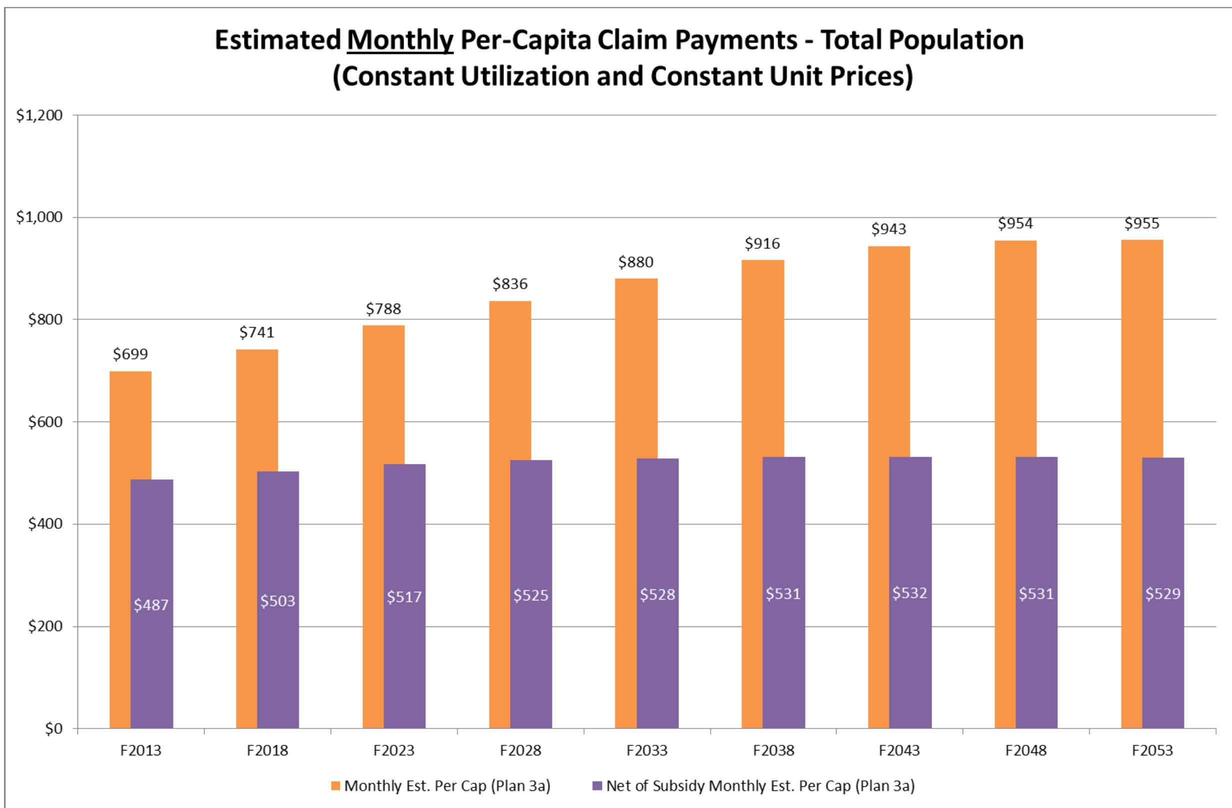
Projections - Chart 6



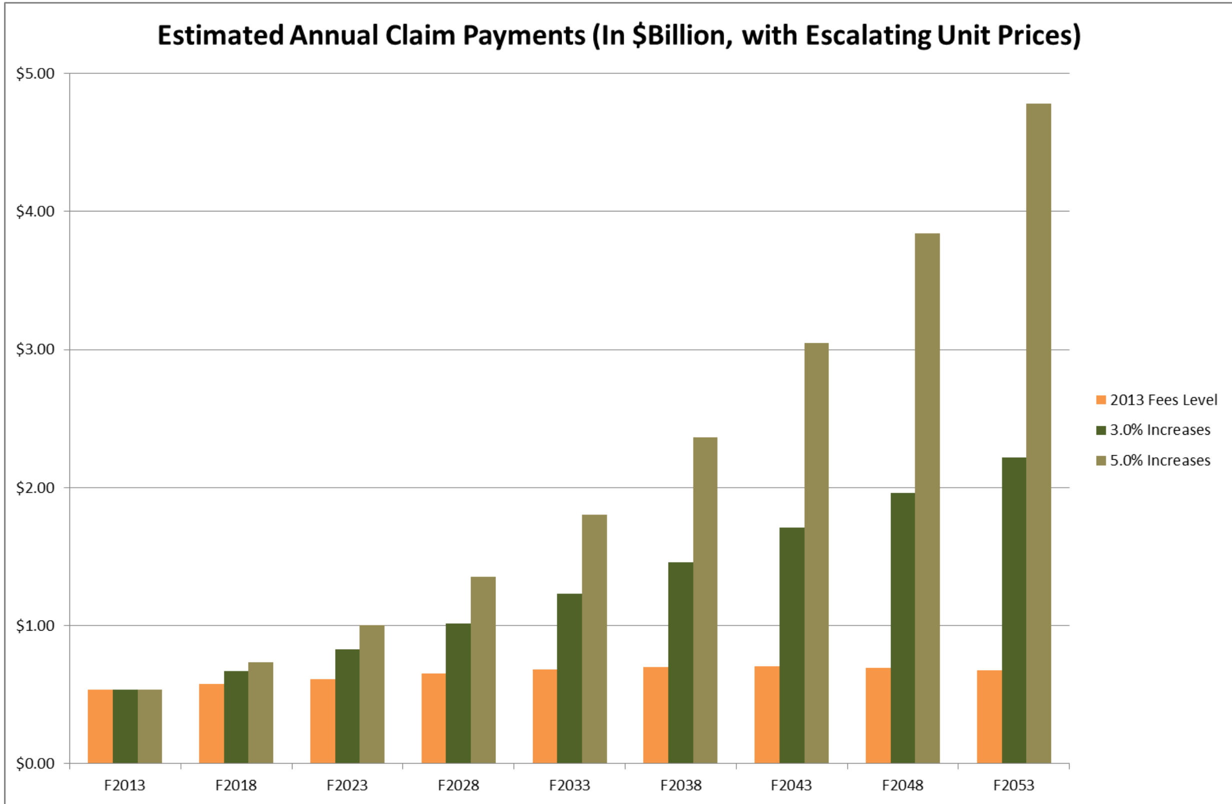
Projections - Chart 7



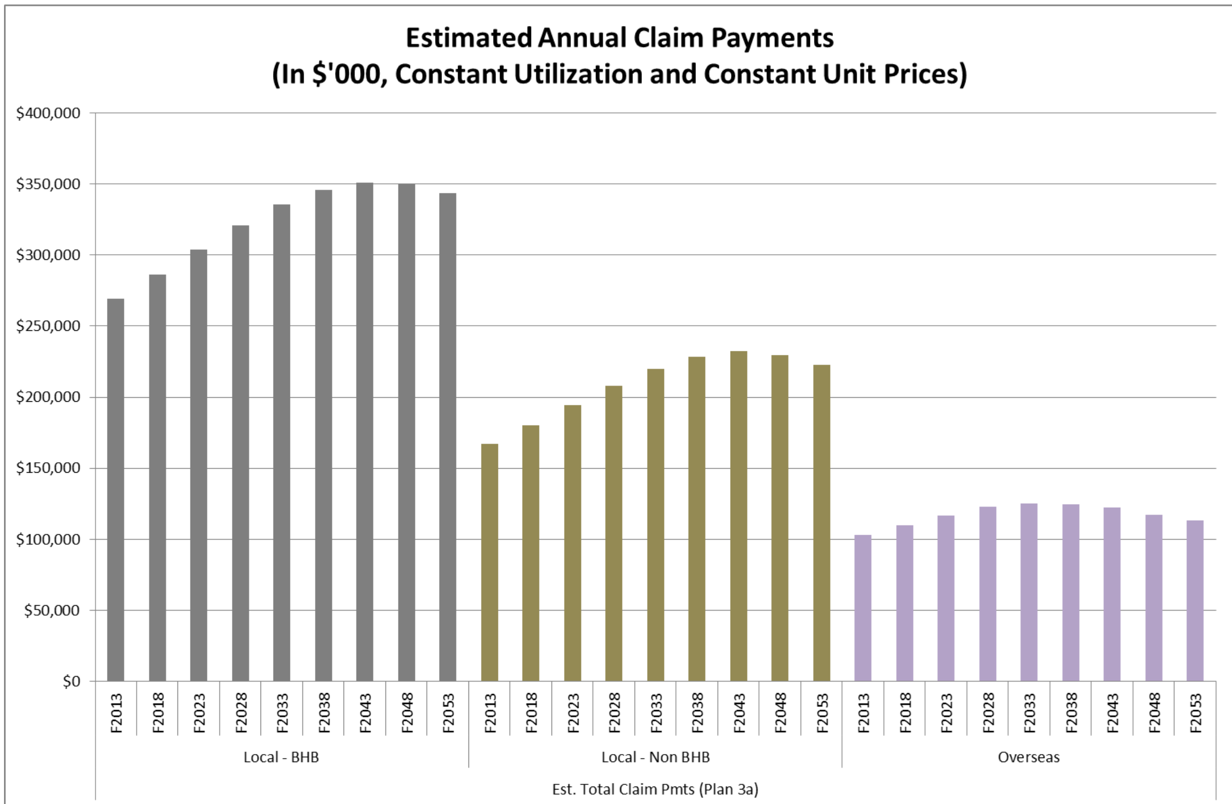
Projections - Chart 8



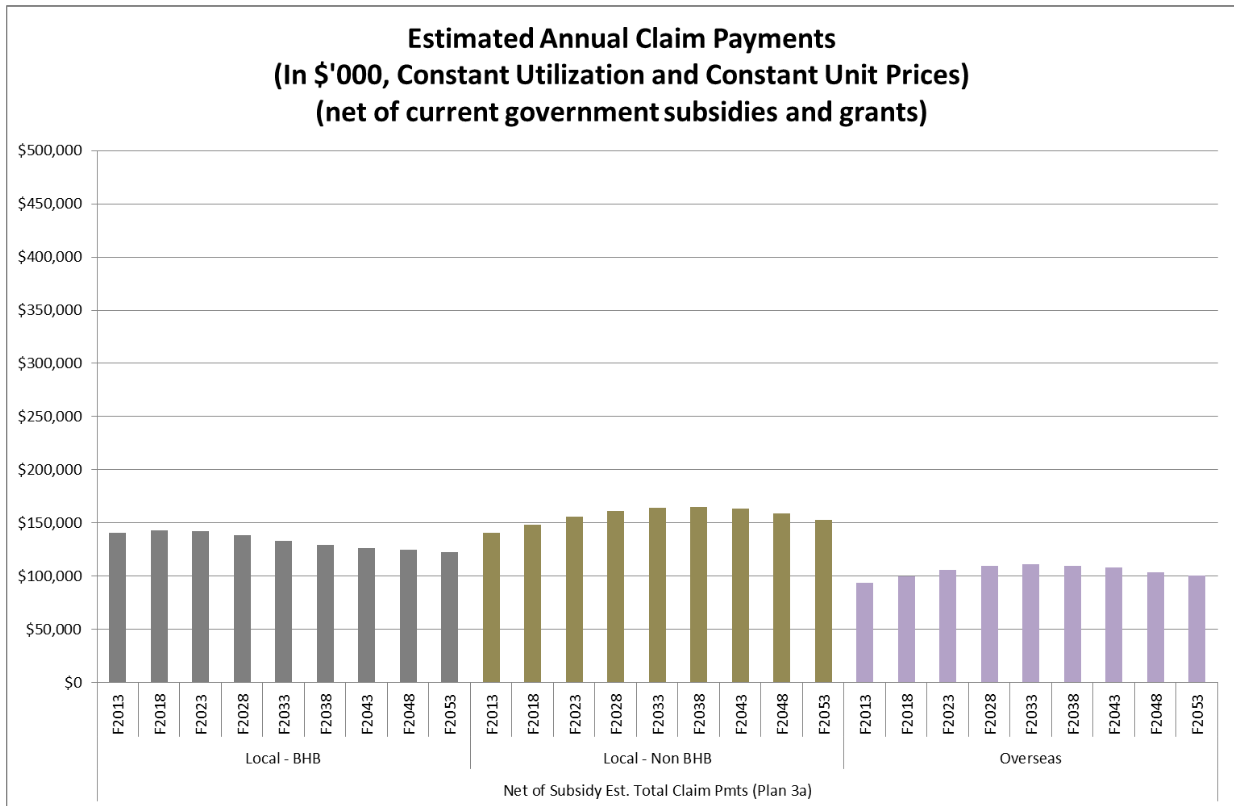
Projections - Chart 9



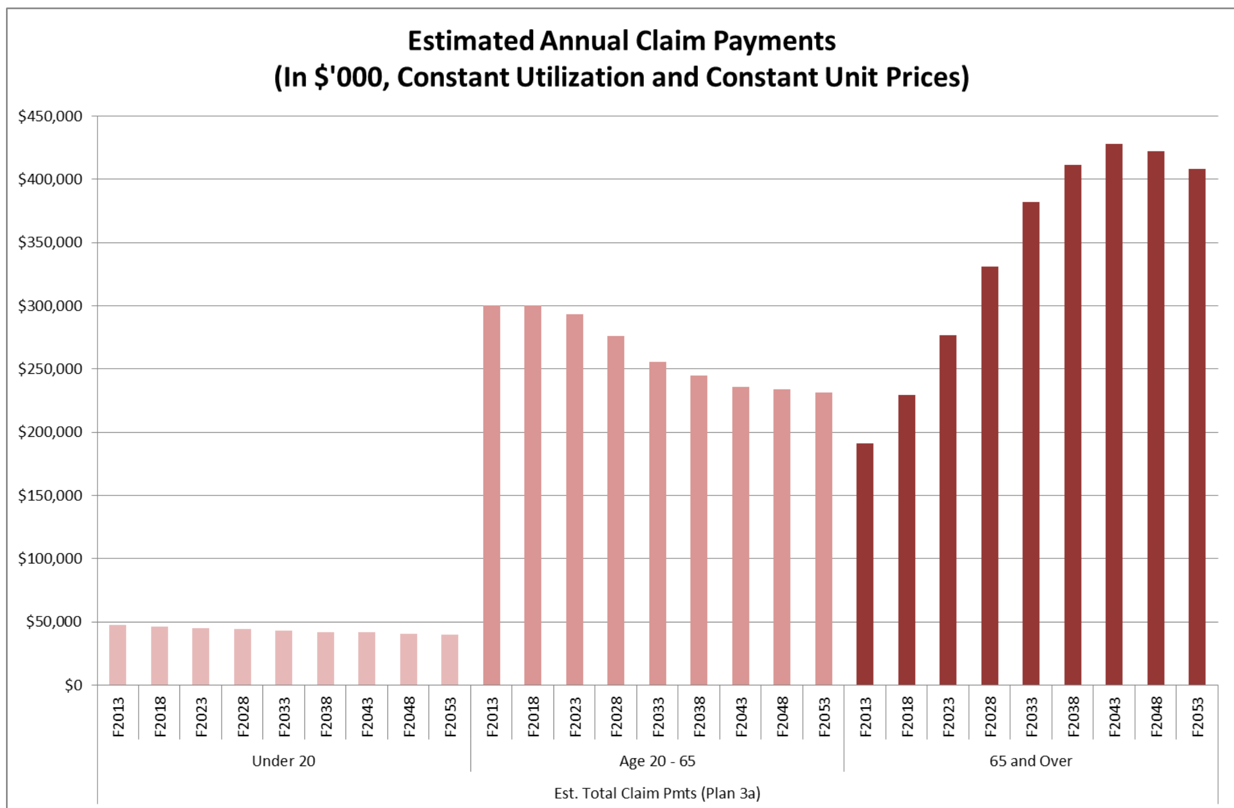
Projections - Chart 10



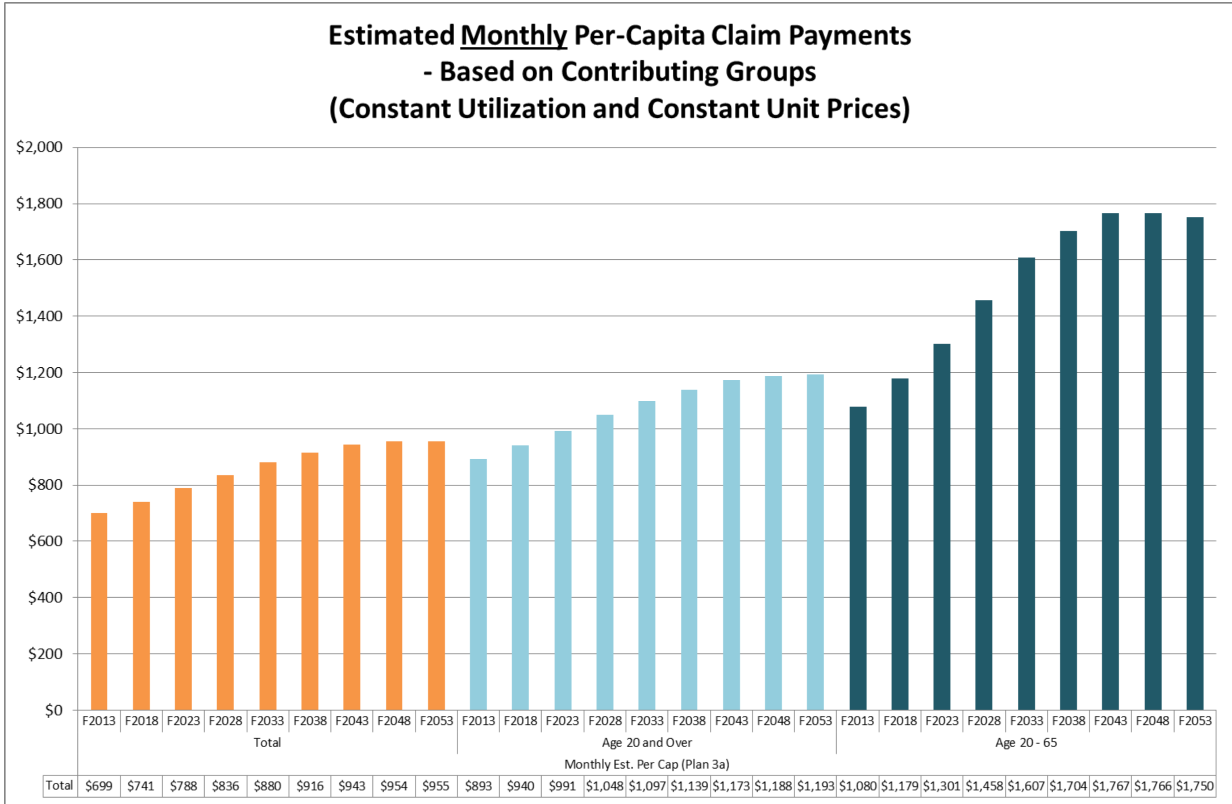
Projections - Chart 11



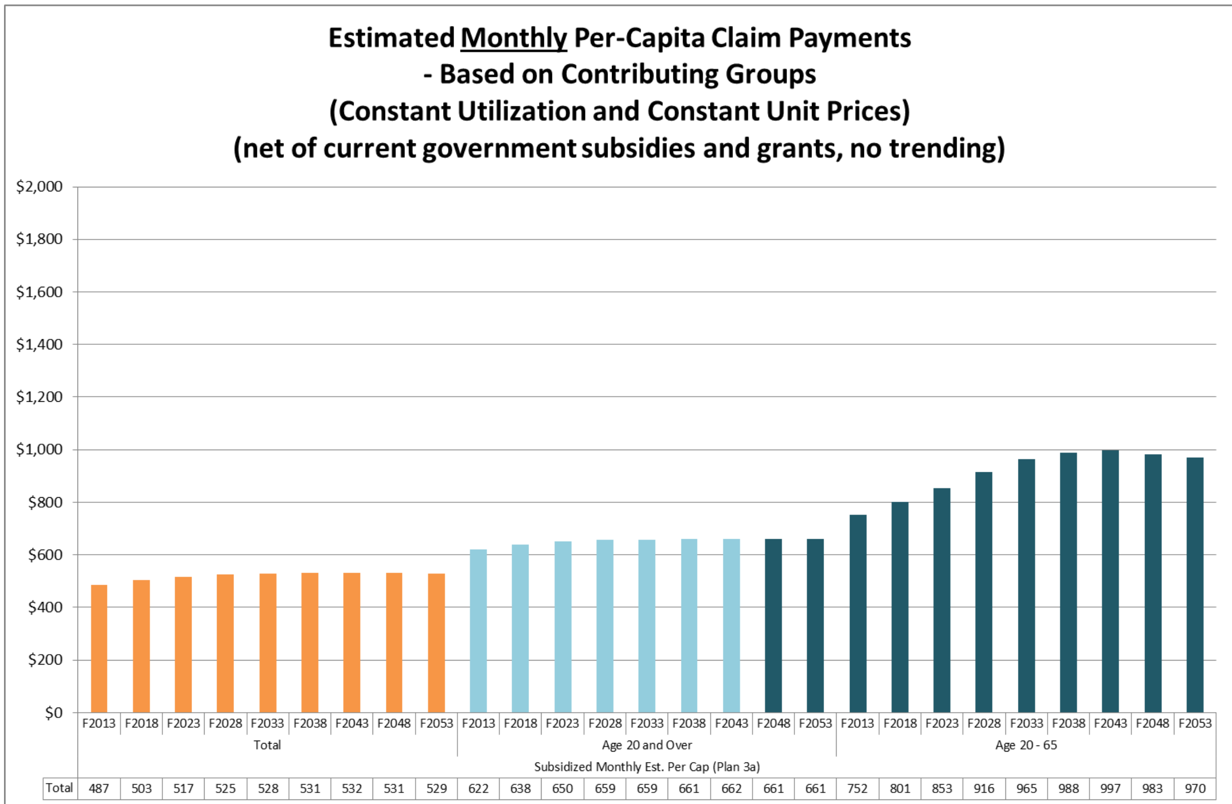
Projections - Chart 12



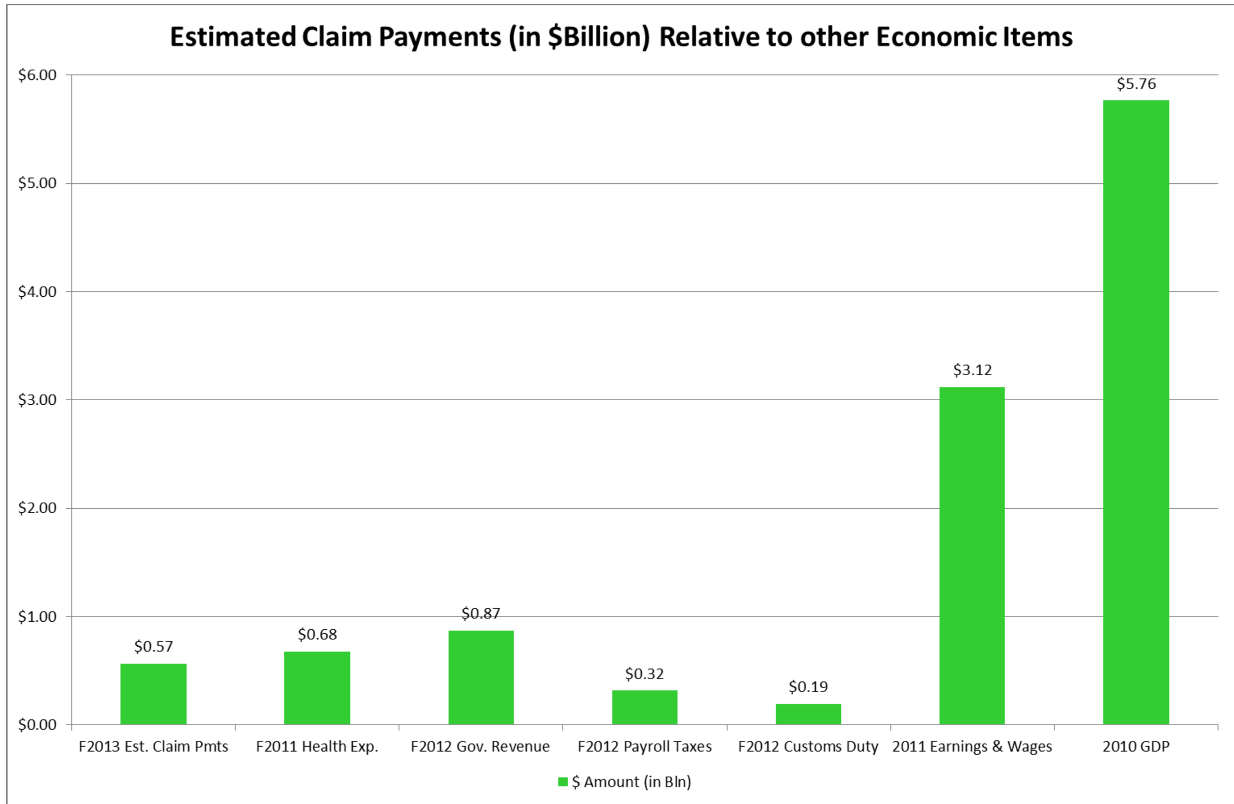
Projections - Chart 13



Projections - Chart 14



Projections - Chart 15



Appendix 3 - Benefit Provisions

	Classification	Benefit	Plan 1 Policy Option #1 Basic cover	Plan 2 Policy Option #2 Moderate cover	Plan 3 Policy Option #3 General cover	Plan 3a – Only showing areas that have changed
		Hospitalization				
1	**Local BHB - Inpatient**	KEMH ward	Up to 40 day stay subject to clinical review thereafter	Up to 40 day stay subject to clinical review thereafter	Up to 40 day stay subject to clinical review thereafter	
2	**Local BHB - MWI**	MWI ward	Up to 40 day stay subject to clinical review thereafter	Up to 40 day stay subject to clinical review thereafter	Up to 40 day stay subject to clinical review thereafter	
		Hospital - Outpatient				
3	**Local BHB - ER**	ER	Unlimited; payment for inappropriate visits	Unlimited; payment for inappropriate visits	Unlimited; payment for inappropriate visits	
4	**Local BHB - Outpatient**	Non-ER outpatient	Unlimited; referral restricted	Unlimited; referral restricted	Unlimited; referral restricted	Unlimited; referral restricted (copay applies for Lab and Radiology, see below)
		Hospital – Overseas Care				
5	**Overseas**	In-patient services	Up to 40 day stay subject to clinical review thereafter	Up to 40 day stay subject to clinical review thereafter	Up to 40 day stay subject to clinical review thereafter	
6	**Overseas**	Out-patient (hospital) care	Unlimited; referral restricted	Unlimited; referral restricted	Unlimited; referral restricted	
		Other Outpatient (hospital and approved facility)				

	Classification	Benefit	Plan 1 Policy Option #1 Basic cover	Plan 2 Policy Option #2 Moderate cover	Plan 3 Policy Option #3 General cover	Plan 3a – Only showing areas that have changed
7	**Radiology**	Diagnostic x-ray and lab	100% of set fee schedule	100% of set fee schedule	100% of set fee schedule	25% copayment with a cap of $100 Co-payments are excluded for: • Emergencies • In-patient hospital stays • Preventive screenings • Communicable diseases • Children
8	**Lab**	Lab tests	100% of set fee schedule	100% of set fee schedule	100% of set fee schedule	As per Radiology above
		Professional services				
9	**Hospital Surgery / Visit**	Professional services provided in hospital	Per fee schedule	Per fee schedule	Per fee schedule	
10	**SPEC Consult**	Professional services provided out of hospital	E.g.: Specialist Consultations, 100% of fee schedule TBD with actuarial input			75% of fee schedule
11	**Paediatric**	Paediatric care	Under 5 years 100% unlimited; 6 - 18 75% unlimited	Under 5 years 100% unlimited; 6 - 18 75% unlimited	Unlimited if medically necessary	Under 5 years 100% unlimited
12	**GP Consult**	GP or Primary Care Provider visits (home or office)	6 visits at 100% 6 visits at 50%	6 visits at 100% 6 visits at 75%	12 visits at 100%	6 visits at 75%
13	**GP Consult**	Preventive screenings	100% as per clinical guidelines; included with GP visits	100% as per clinical guidelines; included with GP visits	100% as per clinical guidelines; included with GP visits	

	Classification	Benefit	Plan 1 Policy Option #1 Basic cover	Plan 2 Policy Option #2 Moderate cover	Plan 3 Policy Option #3 General cover	Plan 3a – Only showing areas that have changed
14	**Dental**	Dental care	Not covered	1 dentist office visit at 75%; 2 hygiene visits at 75%	1 dental office visit at 100%; 2 hygienist visits at 100%;	
15	**Vision**	Eye care	Not covered	1 exam $50; $100 eyewear every 2 years	100% 1 exam per year; $100 eyewear every 2 years; for children 75% vision therapy	
16	**Allied Health**	Clinical psychology (group or individual)	50% of set fees for 6 visits	75% of set fees for 9 visits	100% of set fees for 12 visits	75% of set fees for 12 visits
17	**Allied Health**	Dietician services	50% of set fees for 6 visits	75% of set fees for 9 visits	100% of set fees for 12 visits	75% of set fees for 12 visits
18	**Allied Health**	Physiotherapy	50% of set fees for 6 visits	75% of set fees for 9 visits	100% of set fees for 12 visits	75% of set fees for 12 visits
19	**Allied Health**	Occupational therapy	50% of set fees for 6 visits	75% of set fees for 9 visits	100% of set fees for 12 visits	75% of set fees for 12 visits
20	**Allied Health**	Speech Therapy	50% of set fees for 6 visits	75% of set fees for 9 visits	100% of set fees for 12 visits	75% of set fees for 12 visits
21	**Allied Health**	Podiatrist	50% of set fees for 6 visits	75% of set fees for 9 visits	100% of set fees for 12 visits	75% of set fees for 12 visits
22	**Allied Health**	Audiology care	Not covered	1 annual exam; referral required; 1 medically necessary hearing device $500 limit every 5 years; non-cumulative	1 annual exam; 1 medically necessary hearing device $1,000 limit every five years; non-cumulative	
23	**Allied Health**	Artificial limbs and appliances and durable medical equipment	$15,000 lifetime limit (children and adults); referral required	$10,000 limit per decade; non-cumulative and referral required	$10,000 limit per decade; non-cumulative and referral required	

	Classification	Benefit	Plan 1 Policy Option #1 Basic cover	Plan 2 Policy Option #2 Moderate cover	Plan 3 Policy Option #3 General cover	Plan 3a – Only showing areas that have changed
		Clinical Preventive Services				
24	**Found in Local BHB – Inpatient, Hospital Surgery / Visit, Radiology, SPEC Consult and GP Consult**	Maternity care	100% per fee schedule	100% per fee schedule	100% per fee schedule	
25	**Found in GP Consult (to extent not provided by Public Health)**	Immunizations	Unlimited for children; if medically necessary	Unlimited for children and seniors; if medically necessary	Unlimited for children; unlimited for adults if medically necessary	
26	**Allied Health**	Nutritional & chronic condition education	One per lifetime per condition	One per lifetime per condition	One per lifetime per condition	
27	**Allied Health**	Smoking cessation programme	Not covered	Not covered	One per lifetime	
		Community Based Care Services				
28	**Allied Health**	Home health care (*1)	100% - 12 visits per physician referral per year per set fees	100% - 12 visits per physician referral per year per set fees	100% - 12 visits per physician referral per year per set fees	75% - 12 visits per physician referral per year per set fees
29	**Prescriptions**	Prescriptions	$2,000 annually at 100% for generic and 75% for brand where no generic is available	$2,500 annually at 100% for generic and 75% for brand where no generic is available	$3,000 annually at 100% for generic and 75% for brand where no generic is available	

	Classification	Benefit	Plan 1 Policy Option #1 Basic cover	Plan 2 Policy Option #2 Moderate cover	Plan 3 Policy Option #3 General cover	Plan 3a – Only showing areas that have changed
30	**Found in Local BHB – Long**	Palliative care (end of life less than 3 months)	In hospital at 100% or at home	In hospital or at home at 100%	In hospital or at home at 100%	
31	**Found in Local BHB – Outpatient**	IV therapy	Unlimited; referral restricted	Unlimited; referral restricted	Unlimited; referral restricted	
32	**Residential Care**	Residential care/assisted living (*2)	Not covered	Medically necessary and means tested; $ value limit up to a maximum of $48,000 per year as per means testing	Medically necessary and means tested; $ value limit up to a maximum of $48,000 per year as per means testing	

***Notes:**

(1) Home health care benefits include part-time or intermittent skilled nursing care, and other skilled allied health care services like physical therapy, occupational therapy, and speech therapy. Services may also include medical social services or assistance from a home health aide. Home care is accessible upon referral from a physician. Home healthcare benefits exclude physician care in the home setting; this benefit is included in the GP visit benefits.

(2) Residential care/assisted living benefits include skilled short, long or respite care provided in residential settings for vulnerable populations including seniors, adults and children with physical, mental, intellectual or sensory impairments as defined by the UN Convention on the Rights of Persons with Disabilities. The residential stay must be medically necessary and requires physician referral. For residential care for substance abuse, the benefit should be limited to one admission per year. Detoxification, an admission requirement for residential care, is included in the hospitalization benefit.

Appendix 4 - Costing Methodology and Assumptions

Prior to any forecasting of costs into future periods, we first derived the total estimated costs under the proposed package of benefits for the Fiscal 2013 period (i.e. April 1, 2012 to March 31, 2013). For each benefit grouping, a per-capita cost (i.e. the average cost per person) was calculated in 5 year age bands. In order to derive the per-capita costs, historical claims data[21] was reviewed and trended forward to the period Fiscal 2013.

Some of the important assumptions are tabled below:

Item	Assumption
	Reimbursement under the Plan
Cost of Services	Where the benefit provisions did not specify a dollar rate of reimbursement for the particular service that is covered or did not specify a dollar cap on the total cost of the service that would be reimbursed, we assumed that the full cost of the benefit would be covered (or a percentage thereof as specified by the provisions). For example the benefit provisions state that a GP consultation would be covered at 100%, 75% or 50%. We have assumed this to mean a percentage of the actual cost charged by the GP and not a percentage applied to a fee scale that might apply (and perhaps be regulated). A specialist consultation (office or home visit) is another example where no limits had been specified and we assumed that the plan would cover the full cost as charged by the specialist.
Breadth of Services	As with the cost of services item above, where there was no indication as to what precisely would be considered as reimbursable, we have assumed that all services would be reimbursed. For example, for GP consultations the benefit is referred to as a “visit” (home or office). Within a visit, numerous services may be provided. Typically it would include an evaluation of the patient but it could also include other services – for example the administration of a medicine / injection or the administration of an electrocardiogram. We have assumed that all the costs associated with a visit would be included for reimbursement.

[21] Consequently, the model reflects the recent utilization patterns within the current healthcare system. We understand that various efforts are underway to alter patterns of utilization, with the intention of reducing costs. Future changes to utilization are not reflected in the model however should it be required, we are able to prepare alternative scenarios based on adjusted utilization factors.

Item	Assumption
	Certain Benefit Provisions
Prescriptions	With reimbursement at 100% of the cost of generics and 75% of the cost of a brand name drug, we have assumed the average reimbursement for drugs to be 80% - which is implicitly derived based on the assumption that the total cost of drugs is weighted as 20% towards generics and 80% towards the cost of brand name drugs.
MWI	We do not have any specific data on the breakdown of the costs and services provided by the MWI. Our costing assumes $46 million of cost under the MWI (projected from the financial statements of the BHB) and this has been spread uniformly over the population.
Overseas	If medically necessary and the care is not available locally, reimbursement would be at 100%. If medically necessary and the service is available locally but the patient chooses to go overseas, reimbursement should be at the Bermuda rate.
Residential Care	This item is described as means tested with a maximum of $48,000 per year. We have no Bermudian data on the incidence or utilization of this item, nor do we have any indication of what the means tested thresholds might be. We have assumed that 1.0% of population between age 60 and 75, and 2.5% of the population over age 75, could potential qualify for the full benefit amount.
	Other
Government Subsidy and Grants and the Mutual Reinsurance Fund	The costs are inclusive of the patient and other subsidies that are currently provided by government (under the current Standard Hospital Benefit) as well as the costs that are currently covered by the Mutual Reinsurance Fund.
Administration Costs	The charts that present Fiscal 2013 only figures do not include any costs for administration. In the charts that present the modeling of costs into the future, administration costs are assumed to be 10% of the total cost of the benefits.
	Modeling
Utilization of Services	Age specific utilization rates (i.e. the rate at which healthcare is “consumed”) are assumed to remain constant over the lifetime of the model.
Population Baseline	The population projection was based off the Department of Statistics’ 2010 Census.
Non Bermudians	A neutral net migration was assumed and the demographic profile of the Non-Bermudian population was assumed to remain constant. We assumed that 10% of the Non-Bermudian population that was of retirement age would remain on the island during their retirement years.
Mortality and Fertility	The mortality assumption used is the Interim Life Tables produced by the UK Office of National Statistics based on data for 2005 to 2007 for both males and females (with no age rating). We have assumed that the rate of future mortality improvement in Bermuda will be the same as that assumed in the UK 2006-based projections for females, but one half of the UK rate for males (this is to achieve broad consistency between the Department of Statistics’ view of current and expected future life expectancy in Bermuda). We have assumed a long-term total period fertility rate (TPFR) of 1.7. This is based on the fertility rates assumed in the Department of Statistics’ own projection in the 2000 census. The 2010 census states that the fertility trend continues to be low, so we have maintained this long-term assumption. We also used the population fertility projections of births per 1,000 females by age produced by the UK Office of Statistics and adjusted

Item	Assumption
	it to reflect the Bermuda TPFR. We have assumed a male/female sex ratio of 1.05:1 for future births.
Employment, Payroll, Future Costs, Administration Costs	These are items that can be varied in the model so that numerous scenarios can be illustrated.

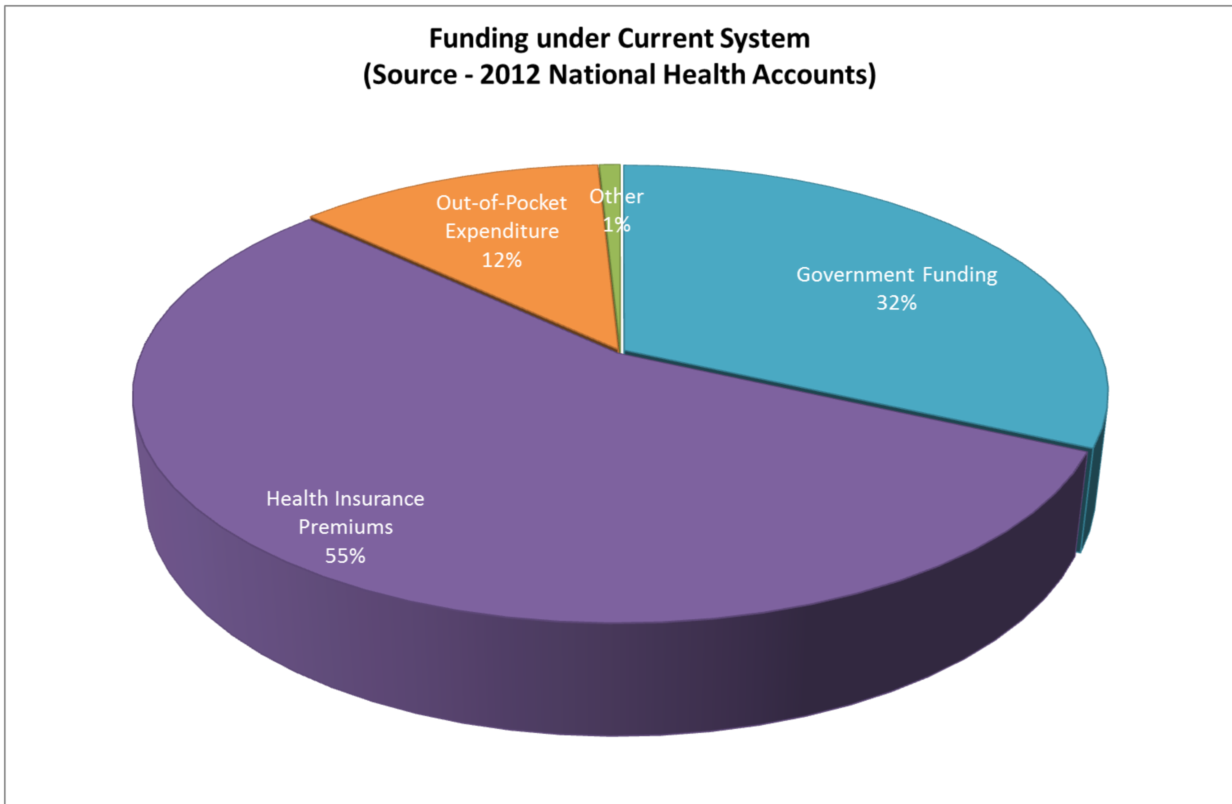
Grouping of Benefits

In the presentation of our analysis, certain benefit provisions were grouped together (see table on next page). The purpose of presenting the costs in this way is to indicate the expected magnitude of the costs so that comparisons can be made between items and it also served to assist with any proposed amendments to the benefits package.

Note that the data groupings were also subject the limitation of the data, and more detailed groupings or analysis may not be possible from the current data set.

Level 1 Grouping	Level 2 Grouping	Level 3 Grouping	Note on what's Included
Local	• BHB Services	• Inpatient Short Stay	The costs of an inpatient admission in the first 100 day
		• Inpatient Long Stay	The costs of an inpatient admission from the 100th day (in our costing charts, this item is categorized under Non-BHB Services)
		• Outpatient	
		• Emergency Room	
		• Mid-Atlantic Wellness Institute (MWI)	All services provided by the MWI
	• Non-BHB Services	• General Practitioner (GP) Consultations	GP office or home visit
		• Specialist Consultations	Specialist (e.g. urologist, gynecologist) office or home visit
		• Hospital Surgery / Visit	Procedures (e.g. surgery) performed by a specialist or GP on an inpatient basis or the visitation to an inpatient
		• Outpatient Surgery	Outpatient procedures performed by a specialist or GP
		• Paediatric Services	Services (non-hospital related) to children and youth
		• Prescriptions	Prescription drug benefits
		• Radiology	Diagnostic x-ray and tests (e.g. CT Scans, MRI, Ultrasound)
		• Laboratory	Laboratory tests (e.g. blood and urine tests, pathology)
		• Allied Health	Services supplied by various providers such as psychologists, physiotherapists, speech and occupational therapists, and other home-healthcare providers. It also includes artificial limbs and appliances and durable medical equipment.
		• Vision	Visits to an optometrist and cost of prescription lenses
		• Dental	Services provided in the office of a dentist / oral hygienist
		• Residential Care	Assisted living facilities (for full-time residents)
Overseas	• Overseas	• Hospital Inpatient and Outpatient	Services provided off-island

Appendix 5 – Funding under the Current System



Appendix 6 - Sources of Data and References

1. Bermuda Hospitals Board
2. Government Employees Health Insurance Plan
3. Health Insurance Department
    - FutureCare
    - Health Insurance Plan
    - Mutual Reinsurance Fund
    - Government Subsidy
4. Department of Statistics - 2010 Census
5. Office of the Tax Commissioner
6. National Health Accounts
7. Actuarial Reports for the Bermuda Health Council (on the Standard Hospital Benefit)