

A tropical beach scene with turquoise water and a blue sky with clouds. The text is overlaid on the image.

# Architecture In Paradise - National Health Insurance (NHI) Bahamas

June 14, 2018 – ISACA – AEA Professional Development Day



Part 1

# The National Health Challenge

# The Bahamas - At A Glance



## The Bahamas Key Facts



**373,496**  
Population



**\$9.6 billion**  
GDP (Forecast)



**75.5 years**  
Average life expectancy



**\$2,133**  
Average health expenditure  
per capita



**3/1**  
Public hospitals /  
Private Hospitals



**90**  
Public Primary Care  
Facilities

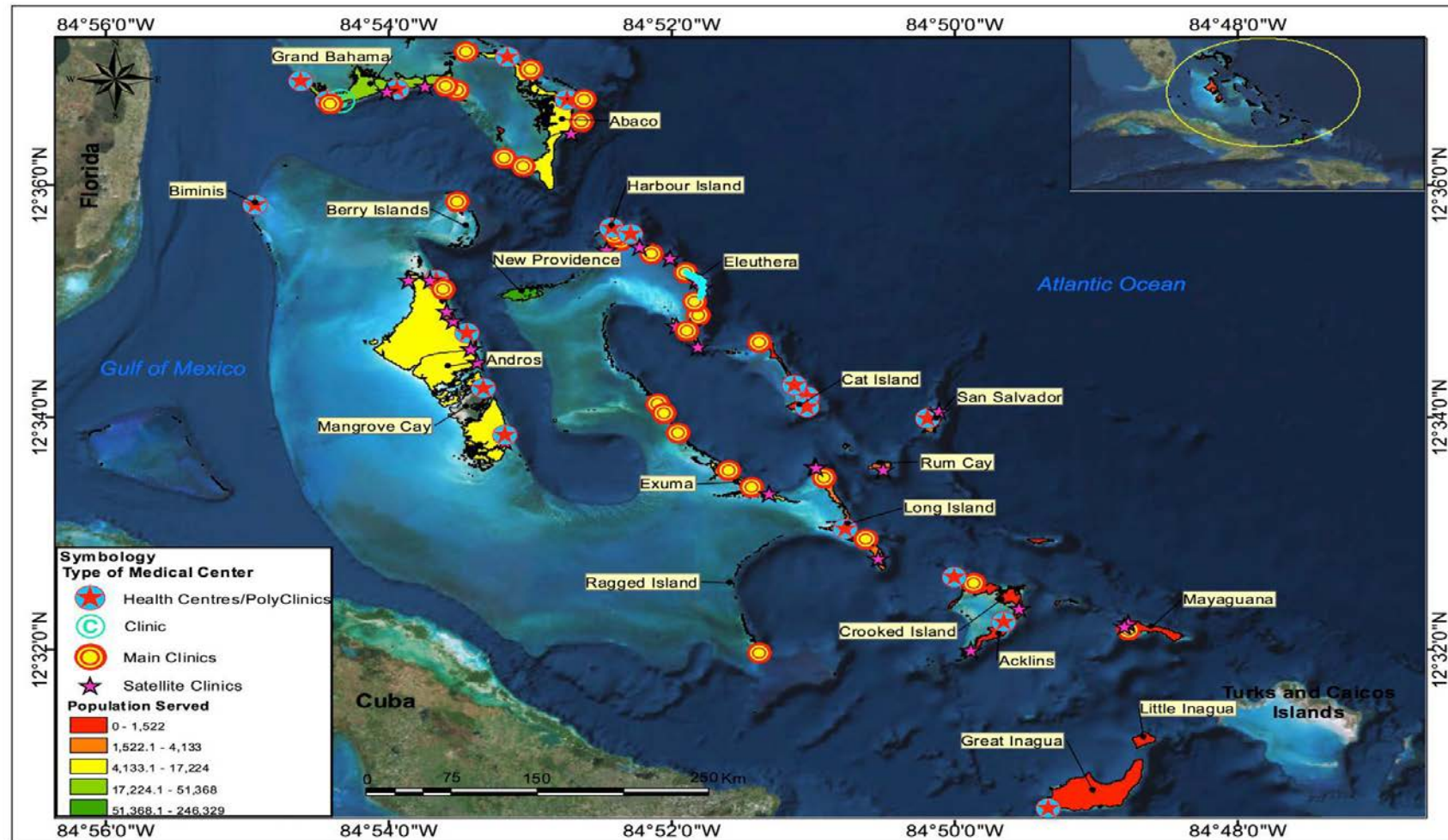


**Public,  
non-mandatory private  
insurance, self-pay**  
Health funding

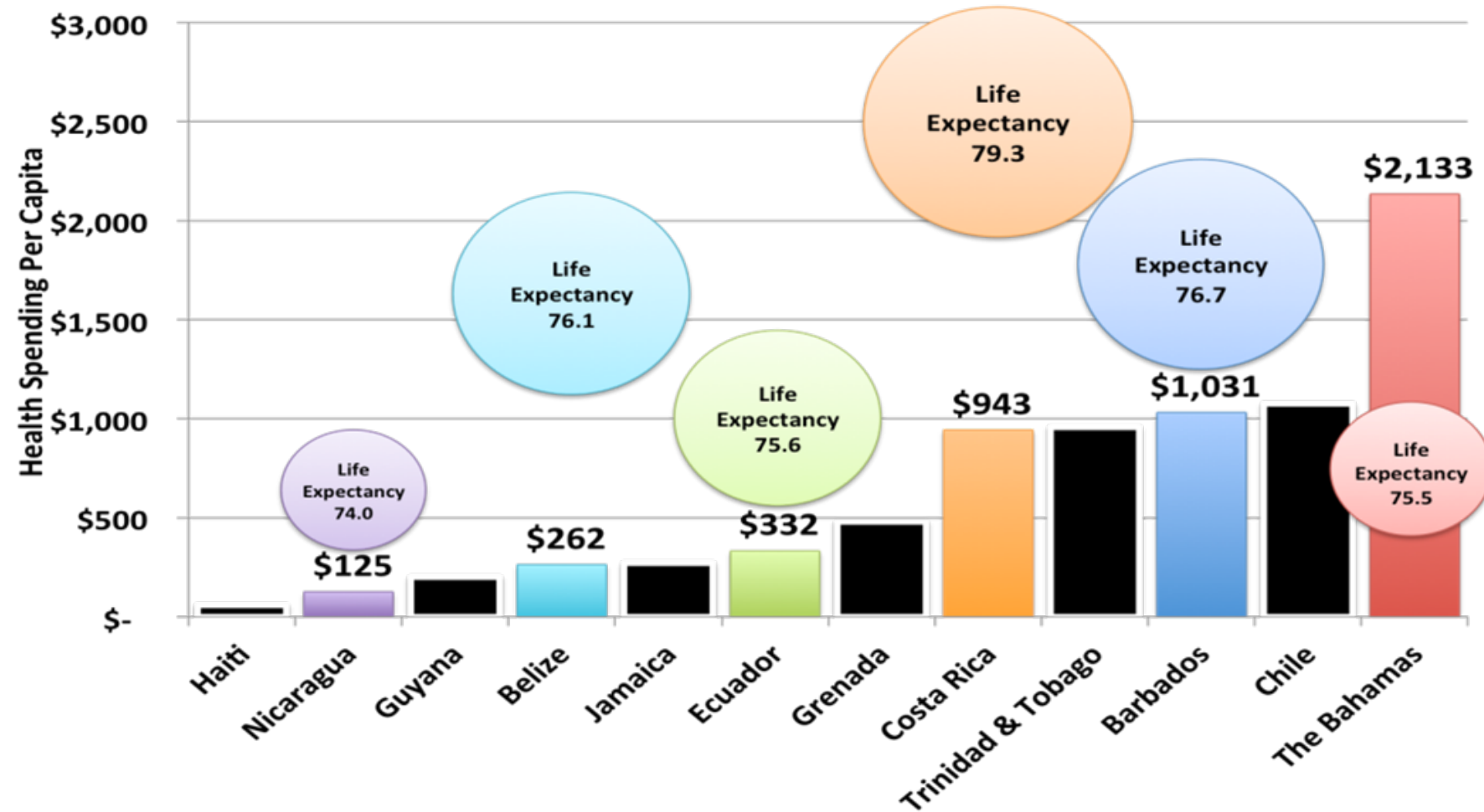


**Only 30%**  
Covered by health  
insurance

# Healthcare Facilities across the Archipelago



# Health Spending and Outcomes



# There's More.

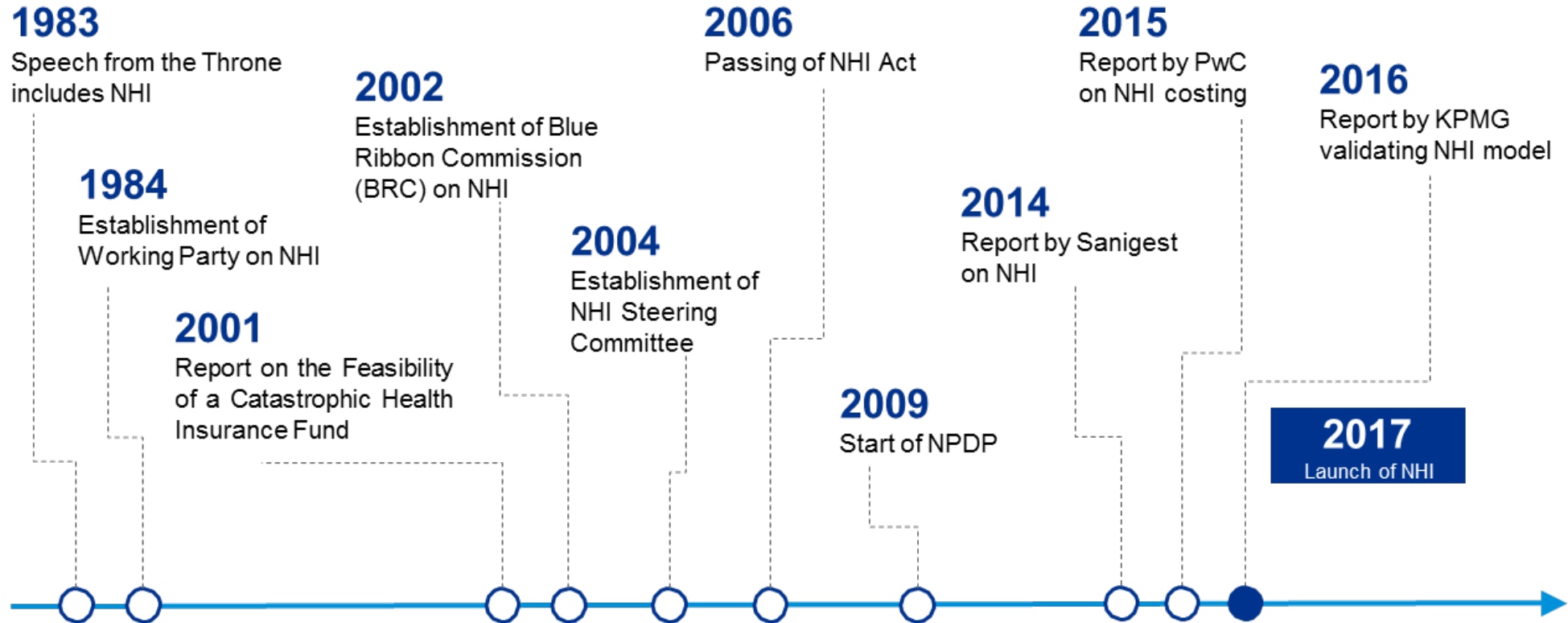
- **11<sup>th</sup> Highest homicide rate worldwide**
- **Infant Mortality 19.2 per 1,000 live births (Haiti – 59, Brazil – 58, Barbados – 11.8, United States – 6, Cuba 4.5, Canada –**
- **79.2% of Country overweight, 50% Obese (BMI >29.9)**
- **Highest incidence of BRCA-1 and BRCA 2 in the world (300% higher than the world average)**
- **Between 2005 and 2012 – 160% increase in Diabetes, 55% increase in hypertension**
- **By some studies, highest prevalence of Diabetes in the world**
- **One of the highest incidences of HIV/AIDS outside of Sub-Saharan Africa (2% of Population)**



# Part 2 - The Solution - National Health Insurance



# NHI over 30 years in the making





# Not Going to Launch in January 2016...

## Doctors unite on NHI concerns

*Physicians groups demand respect from government*



Dr. Wesley Francis.

KRYSTEL ROLLE-BROWN  
Guardian Staff Reporter  
krystel@nasguard.com

Published: Jan 22, 2016

## Pm: Nhi Delay Likely As Govt Tries To Get It Right



Prime Minister Perry Christie.

As of Thursday, February 18, 2016

# Let's Meet the Client - Permanent Secretary (PS)



**Permanent Secretary – Peter Deveaux-Isaacs**

# Let's Meet the Client



**Dr. Delon Brennen**

*NHI Project Manager*

**Dr. Delon Brennen**

**“Dr. B”**



# Let's Meet the Client



**Dr. Kevin Bowe**



**The NHI Secretariat Team**

# KPMG Assessment and Key Findings

## KPMG was engaged to conduct an evidence-based review of the existing NHI model and arrangements

1. Conduct an evidence-based review of the current NHI model and arrangements, including:
  - The **\$100 million** cost estimate to deliver Primary Healthcare services
  - The capitation fee range
2. Identify potential issues and areas for improvement through stakeholder consultation and global leading practice comparison
3. Make recommendations to address key findings

## The study concluded that NHI is an appropriate funding model for the nation's UHC ambitions, and its proposed structure aligns with global precedent

- A Public Regulated Health Administrator managed and operated by a 3rd party will deliver the best outcomes for the nation.
- Primary healthcare is an appropriate starting point for the path to UHC.
- Health system stakeholders, although supportive of UHC/NHI in principle, were concerned about the Government's ability to successfully implement these changes and were frustrated with the way they had been involved to-date.
- Health system initiatives were being implemented across Government in a fragmented manner, resulting in confusion and perceived ineffective execution.
- Capitation is the appropriate remuneration model for PHC providers working as a team and the capitation range should be expanded and modified with more accurate data.
- The Government's \$100M projection for fiscal year 2016-2017 NHI costs related to PHC services is a reasonable estimate.

*Note: Phase 1 engagement started in March 2016 and the final report was submitted in April 2016*

# When is NHI Going to Launch?

## Nhi 'Will Be Delayed Around Six Months'



HEALTH Minister Dr Perry Gomez.

As of Thursday, March 31, 2016

His statement came a week after government consultants from KPMG said it will be months before primary healthcare services are offered.

Last week officials said a final determination has not yet been made on what legislative framework must exist to facilitate NHI's public healthcare insurer, but Cabinet planned to go out to tender seeking a private company to manage this area.

This process will take months, KPMG executive Mark Britnell said last week, adding that it must be completed and the public health insurer must be established before primary healthcare services could be offered through NHI.

When contacted for his thoughts yesterday, leading surgeon Dr Duane Sands said he "highly doubts" the first phase of NHI will be implemented before the summer.

However, Dr Sands said he believes the discussions between the government and stakeholders have taken a turn for the better and the exchanges are no longer "just unilateral."

Dr Sands said the big question now is whether the government will delay the plan long enough to arrive at a quality programme for Bahamians or push forward and use NHI as a political tool.

**"If the government considers and takes into account the suggestions from KPMG and give the people the opportunity to learn how to deliver the services properly then this could work," Dr Sands said.**



# The Stakeholder Community is still at odds with NHI

## Medics Unite To Reject Nhi Proposal







# Part 3 - Implementation Program - "Get It Done" - Designing NHI

# Multi-disciplinary Team



## Governance & Leadership

*Create an integrated governance and project structure for Universal Health Coverage (UHC)*



## IT

*Select, procure and implement an IT system to support NHIA operations for the long-term*



## Legal & Policy

*Develop policy and legislation to enable NHI and support the modernization of healthcare regulations*



## Health System Strengthening

*Advise on opportunities for improvements in health system operations, in particular public clinics, in preparing for launch of NHI.*



## Public RHA Set-Up

*Establish a robustly governed Public Health Insurer under private management and operation*



## Healthcare Financing

*Develop UHC costing model, develop benefits package / rates, and support provider negotiations*



## NHIA Organizational Development

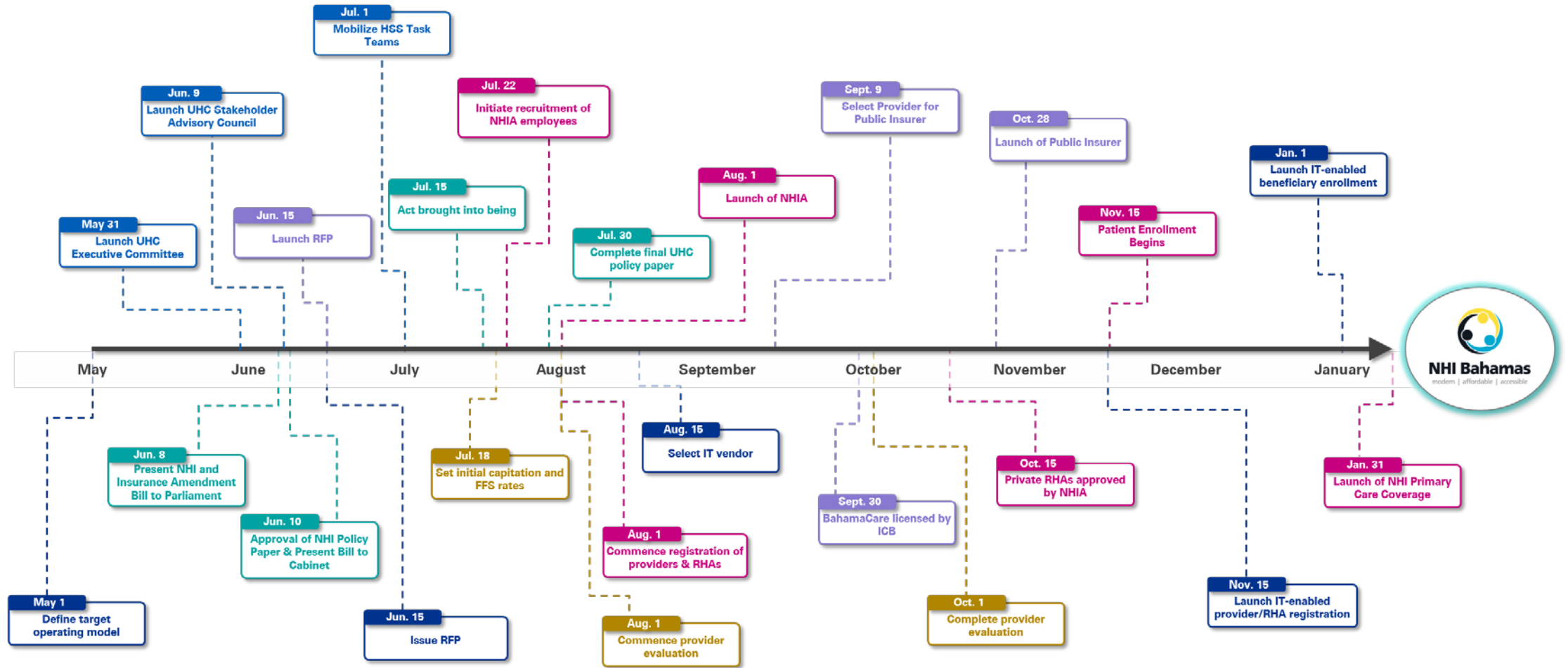
*Design and launch National Health Insurance Authority (NHIA)*



## Catastrophic Care Services

*Develop a governance structure for managing the Catastrophic Care services within NHIA*

# The Original Milestone Calendar



# Connect with Stakeholders



UHC Stakeholder Advisory Council



“One thing was certain in the meeting; we all committed to achieving Universal Health Care in The Bahamas. It’s a step in the right direction.”

**Emmanuel Komolafe**  
Bahamas Insurance Association





# Define the Policy



*A framework for modern, affordable and accessible National Health Insurance*

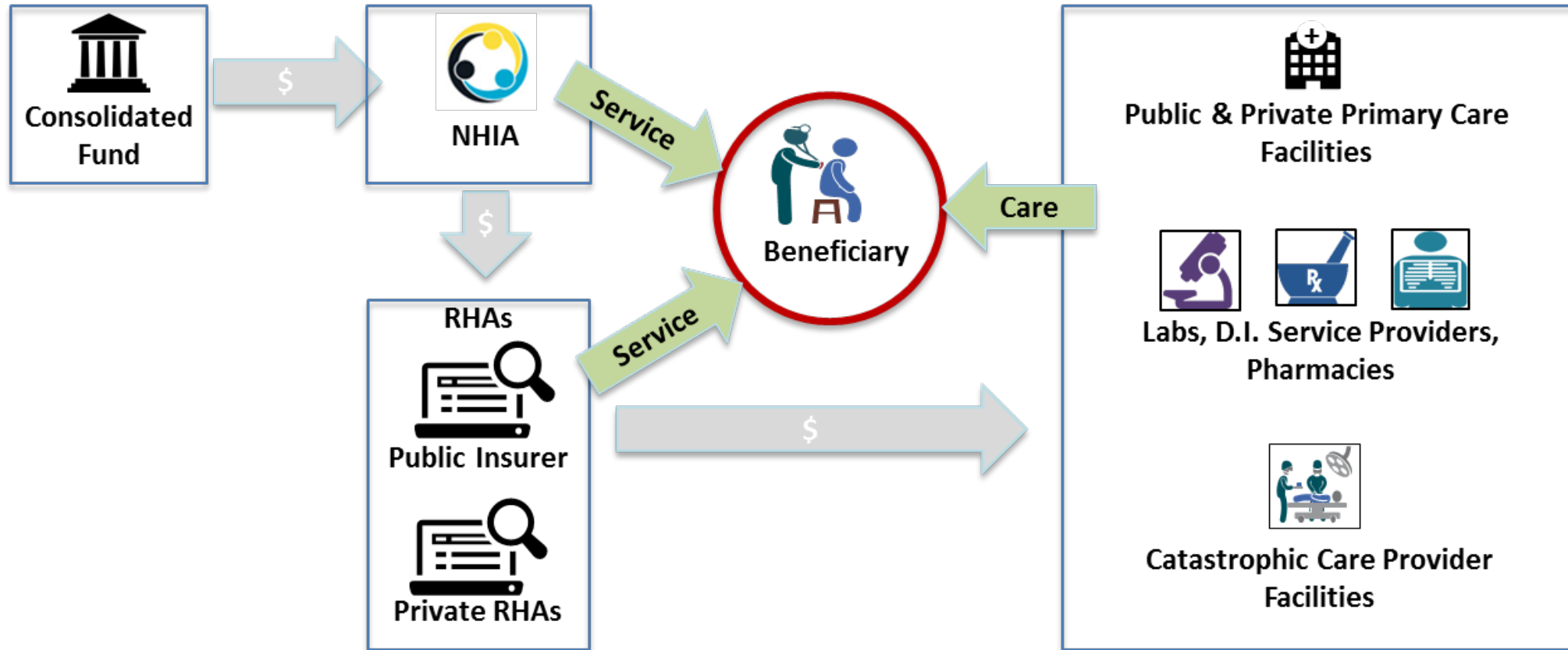
2016

NHI Policy Paper Released August 2016

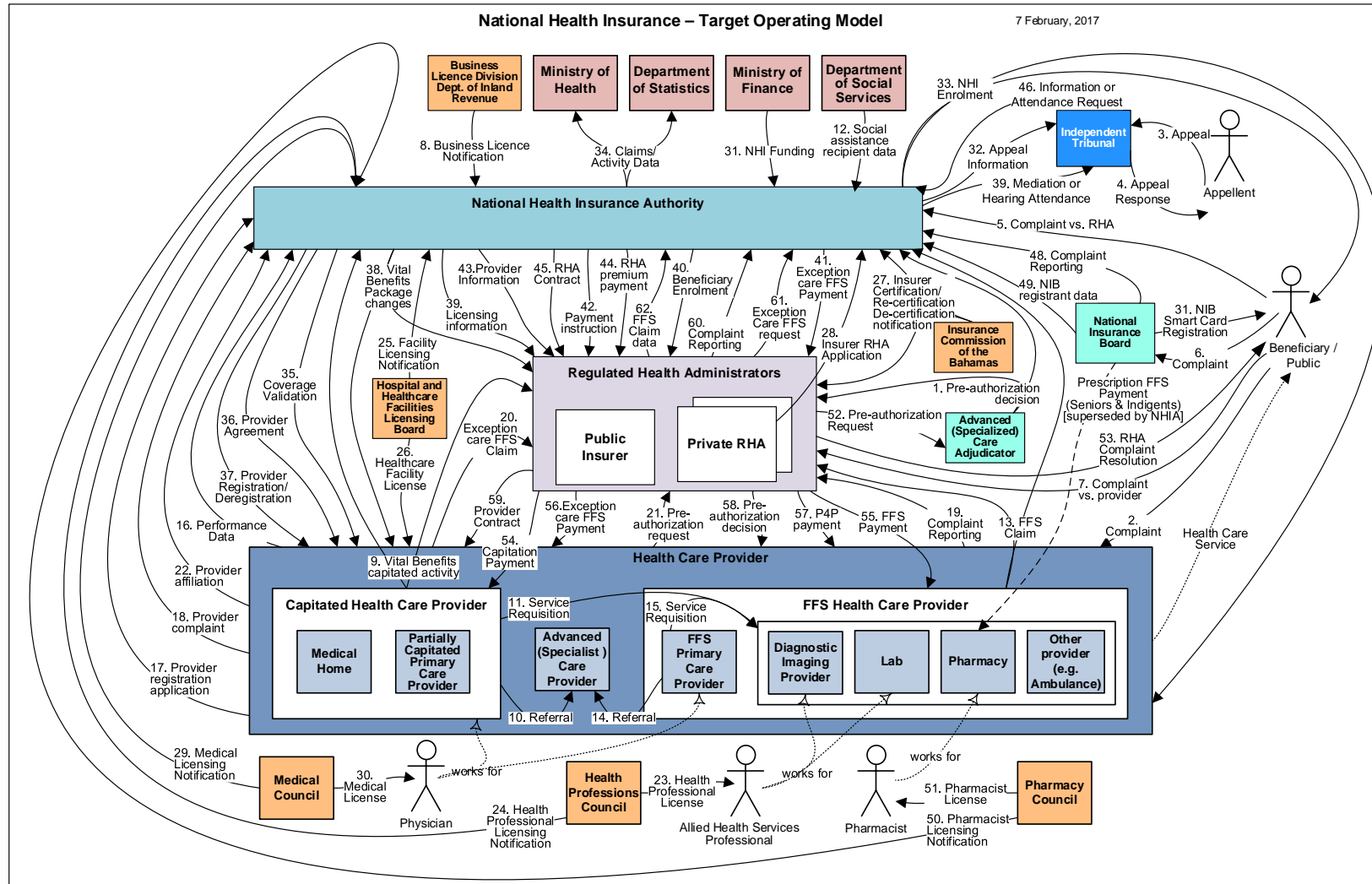


UHC Policy Paper Released April 2017

# Define the Structure



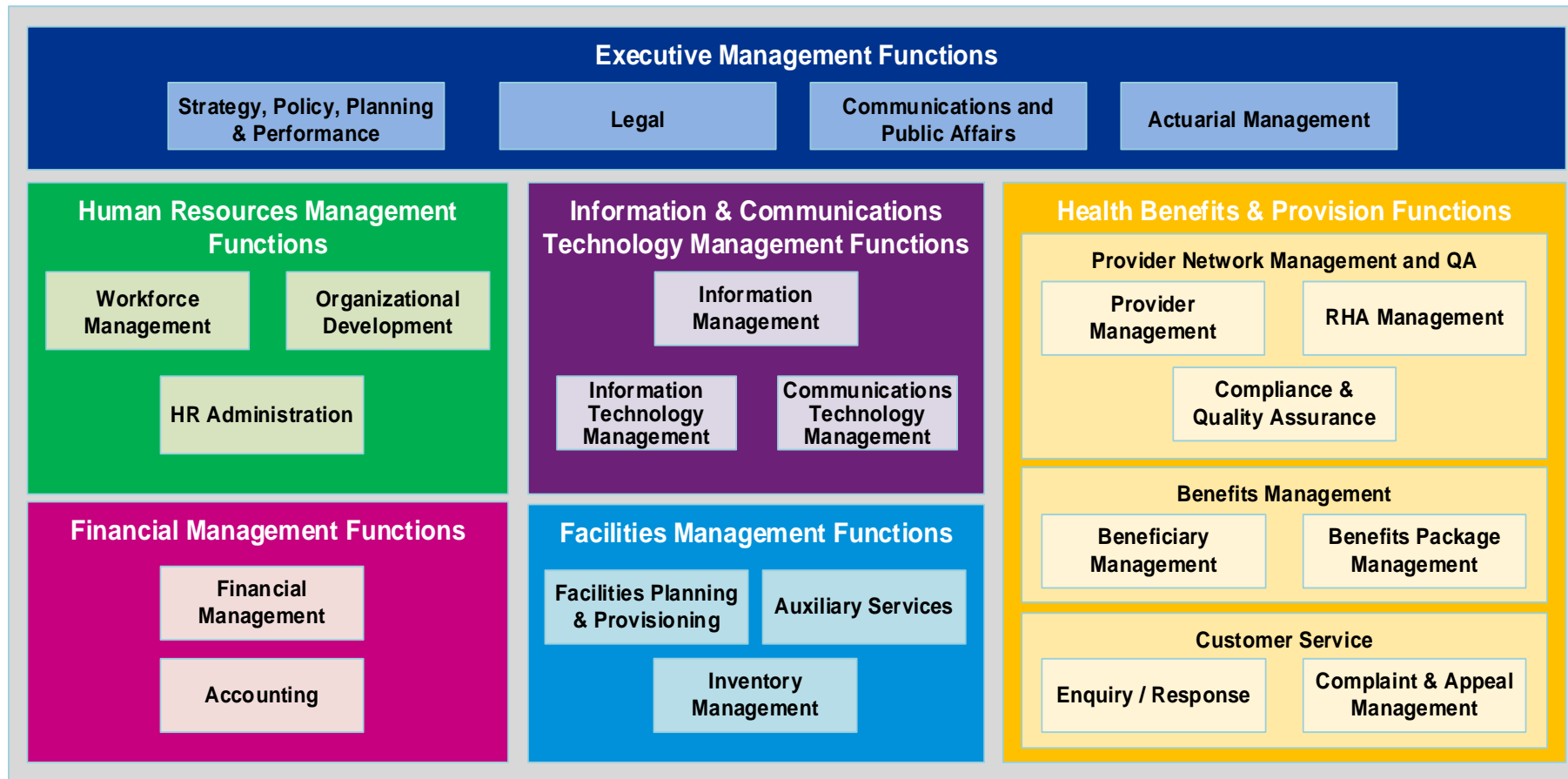
# Define the TOM - the Enterprise Architects come in....





# NHIA's Role in Operations

## - Functions performed by NHIA



# Pass the Legislation

## MPs pass NHI Bill

ROYSTON JONES JR.  
Guardian Staff Reporter  
royston@nasguard.com

Published: Aug 16, 2016

Prime Minister Perry Christie yesterday chastised members of the Official Opposition for their criticisms of the National Health Insurance (NHI) Bill, insisting that whether opposition members believe it or not, NHI has been designed to remove the high cost that prevents many Bahamians from accessing healthcare.

“We want to involve the opposition in this matter,” said Christie before MPs passed the bill in the House of Assembly.

“Why would you fight something that a great majority of the people of this country have declared they want?”

“Why would you allow yourself to be influenced when we say we do not propose to have anyone lose as a result of it? Only the country will benefit and the country will gain.

“Why do you come in here and make these points that amount to non-points; to discuss whether primary healthcare exists or it does not exist?”

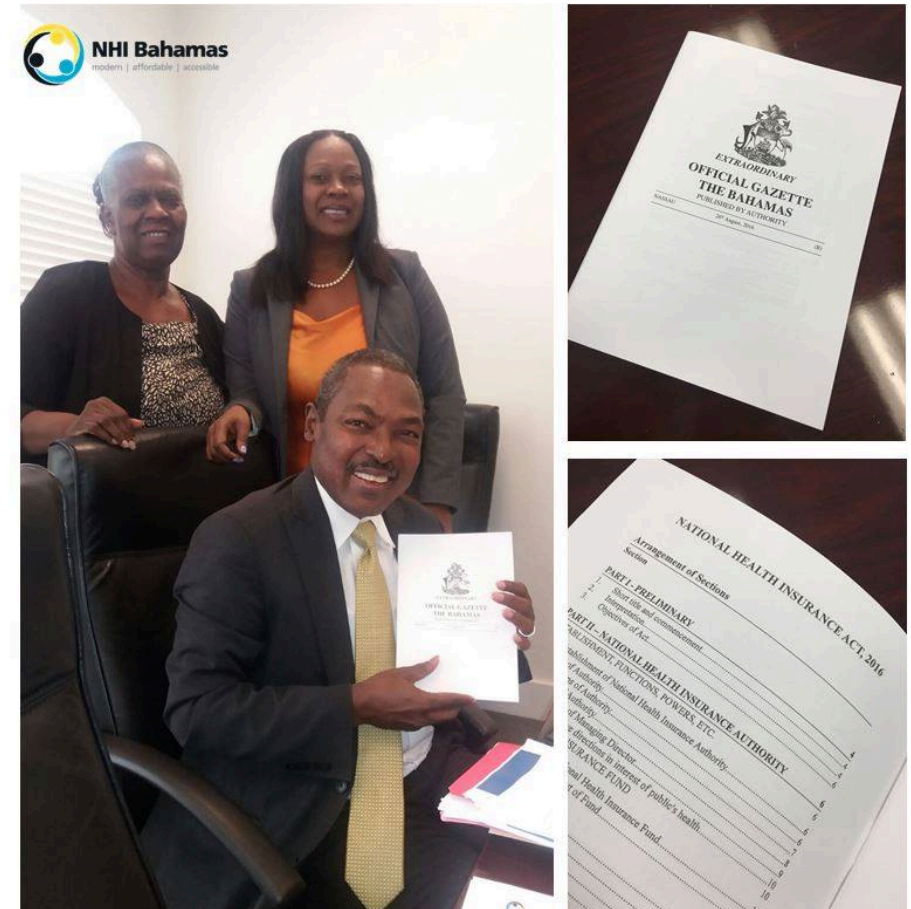
**“It does not exist as we are going to do it.**

**“And when it rolls out, and I hope by January, the people of this country will sing free at last, free at last, thank God, free at last.”**

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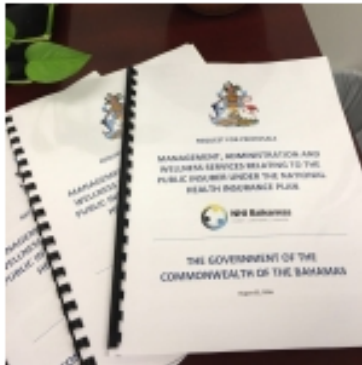
Add To Favourite



# Start the Search for a Public Insurer

*Nassau, The Bahamas - 22 August 2016*

## *RFP Issued for Services Relating to the Public Insurer for NHI Bahamas*



Government taking steps to establish Public Insurer to manage and administer benefits under NHI Bahamas

Today, on the heels of the National Health Insurance (NHI) Bill being passed by Parliament and signed into law by the Governor General, the Government of The Bahamas issued a request for proposal (RFP) for services relating to the Public Insurer under the NHI plan. It is the intent of the Government to create a wholly

Government-owned, fully licensed insurance company, to manage and administer benefits under the NHI plan for its beneficiaries.

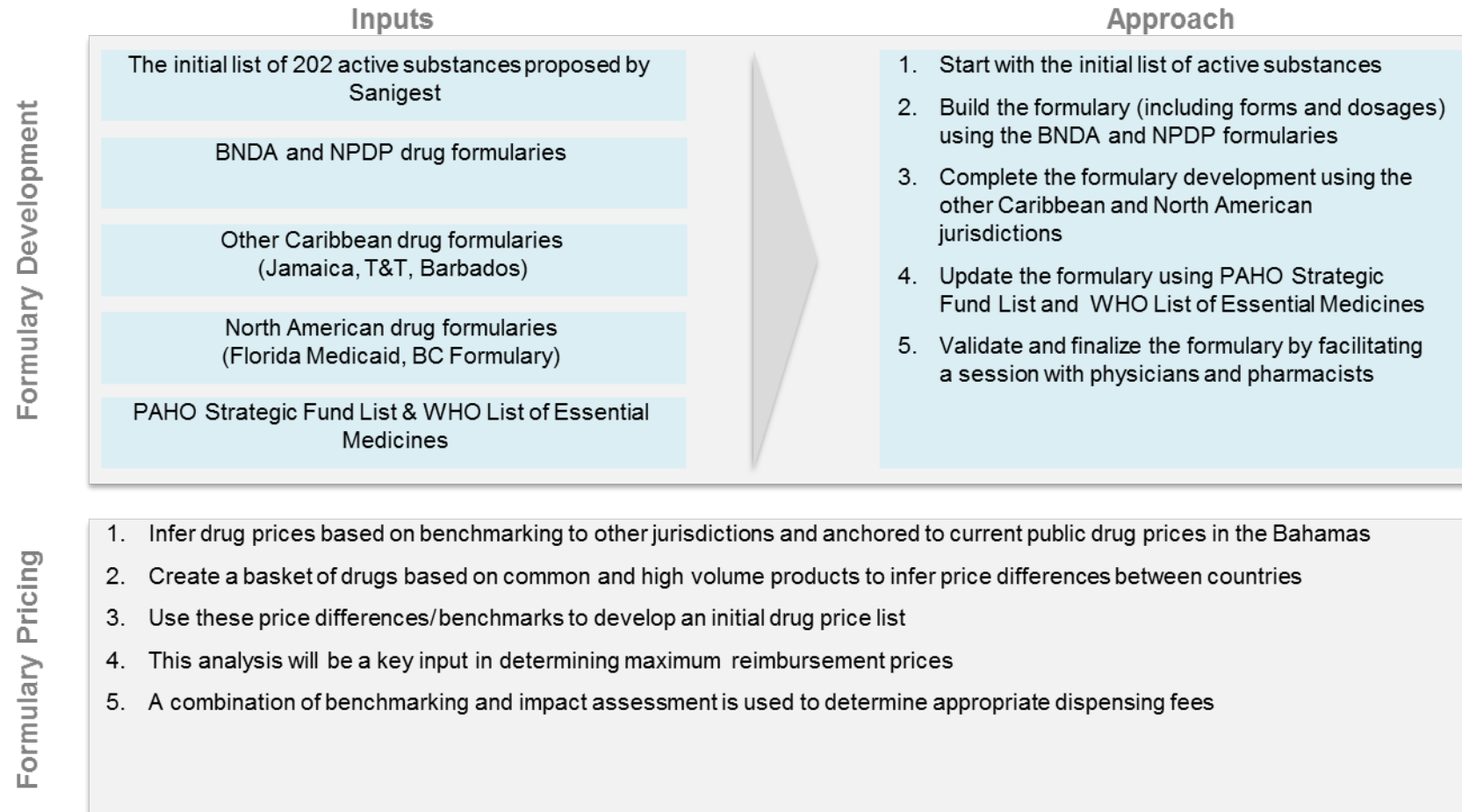
# Time to Define the Primary Care Benefits and Fee Schedule

Facilitate a number of sessions with PHC physicians to identify current practices, review clinical guidelines in other jurisdictions, and recommend standard practice for NHI

Consultation Date	Group	Defined Portion of the Benefits Package	Sources Used
August 10, 2016	Adulthood	<ul style="list-style-type: none"> <li>• Maternity Care</li> </ul>	<ul style="list-style-type: none"> <li>• American Academy of Family Physicians</li> <li>• American Cancer Society</li> <li>• American College of Obstetricians and Gynecologists</li> <li>• American College of Gastroenterology</li> <li>• Bahamas National Recommended Immunization Schedule</li> <li>• BC Maternity Care Pathway</li> <li>• CDC Immunization Schedule</li> <li>• NICE Guidelines</li> <li>• NIH</li> <li>• UK National Screening Programme/NICE</li> <li>• U.S. Preventative Services Task Force</li> </ul>
August 16, 2016	Adulthood	<ul style="list-style-type: none"> <li>• Hypertension</li> <li>• Diabetes</li> <li>• General Screenings (18-34)</li> <li>• General Screenings (35-49)</li> </ul>	
August 25, 2016	Pediatrics	<ul style="list-style-type: none"> <li>• General Screenings (0-12 months)</li> <li>• General Screenings (12-24 months)</li> </ul>	
September 1, 2016	Adulthood	<ul style="list-style-type: none"> <li>• Cancer Screenings</li> <li>• Obesity</li> <li>• HIV/AIDS</li> </ul>	
September 7, 2016	Adulthood	<ul style="list-style-type: none"> <li>• Mental Health</li> <li>• General Screenings (50+)</li> </ul>	
September 12, 2016	Pediatrics	<ul style="list-style-type: none"> <li>• General Screenings (3-12)</li> <li>• General Screenings (13-18)</li> </ul>	

# And the Pharmacy Formulary too

Utilize a systematic approach based on external reference pricing to develop the drug formulary prices



# AND...

- **The Diagnostic Imaging and Lab Benefit Packages**
- **Their Respective Fee Schedules**
- **Determine the Capitation Rates**
- **Design Infant and Maternity Care Bundles**
- **Establish Clinical protocols**
- **Consult with all the stakeholders along the way....**



# Part 4 - The IT Architecture

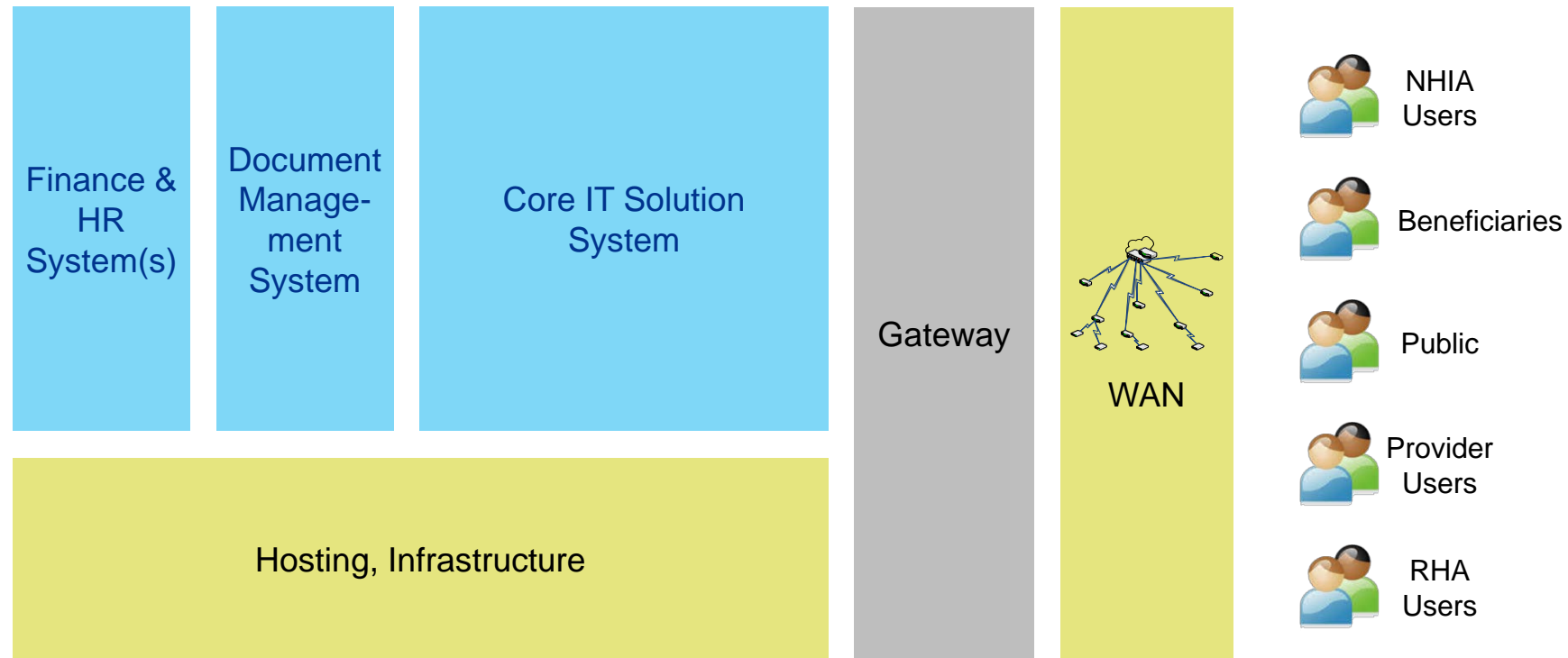


# NHI Goal - IT Enabled National Health Insurance Programme

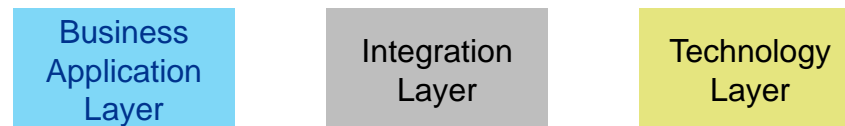
## Our strategy is to:

- **Provide for electronic service delivery, management of information, and process automation as much as possible**
  - Beneficiary, Provider and RHA Management
  - Customer Services
  - Benefits Package Management
  - Internal services (Finance, HR, Information Management)
- **Provide multi-channel access to NHI services**
  - Electronic Service Delivery (Web, email, mobile)
  - Phone (call centre)
  - Service Counter (in-person)
  - Mail (incoming only)
- **Implement secure infrastructure with appropriate access, scale, reach and reliability**
  - Hosted information processing capability, with data resident in the Bahamas
  - Integrated systems access control (single gateway)
  - Bahamas-wide accessibility (network)

# NHIA IT Procurements Align with NHIA IT Architecture



## LEGEND:



# Procurement Strategy

**Procurements have been organized to meet the following objectives:**

**Obtain modern solutions that will serve as a foundation for the NHIA to be effective in the long term**

**Leverage best of breed commercial-off-the-shelf (COTS) solutions for each of the major functions of the NHIA**

- Promote development of capabilities in The Bahamas
- Make sure that the data is hosted in The Bahamas – not offshore
- Obtain and implement solutions rapidly
- Minimize delivery and ongoing operational risk – establishment and implementation of MSAs & SLAs, ITL and other global industry standards
- Make sure the procurements are objective, transparent, and fair to the government, vendors, and the public

# Interim Solution Description

- **RHA, Provider and Beneficiary enrolment will begin prior to the core health insurance system being operational**
- **Benefits Package Management, Drug Formulary needs to be in place so that Payments can be calculated**
- **High volume of enquiries can be expected during open enrolment**
- **Long Term (core) solution is not expected to be available when NHI Program launches**
- **A low cost interim solution with reduced functionality will support enrolment and subsequent data load to Core IT Solution**
- **Interim Financial Management solution (AR and AP and accounting) must be established from Day 1 of NHIA Operations**
- **Interim HR and Payroll solution must be in place from Day 1 of NHIA Operations**



# Part 5 - The Race to Implement

# Despite all that, the Eternal Bahamian Optimism

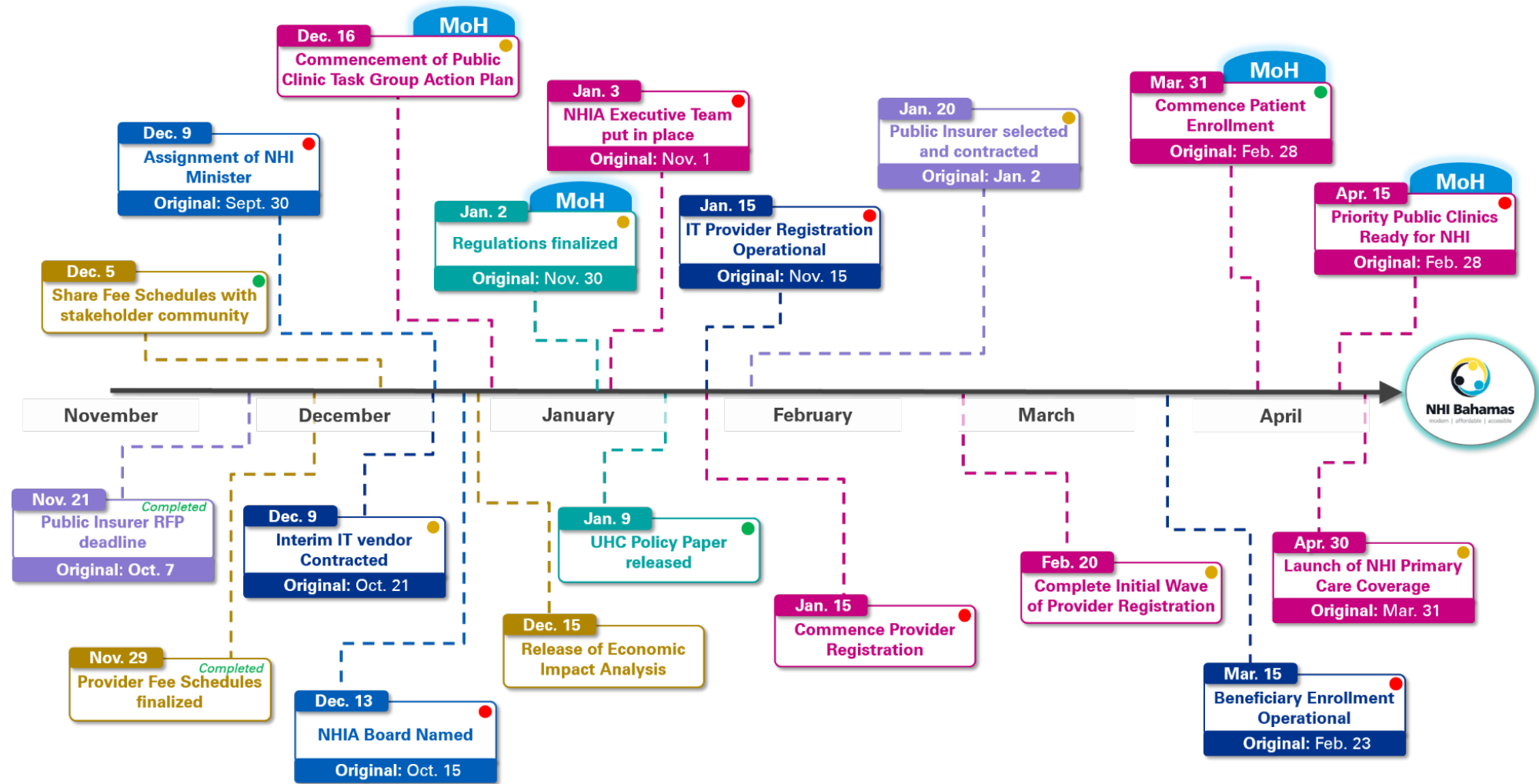
## NHI's third phase on track for early part of 2017

*Brennen: Phase four, select catastrophic coverage, and phase three are being worked on in 'tandem'*

**XIAN SMITH**  
Guardian Business Reporter  
xian@nasguard.com

Published: Jan 05, 2017

# A Revised NHI Milestone Calendar ....





# Time to Negotiate!

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## NHI Secretariat reveals reimbursement models

*Brennen: Initial discussions with physicians specializing in primary care have been positive*

**XIAN SMITH**  
Guardian Business Reporter  
xian@nasguard.com

The NHI Secretariat revealed the three reimbursement models that will support National Health Insurance (NHI) Bahamas: partial capitation, full capitation and fee-for-service (FFS).

President of the Medical Association of The Bahamas (MBA) Dr. Sy Pierre said there is a probability of 60 to 70 percent that the first phase of NHI, primary care would be supported by a capitation model.

Pierre explained to *Guardian Business* yesterday that there may be elements of FFS involved in the first phase, but the overall goal is to have a capitation model. The NHI Secretariat said a capitation rate compensates medical providers on a per enrolled patient basis, which is globally regarded as best practice for compensation of physicians, as opposed to a per service basis. Based on the type of capitation model, the primary care provider will be compensated respectively.

**Dr. Delon Brennen.**

"In the full capitation model, the primary care provider is fully compensated for physician visits, laboratory tests, drugs and diagnostic imaging services based on a per enrolled patient basis.

**Dr. Sy Pierre.**

"With partial capitation, the primary care provider is compensated for the physician services per enrolled patient basis."

• **Models, page B3**

**STOCK NUMBERS**

DOW JONES INDEX +0.33%	S&P 500 INDEX +0.22%
NYSE COMPOSITE +0.17%	RUSSELL 2000 +0.09%
BASKET OF STOCKS 0.00%	FTSE 100 INDEX +0.42%

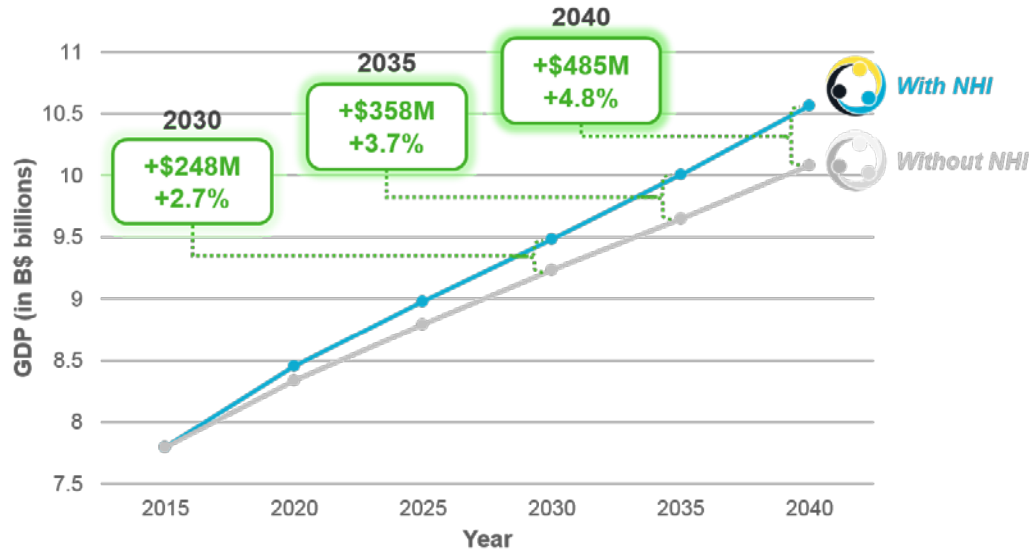
**GAS TRACKER**

Shell	\$3.89
Esso	\$3.86
Shell	\$3.90

**TODAY**

- Securities Commission rule to facilitate small business funding
- New rules under development by the Securities Commission Bahamas would allow entrepreneurs crowd-funding up to \$1,000,000 to make it easier for businesses to raise up to \$3,000,000 per round.

# ...The Economic Impact Assessment...



## Better Health

- Lower mortality of children and adults
- A healthier population
- More doctors, better clinics
- Less fear of getting sick
- Lower rates of chronic disease
- Lower health inequalities
- Better healthcare access for all



## Better Wealth

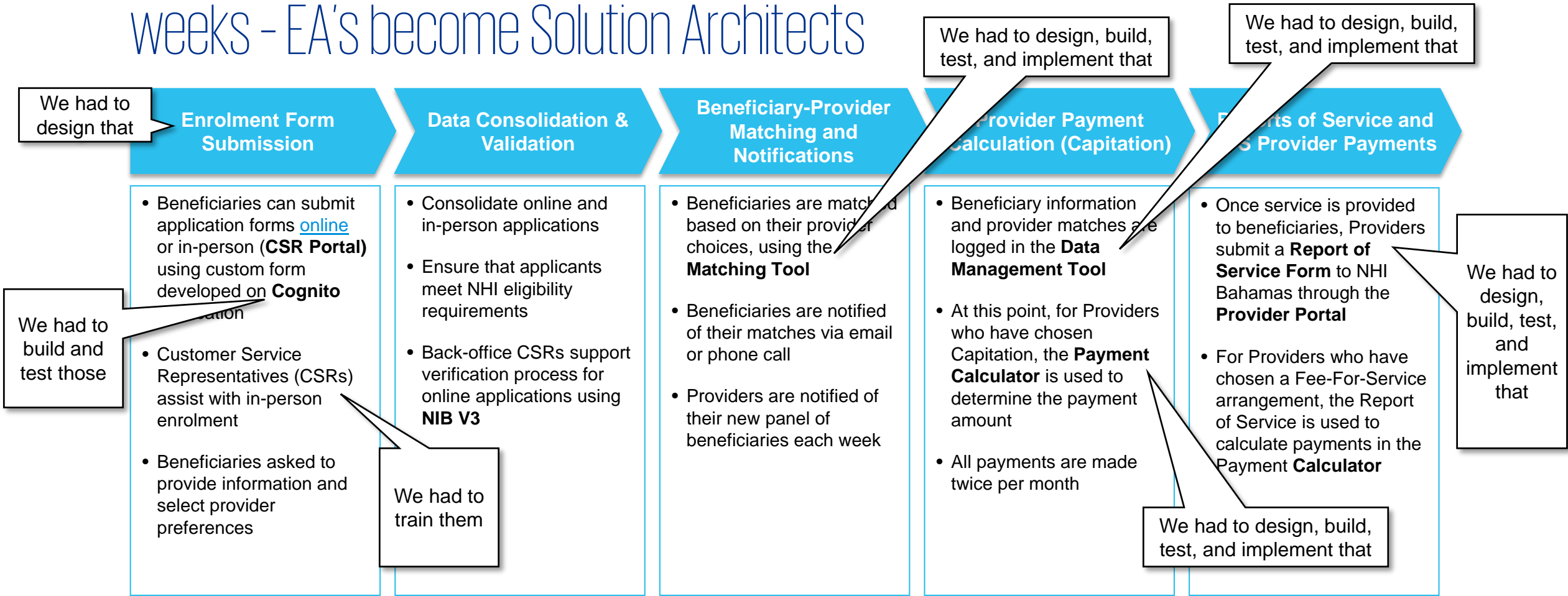
- A larger, faster-growing economy
- More productive workers and higher wages
- More efficient and innovative health sector
- A higher skilled population
- Lower fees for insurance and care
- Higher government revenue
- More people in work



# And The Momentum Shifts



# We had to come up with a revised approach - we had a lot to do over ~6-8 weeks - EA's become Solution Architects



*Taken together, there was zero room for error and we all had to put on a variety of different hats to get this job done*

# March 31 – End of Physician Registration



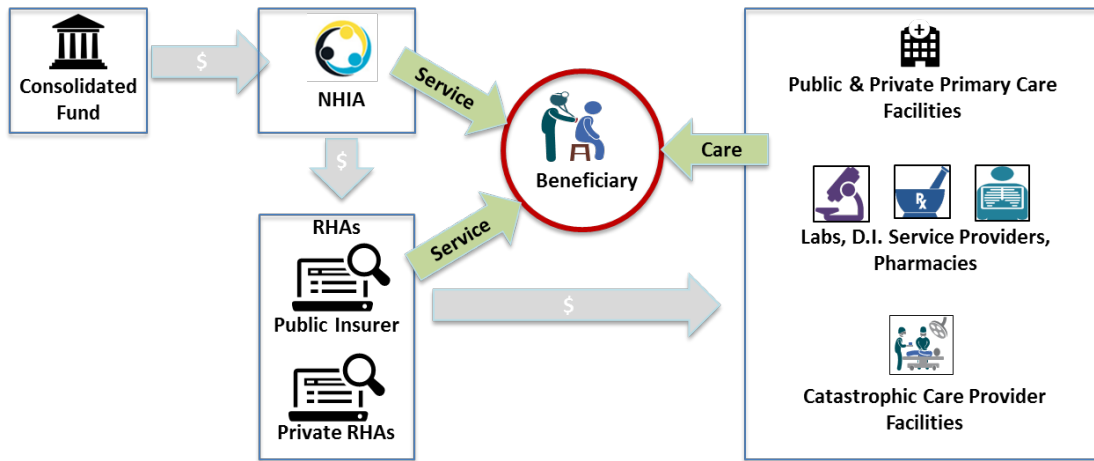
- **More than 60 Physicians Registered for NHI**



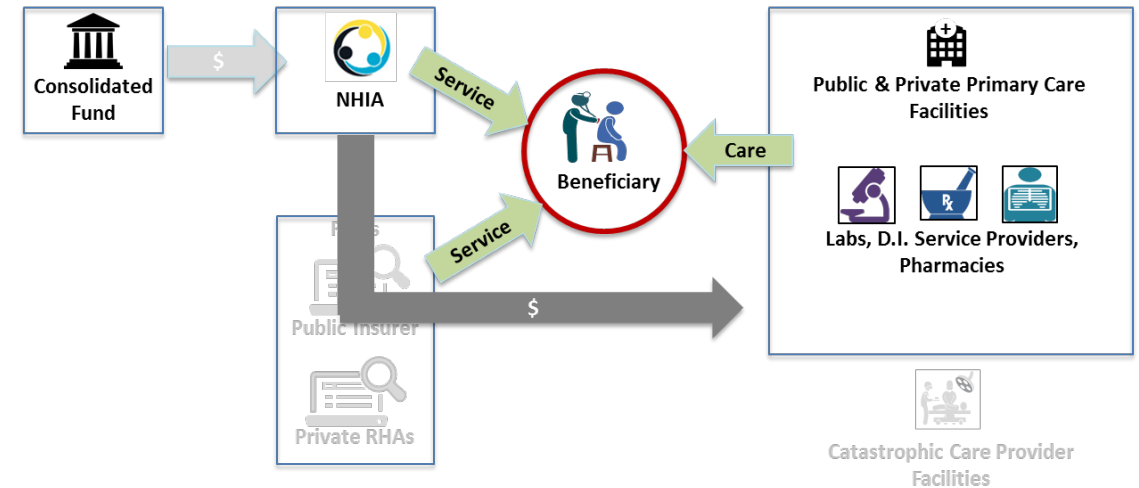
# No RHA's or Public Insurer - Revise the Structure

In the absence of the public insurer and private RHAs, the NHIA is currently paying provider facilities directly, but this should change as the programme progresses

## Envisioned Structure



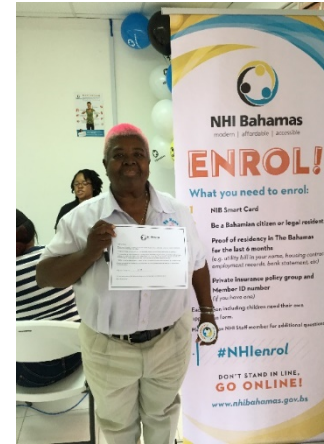
## Current Structure



# And with some perseverance and creativity



# Launch of NHI Enrolment



Big Mama is Enrolled



# Launch of Service Delivery



**Thursday May 4 @ 01:15PM**

Helena Clarke a retired teacher, became the first patient to receive Primary Care Services under National Health Insurance Bahamas

# NHI Bahamas - Key Figures

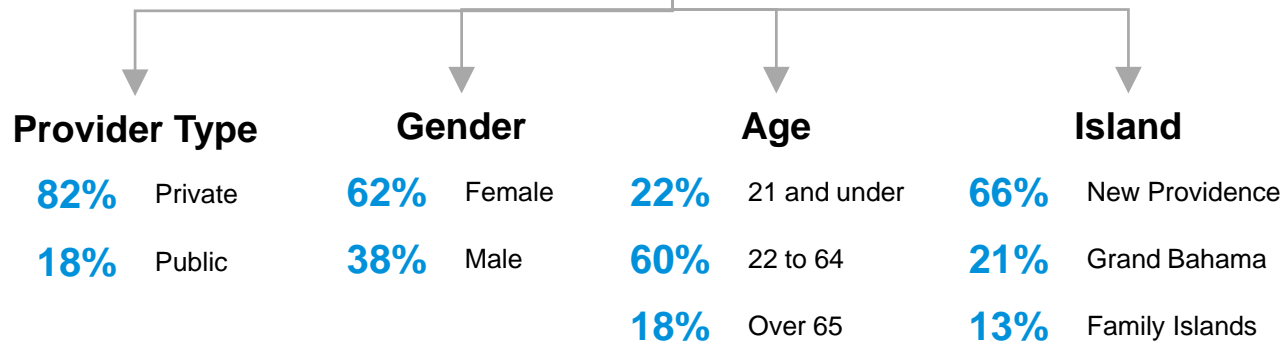
Over 24,000 Bahamians have enrolled in NHI in its first two months, and it's expected that an estimated 120,000 Bahamians could enroll and have access to primary care within the first year

## Enrolment



**24,000**

Enrollees



## Service Delivery



### Physicians

- 50 private physicians
- 48 public physicians

LIVE



### Labs

- 5 private labs started
- 5 joining soon (PMH, Rand and 3 other private labs)

LIVE



### Diagnostic Imaging

- Providers in the inspection / contracting stage

Coming Soon



### Pharmacies

- Registration drive not started yet

Coming Soon





# Part 6 - How Agile Architecture enabled Implementation



# Rapid, Agile Architecture is enabled by an EA Toolkit



## Assessments

Rapid assessment of existing Business and IT assets using reference models within or across program areas



## Transformation Resource and Cost Estimates

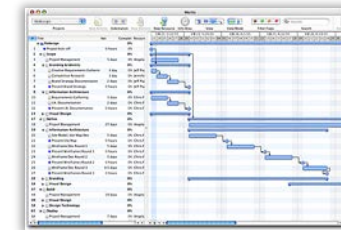
Defensible estimates of business & IT resource requirements & costs, based on industry experience

*KPMG's Enterprise Reference Architecture (KERA) Toolkit deployed on many Canadian & US initiatives*



## Blueprints

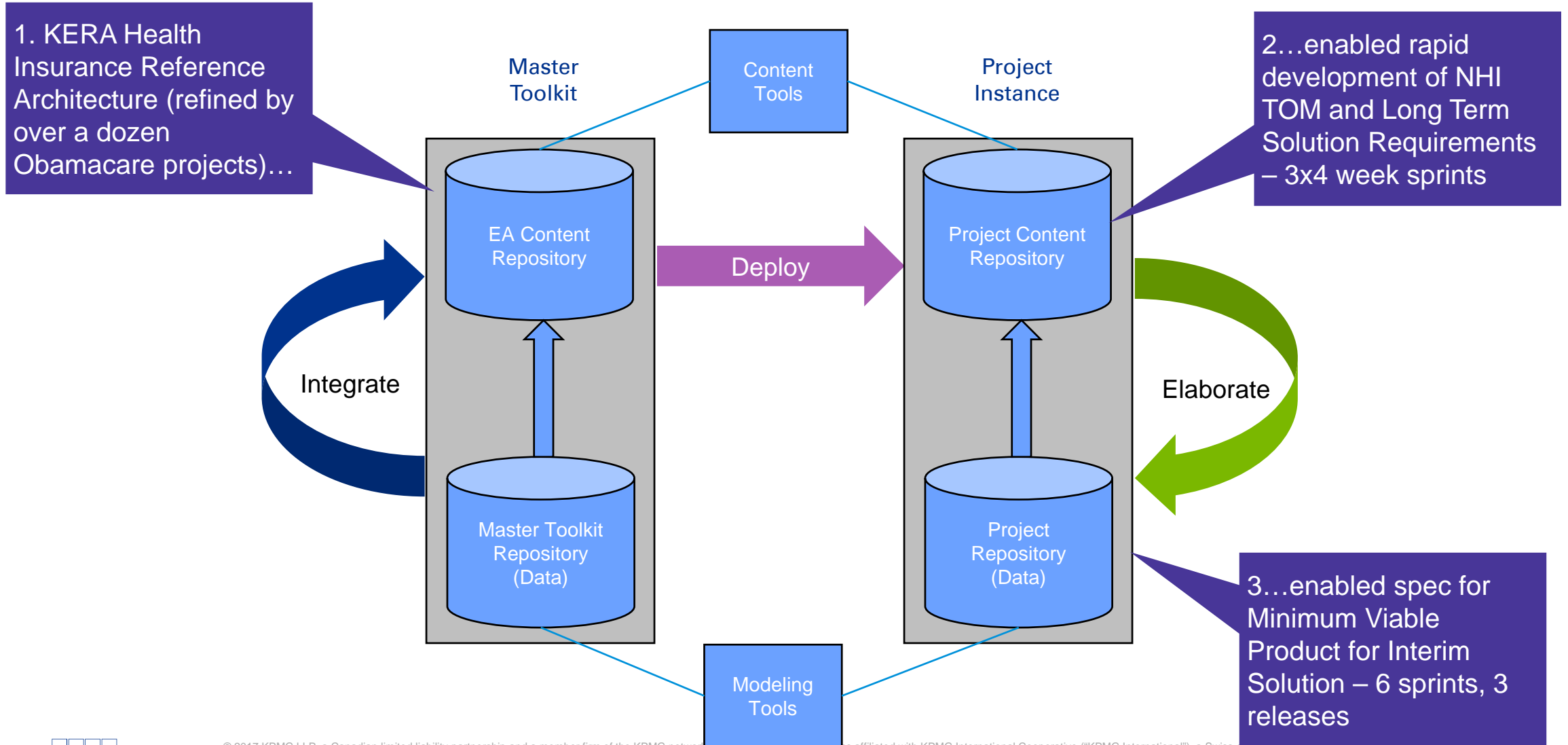
Rapid Design of clear Business models & IT Systems blueprints using relevant reference models from applicable program areas



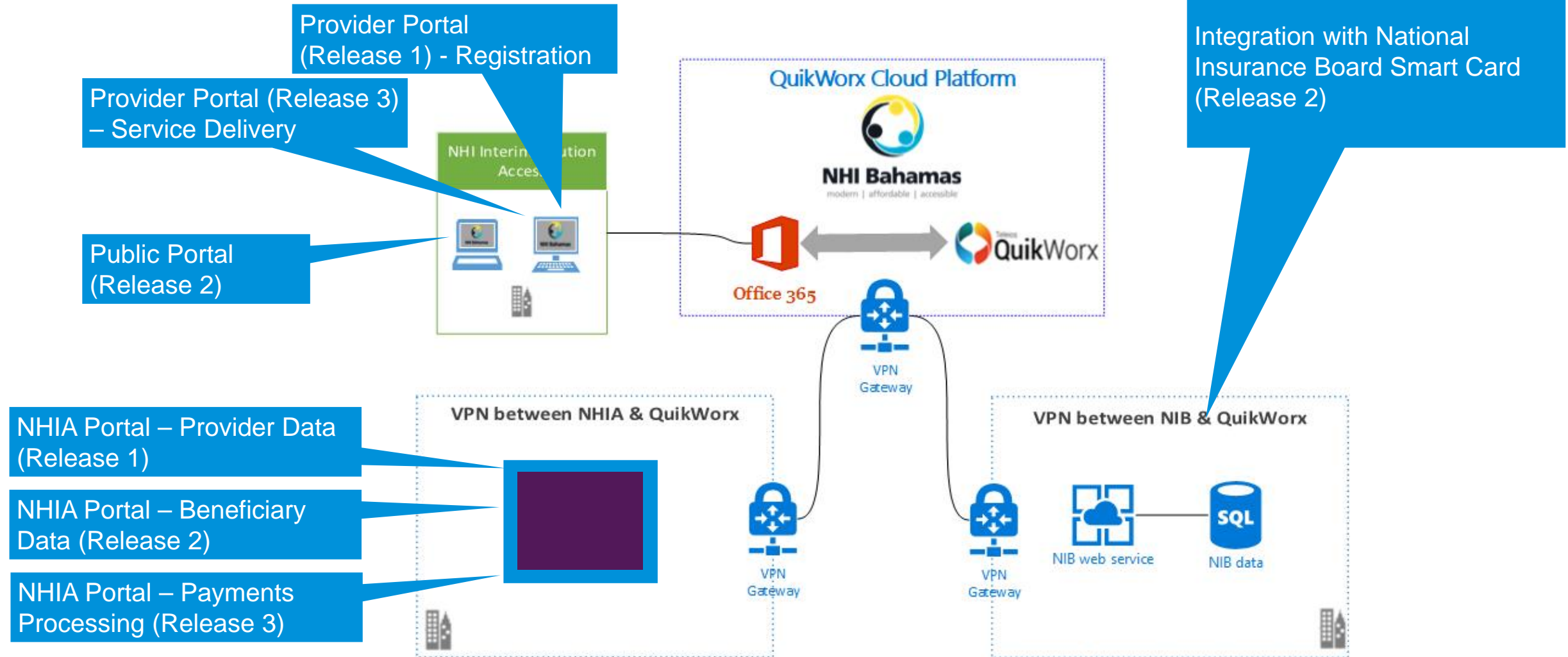
## Transformation Roadmaps

Clear roadmap for the overall investment horizon based on comprehensive planning framework and tools

# Master & project toolkits accelerate agile delivery



# Interim Solution Architecture



# EA Enabled Definition of the Business Continuity Process

**By Feb 2017 it was clear that even the interim solution could not be implemented in time.**

**The EA team conceptualized a “Business Continuity Process” to enable the launch:**

- **Provider Registration – using web forms and a Data Management Tool**
- **Beneficiary Enrollment using web forms, Data Management Tool, and a manual validation against NIB’s smart card database**
- **Provider Payment using a payment calculator – Excel based**

# BCP Tools designed from further prioritization of Interim Solution Spec - implemented in 7 weeks

	<b>Cognito Forms</b>	<b>Matching Tool</b>	<b>Payment Calculator</b>	<b>Data Management Tool</b>	<b>Zoho Desk</b>	<b>CSR Portal</b>	<b>Provider Portal</b>
<b>Description</b>	Azure based platform that allows users to create customized forms	Excel VBA-scripted tool used to allocate beneficiaries to providers based on preference selections	Excel Tool used to calculate capitation and FFS payments based on data stored on data management tool.	SQL based database used to store provider, beneficiary and report of service data and determine payment amounts to Providers. Securely hosted on Azure Cloud	Email ticketing software used to categorize and manage beneficiary inquires	The CSR Portal is an interface to bring various Cognito Forms together for easy access through use of login credentials by the CSRs.	The Provider Portal is a customized access point for each provider for submission of reports of service and bundle notifications accessed through unique login credentials.
<b>Process</b>	Enrolment Form, Report of Service, other forms	Beneficiary-Provider Matching and Assignment	Calculating Provider Payments	Provider Registration, Beneficiary Enrolment, Bundle Notifications and Reports of Service	Ongoing Support	In-Person Enrolment Form, Back-Office Forms, Fast Track, Beneficiary Status Check	Physician Report of Service, Beneficiary Status Check, Bundle Notification



# Aftermath



# ...Where Are They Now?

**Prime Minister Christie was soundly defeated in the May 2017 election**

**The new government installed their own board and new NHI Management over the first year of operation – the team we worked with have largely returned to their previous positions or gone on to new opportunities**

**Budget was reduced to \$40M (partly due to Bahamas fiscal pressures)**

**Promotion was significantly reduced**

**Enrollment slowed – less than 50,000 enrolled in first year**

**KPMG still supports the operation, but at a significantly reduced level of effort**

**But despite all of the challenges – National Health Insurance is in place, and the new government plans to expand it over time**

# #BahamaCare





[kpmg.ca](http://kpmg.ca)



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