Financial and Medical Aspects of Home Care and Pharmaceuticals for the Elderly in Belize

NHI Mercy Clinic

Holistic Elderly Care Pilot Program Since June 2009

> George Gough MD Belize

Adding health to years

 Today, for the first time in history most people can expect to live into their 60s and beyond

World Report on Ageing and Health © World Health Organization 2015

- Population Ageing
 - worldwide challenge (Belize)...
 - a. living longer... yes
 - b. good quality of life ... no
- Global and Caribbean Demographics of Ageing

Ageing Caribbean Populations and Implications for Health Management and Financing

Anton Cumberbatch; Charmaine Metivier; Chantal Malcolm; Joslyn Koma and Stanley Lalta HEU, Centre for Health Economics, UWI Presentation at 8TH Caribbean Conference on Health Financing Initiatives Jamaica...November 12th-14th, 2013

Demographics: Aging in Belize

Belize Postcensal National Population Estimates 2010 – 2015

Source: Statistical Institute of Belize

Age	Estimated Mid -Year Population 2010	Estimated Mid -Year Population 2011	Estimated Mid -Year Population 2012	Estimated Mid - Year Population 2013		Estimated Mid- Year Population 2015
60-64	6,245	6,409	6,577	6,750	6,926	<u>7,107</u>
65-69	4,412	4,527	4,646	4,768	4,894	<u>5,022</u>
70-74	3,508	3,600	3,694	3,790	3,889	3,992
75-79	2,573	2,640	2,709	2,780	2,853	2,927
80-84	3,143	3,226	3,311	3,398	3,487	3,579
TOTAL	19,881	20,402	20,937	21,486	22,049	22,627

Belize Postcensal National MALE Population Estimates 2010-2015

Source: Statistical Institute of Belize

Age	Estimated Mid -Year Population 2010	Estimated Mid -Year Population 2011	Estimated Mid - Year Population 2012			Estimated Mid- Year Population 2015
60-64	3,302	3,389	3,478	3,569	3,662	3,758
65-69	2,348	2,409	2,472	2,537	2,604	2,672
70-74	1,859	1,908	1,958	2,009	2,062	2,117
75-79	1,306	1,340	1,375	1,411	1,448	1,485
80-84	1,480	1,519	1,559	1,600	1,642	1,686
TOTAL	10,295	10,565	10,842	11,126	11,418	11,718

Belize Postcensal National FEMALE Population, 2010 – 2015

Source: Statistical Institute of Belize

Age	Estimated Mid -Year Population 2010	Year Population		Estimated Mid - Year Population 2013		Estimated Mid- Year Population 2015
60-64	2,943	3,020	3,099	3,181	3,264	3,349
65-69	2,064	2,118	2,174	2,231	2,290	2,350
70-74	1,649	1,692	1,736	1,781	1,827	1,875
75-79	1,267	1,300	1,334	1,369	1,405	1,442
80-84	1,663	1,707	1,752	1,798	1,845	1,893
TOTAL	9,586	9,837	10,095	10,360	10,631	10,909

• "We're Living Longer" ... a 100 years ? but with NCDs...

RISK

- Non-modifiable -- Age ...
- Modifiable -- Poor diet
 - -- Physical Inactivity ...

Living Longer?

- Quality
 - Economically
 - Socially
 - Culturally
 - Healthy



Belize City Elderly - Non Mercy Clinic

- Demographics (Provider/Sex to Age)
 - a. Belize City South Side (approx 50%/City)
- Gradual Transfer of the Elderly
 - a. 2016 to 2017 looking at Voluntary Transfer
 - i. Infrastructure is being fitted for 3000
 - b. 2018 Policy for Mandatory Transfer
 - i. Infrastructure will need to fitted for 6000
 e.g. last Census presented 6000 + > 60 yrs
 in Belize City alone

Provider BHP	Age 59	Age 60	Age 61	Age 62	Age 63	Age 64	Age> 65	Total
Male Female Total	20 39 59	22 40 62	19 38 57	11 39 50	19 40 59	11 22 33	254 331 585	356 549 905
BFLA								
Male Female Total	28 39 67	243357	22 39 61	242953	17 28 39	11 28 39	211275486	337 471 808
BMA								
Male Female Total	21 48 69	22 42 64	35 50 85	21 39 60	202747	26 37 63	371 569 940	516 812 1328
MOH								
Male Female Total	32 40 72	36 37 73	26 32 58	33 19 52	16 37 53	23 19 42	316 280 596	482 464 946
Gr Total	267	256	261	215	204	177	2,607	3,987

Problems or Success

- Elderly Population Living longer
- Elderly Home Care growing in demand
- Social Programs not growing to pace
- NCDs Burden of Diseases growing
- Pharmaceutical demand for NCDs in the Elderly unsustainable
- Lifestyle changes for the Elderly are minimum or nonexistent (Young-Old; 60 to 74 years)
- Health Education for Prevention and control of NCDs at a minimum

Mercy Clinic Services Budget

Population 1400 with a specific PMPM per service provided

Service	Budget	Cap	
Pharmacy	143,808.00		11,984.00
Lab	123,312.00		10,276.00
Imaging	29,232.00		2,436.00

Mercy Clinic Services ... Pharmacy, Lab, Imaging

April 2016	Balance	May 2016	Balance	June 2016	Balance	July 2016	Balance	August 2016	Balance
13,903.68	(1,919.68)	13,146.84	(1,162.84)	13,523.88		12,184.09	(200.09)	13,292.67	(1,308.67)
20,044.60	-9,768.60	20,298.40	-10,022.40	17,541.70	-7,265.70	8,720.00	1,556.00	7,080.00	8.41
4,584.00	-2,148.00	7,167.00	-4,731.00	5,218.00	-2,782.00	1,352.00	1,084.00	286	1,077.88

NHI Mercy Clinic 2016 Jan 1st 2016 to August 31st 2016

SERVICES	PMPM	Per Month	8 Months
Pop 1400	18.25	\$25,550	\$204,400
Pharmacy	8.56	\$11,984	\$95,872
Lab	7.34	\$10,276	\$82,208
Imaging	1.74	\$2,436	\$19,488
Total	35.89	\$50,246	\$401,968

NHI Mercy Clinic 2016

Sept 1st 2016 to March 31st 2017

SERVICES	PMPM	Per Month	Next 7 Months	Total Additional Cost
Pop 2000	16.57	\$33,140	\$231,980	\$53,130
Pharmacy	8.56	\$17,120	\$119,840	\$35,952
Lab	7.34	\$14,680	\$102,760	\$30,828
Imaging	1.74	\$3,489	\$24,423	\$7,371
Total	\$34.21	\$68,429	\$479,003	\$127,281
Cost	- (1.68)	+ (\$18,183)*		
• PMPM Services (\$7,590) up	*PMPM Pharmacy (\$5,136)	• PMPM Lab (\$4,404)	• PMPM Imaging (\$1,053)	

NHI Mercy Clinic

Contract April 1st, 2017 - March 31st, 2018

Pop	PMPM 16.58	Pharm	Lab	Image	Total Month	3 Months
2000	\$33,140	\$17,120	\$14,680	\$3,480	\$68,420	\$205,260
2250	\$37,282	\$19,260	\$16,151	\$3,915	\$76,608	\$229,824
2500	\$41,425	\$21,400	\$18,350	\$4,350	\$85,525	\$256,575
2750	\$45,567	\$23,540	\$20,185	\$4,785	\$94,077	\$282,232
					Total	\$973,891
	PMPM \$15.00					12 Month 2018/19
3000	\$45,000	\$25,680	\$22,020	\$5,220	\$97,920	1,175,040

NHI Mercy Clinic Path to Sustainability...

Total PMPM	Total Cost per Month	Yearly Cost
\$35.39 (1400 + member)	\$50,256	\$603,072
\$34.21 (2000 +member)	\$68,429 - \$94,077	\$821,148 - \$1,128,924
\$32.64 (3000 +	\$ 97,920	\$1,175,040
??? (4500 +		
???? (6000 members)		\$????

Key Performance Indicators for Bonus Payments January 1st to December 31st, 2013

No.	Key Performance Indicators	Target	Score	Results
1.	Percent of Medical Staff trained at 2 times during the year in Geriatric Medicine Documentation including NCD Protocols.	100%	15%	100%
1.	Percent of Basic Standards for a geriatric institution implemented Documentation: checklist	85%	15%	98.7%
1.	Conduct 4 hours of specialist clinic once a month	90%	<u>15%</u>	100%
1.	List of basic equipment installed and functional	95%	15%	99.5%
1.	Develop Geriatric Protocols for HTN and DM /Research Blister Package Report and Presentation	100%	20%	100%
1.	At least 85 percent of MC patients expressed <u>full satisfaction</u> with regard to services received from the MC	85%	20%	90%
	KPI Score Pass: 85%			100%

Poster Presentation (P-13)

- Caribbean Public Health Agency 59th Annual Scientific Meeting May 1 – 3, 2014
- Improving chronic patient compliance with medication using monthly blister packing A Hotchandani Mercy Clinic NHI

Objective:

To improve geriatric patient compliance to medication adherence by using a prepackaged monthly blister pack.

- Design and Methods:
- a. Patients with a high index of suspicion/confirmed non-compliance had their medications dispensed in the blister packing.
- b. Patients were required to bring in their previous blister pack before the next one would be dispensed.

Results:

- There were 27 patients in the study.
- After the first visit there was 56% compliance
- By the last visit compliance increased to 82%
- Some clinical data...e.g.

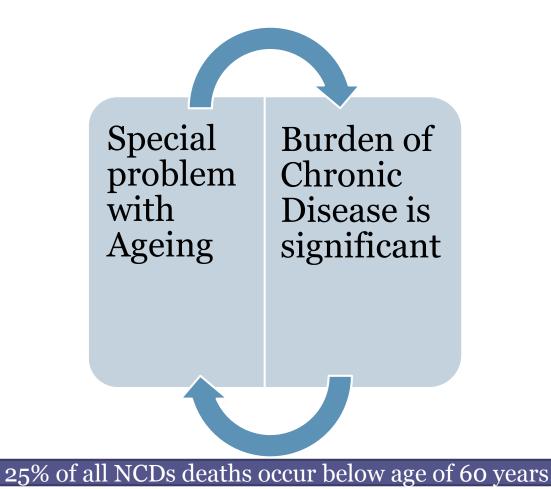
In hypertensive patients, there was an average reduction of 28 mmHg in the systolic pressure and 13.5 mmHg in the diastolic pressure

Conclusion:

- The use of monthly blister packing helped improve patients' compliance, overall health and was economically feasible.
- The results of the study show that all three aspects of the study improved with the use of blister packing.
- Discontinued...
 - a. 50% improve in compliance? (young-old)
 - b. Did not replace home visits compliance
 - c. Elderly (middle to oldest old) <50% ...

Key Performance Indicators for Bonus Payments January 1st to December 31st, 2015

No.	Key Performance Indicators	Target	Score	Results
1.	Percent of Medical Staff trained at 12 times during the year in Geriatric Medicine Documentation including NCD Protocols.	100%	15%	100%
1.	Percent of Basic Standards for a geriatric institution implemented Documentation: checklist	85%	15%	95.6%
1.	Conduct 4 hours of specialist clinic once a month	90%	10%	100%
1.	90% of Outreach visits per month. ***	90%	15%	100%
1.	At least 80 percent of hypertensive patients receiving care according to protocol	80%	15%	95%
1.	At least 80 percent of diabetic patients receiving care according to protocols	80%	15%	100%
1.	At least 80 percent of MC patients expressed <u>full satisfaction</u> with regard to services received from the MC	80%	15%	100%
	KPI Score Pass: 80%		100%	100%



Factors

"Elderly Poor"

- Lower incomes lead to shorter lifespan 50% of the Elderly are Poor

"Removing Barriers"

- Accessing care e.g. Clinical and Preventive type

"Health Promotion to the Elderly"

- improving Health literacy e.g. different message different style special and tailored activities

Present Organization...

- Doctors and Nurses **
 50 Patients per Doctor per Month No social workers
- NCDs Management **
- Compliance of Care especially in relation to Pharmaceuticals
- Caregiver training to family members **
- Nutrition support **

Delivered to...

- Elderly; Old Old (especially > 84 yrs)
 - Live alone
 - Very poor
 - All those in Feeding Program and others
- Bedridden
- double- amputees
- Stroke patients (no mobilization)
- Mental Health component
 - Dementia, Alzheimer's etc

Funded

- Clinical Care by NHI
- Feeding Program
 - Partially by NHI (via a rental subsidy)
 - Mostly by Private Sector Donations
- Monitored
 - NHI
 - Mercy Clinic Board
 - Human Development
 - Mental Association

Challenges

Develop a model by both Private and Public sector that will work best in terms of acceptability and affordability

Ideal Model?

needs to ensure effective management of the Elderly who are unable or do not want to access the institutional care

New Mix of Models with protocols tailored for each group related to compliance and measured outcomes will be required in the next 2 to 3 decades...

Pharmaceuticals for the Elderly

Factors

- 1. Non-Compliance
 - potential life threatening problem
 - expensive (clinical complications)
 - Hoarding of Medications
- 2. Quality of the Generic Medications
 - Purchasing in the unregulated private sector
- 3. Cost of Pharmaceuticals due to Volume
 - multiple prescriptions for the NCDs

Pharmaceuticals for the Elderly

Re-Organization needed ...

- tailoring prescription Compliance to the different NCDs Protocols within the different elderly groups
 - e.g Reduce usage and waste of services
- "Breaking All the Rules"
- "Retailoring of clinical protocols directed at most prevalent NCDs that affect the most vulnerable groups within the elderly population that are economically and socially marginalized "

Pharmaceutical for the Elderly

Need to be Delivered

Concept ... "Prevention"

not only for the young

the burden of Disease can be managed effectively in the "old –Young" (60 to 74 years) to create sustainability of the program

- wellness and lifestyle programs
- clinical management of NCDs
- Promotion of economic and social independence of the elderly

Pharmaceutical of the Elderly

- Funded
 - NHI
 - via a centralized source of procurement
- Monitored
 - NCDs Protocols e.g. (DMII and HTN)
 - Via RAWA as per prescription patterns
 - Compliance via home visits
 - Clinical Audits

Pharmaceuticals of the Elderly

Challenges

- Non-Compliance
 - approx. 6% Hospital Admissions
 - health education to the Elderly
 - Mental disorders associated (Huge Barrier)
- Removing Barriers
 - Accessing care especially preventive care
 - Flexibility within protocols directed to towards better outcomes

Achievements

- Home Care
 - a. Better Compliance
 - i. Medication utilization
 - ii. NCDs adherence to Protocols
 - iii. Caregiver/family member Home training
 - iv. Feeding program better nutritional value
- Pharmaceuticals
 - a. NCDs Medication Bulk Purchasing
 - i. quality, cost and volume
 - b. Use of RAWA to monitor utilization trends/caps
 - c. Legislation for GMPs by Ministry of Health

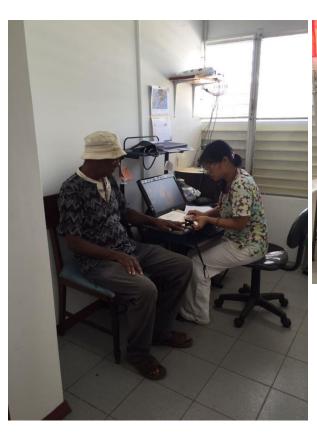
Lessons of Experiences

- a. How will economies pay for it? (Never...)
 - ... argument that aging is not equal to poor health
- b. Health Policies is equal to "Health Politics"
 - ... Personal responsibility (Blame Game)
 - ... week / nonexistent Health Politics
 - e.g. Legislation on Products and services
- directly related to negative health outcomes
- cigarettes, sugar and alcohol drinks, saturated
- oils, strong road traffic laws, etc

Lessons of Experiences

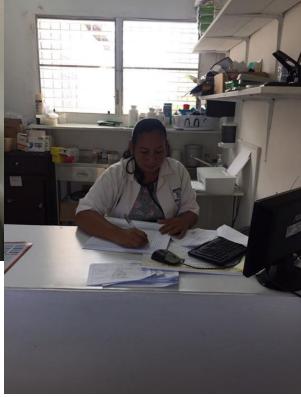
- c. Avoidance of Privatizations of Health Laws
 - e.g. pharmaceutical industry
- d. Social and Financial Government Policies
- e.g. SSB contributions that are more reflective of the cost of aging including a buffer for those who will require a safety net from risk pooling
- e. The Great Mix
- e.g programs must include all Providers and Stakeholders in its Provision of Valued Services
 - i. Private sector (competiveness/market forces)
 - ii. Public sector (single payer public system)

Basic Components of our Traditional Clinics





Clinical Examination



Screening

Pharmacy