

# Prevention and control of smokeless tobacco (ST)- Sri Lankan experiences

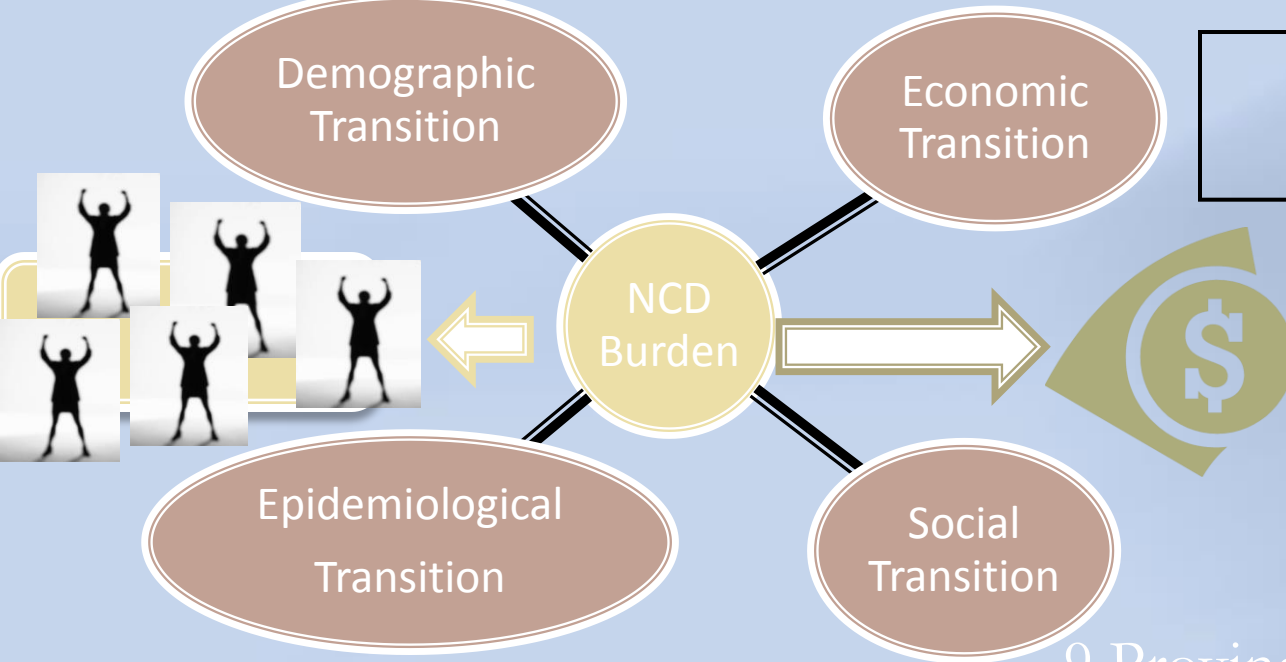
Sri Lankan Team

Dr Palitha Abeykoon, Chairman, NATA, Ministry of Health

Prof W.M. Tilakaratne, Chairman, NATA subcommittee ST, and Dean, Faculty of Dental Sciences

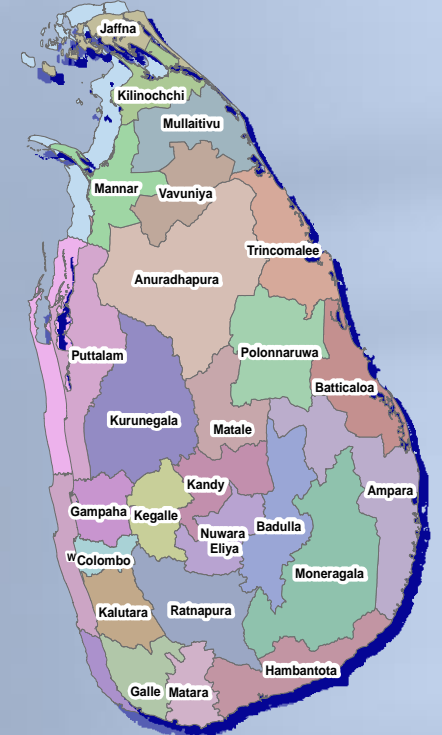
Dr Hemantha Amarasinghe, Convener, NATA Subcommittee ST, Consultant in Community Dentistry, Ministry of Health

# Today in Sri Lanka



9 Provinces

25 Districts



<b>Total Population</b>	<b>21.2 million</b>
Hospital Bed: Pop	373.6 / 100,000 population
Doctor : Pop	77.4 / 100,000 population
Nurse : Pop	179.3 / 100,000 population

Details	
Per capita GDP (USD)	3,835
Total Expenditure on Health as of GDP	4.2%
Out of Pocket Expenditure	51%

# Types of ST

- Traditional betel chewing



- Commercial preparations  
Mawa



Babul, Beeda, Gutka,  
Pamparag, Hans



# Use of Smokeless tobacco (ST) in Sri Lanka

- Betel chewing habit is deeply seated in the rural villages and estate sector
- Buddhist culture and traditions are empowering the habit of betel chewing
- Smokeless tobacco commercial preparations are becoming popular among urban youth
- ST popular among some occupational groups  
eg: Bus drivers, labourers, construction sites
- ST related cancers are increasing in trend

Year	Survey	Daily Smokeless tobacco		
		M %	F %	Total %
2006	STEP	24.9	6.9	15.8
2008	Amarasinghe et al 30 year and over Sabaragamuwa Village	70.2	33.1	53.7
	Estate	82.8	75.8	79.3
2015	STEP	26	5.3	15.8
2015	Global youth tobacco survey (13-15yr)	4.2	0.5	2.4
2015	Betel chewing prevalence – Bus drivers	89.2		

# NCCP Cancer Registry : Leading Cancer Sites - Males (No. & ASR)

Site	Year			
	2005	2006	2008	2010
Lip, oral cavity & pharynx	1240 (14.1)	1427 ( 16.0)	1630 (18.1)	1888 (20.7)
Trachea, bronchus & lungs	666 (7.7)	691 ( 7.9)	814 (9.3)	806 (9)
Oesophagus	498 (5.8)	486 (5.7)	664 (7.5)	574 (6.5)
Colon & Rectum	388 (4.4)	371 (4.2)	477 (5.3)	567 (6.2)
Lymphoma	360 (3.9)	369 (3.9)	434 (4.6)	419 (4.3)
Larynx	324 (3.7)	341 (3.9)	393 (4.4)	384 (4.3)
Leukaemia	313 (3.3)	329 (3.5)	344 (3.7)	354 (3.7)
Prostate gland	303 (3.5)	321 (3.8)	396 (4.6)	480 (5.5)
Unknown primary site	257 (2.9)	303 (3.3)	423 (4.7)	436 (4.8)
Brain	171 (1.8)			
Haemopoietic & reticuloendothelial system other than leukemia		196 (2.3)		
Stomach			239 (2.7)	226 (2.5)

# NCCP Cancer Registry : Leading Cancer Sites - Females (No. & %)

Site	Year			
	2005	2006	2008	2010
Breast	1859 (18.3)	2 102 (20.6)	2220 (21.8)	2401 (23)
Cervix uteri	881 (8.9)	934 (9.6)	858 (8.6)	847 (8.4)
Thyroid gland	592 (5.6)	683 (6.4)	815 (7.4)	832 (7.4)
Ovary	596 (5.9)	672 (6.7)	637 (6.2)	680 (6.7)
Oesophagus	524 (5.5)	610 (6.4)	617 (6.4)	496 (5.1)
Lip, oral cavity & pharynx	377 (3.8)	390 (4.0)	477 (4.8)	534 (5.4)
Colon & rectum	353 (3.6)	372 (3.8)	508 (5.2)	516 (5.1)
Uterus	237 (2.4)	268 (2.8)	397 (4.1)	386 (3.9)
Leukaemia	257 (2.8)	257 (2.8)		290(3)
Lymphoma	243 (2.5)	251 (2.5)	288 (2.8)	275 (2.6)

# Major interventions prevention and control of smokeless tobacco in Sri Lanka

- Intervention 1: Ban sale, production and import of all form of ST including betel chewing from 1<sup>st</sup> September 2016
- Intervention 2: Formulation of “Voice of Blue pea” cancer victim group
- Intervention 3: New betel tray concept :Advocacy programmes for religious leaders
- Intervention 4: Developed and Utilized the risk factor model for identification of high risk groups for early detection of oral cancer



## Major interventions conti..

- Intervention 5: Social marketing campaign to raise public awareness of danger of smokeless tobacco and areca nut
- Intervention 6: Conduct capacity building and awareness programmes Eg: Public, school children, Teachers, Bus drivers, factory workers and Estate sector interventions- Annual events in the NCCP agenda
- Intervention 7: Conducted a qualitative study and costing studies on tobacco, ST, Alcohol
  - Conducted studies to calculate PARF % for ST
- Conducted three international symposia on ST in last 4 years and published a declaration
- Established surveillance system for oral cancer and OPMD surveillance/ developed guidelines

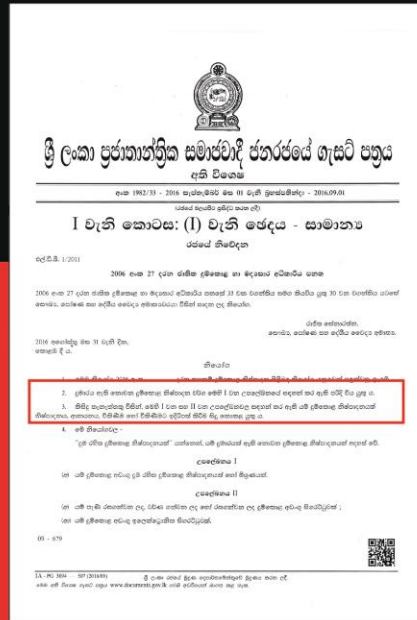
# 1<sup>st</sup> Intervention- Legislation on control of Smokeless Tobacco use

- The Gazette notification issued on ST dated 1<sup>st</sup> September 2016
- Banned selling, import and manufacture of all ST product or mixture that contain tobacco

# මඬ දන්නවාද?

2006 අංක 27 දරන ජාතික දුම්කොළ හා මද්‍යසාර අධිකාරිය පනතේ 33 වන වගන්තිය සමඟ කියවිය යුතු 30 වන වගන්තිය යටතේ සෞඛ්‍ය, පෝෂණ සහ දේශීය වෛද්‍ය අමාත්‍යවරයා විසින් සාදන ලද නියෝග.

2016.09.01 දින නිකුත් කළ අති විශේෂ ගැසට් පත්‍රයට අනුව



**දුම් රහිත දුම්කොළ (හපන දුම්කොළ) අඩංගු නිෂ්පාදන නිෂ්පාදනය / ආනයනය / විකිණීම / විකිණීමට ඉදිරිපත් කිරීම දඬුවම් ලැබිය හැකි වරදක් බව.**

**දුම්කොළ, පුවක් සහ ඒ ආශ්‍රිත නිෂ්පාදන මුඛ පිළිකා ඇති කරයි.**



දුම්කොළ හා මද්‍යසාර පිළිබඳ ජාතික අධිකාරිය



# Banned spitting on the road- Road Act 2008 no 40 section 73(3)

## මහ පාරේ කෙළ ගහලා තුන්දාහක් දඩ කාලා

මහා මාර්ගයකට බුලත් කෙළ ගැසූ පුද්ගලයකුට මතුගම මහේස්ත්‍රාත් අධිකරණයෙන් රුපියල් 3000ක දඩයක් ඊයේ (29) නියම කෙරිණි.

මෙසේ දඩ නියම වූයේ වේයන්ගොඩ ප්‍රදේශයේ පදිංචිකරුවකු වන ආර්.පී. තාරක නුවන් පද්මසිරි නමැත්තකුටය.

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දින හෝ ඊට ආසන්න දිනයක දී මහා මාර්ගයට බුලත් කෙළ ගසා අපවිත්‍ර කිරීමෙන් එම මාර්ගයේ ගමන් ගන්නා මහජනතාවට අප්‍රසන්නතාවක් සහ පිළිකුලක් ඇති කරවන ලදැයි 2008 අංක 40 දරණ ජාතික මංමාවත් පනතේ 73(3) වගන්තිය යටතේ සැකකරුට එරෙහිව මෙම නඩුව මතුගම පොලිසිය විසින් ගොනුකර තිබිණි.

# Intervention 2: Formulation of a Victim group

VOBP





*මුඛ පිළිකාවෙන් තොර ජීවිතයක්...*

**දුම්කොළ, පුවක්, හුණු, මත් වතුර,  
පිළිකා ඇති කරයි.**



**ජාතික පිළිකා මර්දන වැඩසටහන**  
සෞඛ්‍ය අමාත්‍යාංශය



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0112368627, Email: nccpsl@yahoo.com Web: www.nccp.health.gov.lk  
ක්ෂණික ඇමතුම් - 0715320320



nci National Cancer Institute



අද්වේශනා රෝහල  
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# නිහඬු ඔවුන්ගේ ජීවිතයේ



## ආයුර්වේද මධ්‍යස්ථ විකේන්ද්‍රය

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# Office bearers of VoBP





# ST intervention 3: New betel tray concept

- Remove Tobacco, areca nut and lime
- New betel tray contains  
Betel leaves, Nutmeg, Mace, Cardamom, Clove  
Aromatic Ginger
- Betel is only for offering
- However, new betel tray is to continue the tradition, not to chew.









# ST intervention 4 : Novel strategy to identify the high risk individuals and detection of OPMD: Risk Factor Model

**Dr Hemantha Amarasinghe**

**Prof Saman Warnakulasooriya**

**Prof Newell W Johnson**

British Journal of Cancer (2010) 103, 203–209  
© 2010 Cancer Research UK. All rights reserved 0007-1226/10  
[www.bjancer.com](http://www.bjancer.com)



Derivation and validation of a risk-factor model for detection of oral potentially malignant disorders in populations with high prevalence

**HK Amarasinghe<sup>1,2,4</sup>, NW Johnson<sup>2,3</sup>, R Laloo<sup>2,3</sup>, M Kumarakarachchi<sup>3</sup> and S Warnakulasuriya<sup>4</sup>**

<sup>1</sup>Dental Institute, Mahoragama, Colombo 10280, Sri Lanka; <sup>2</sup>Geffrey Hynes Institute, Stoll Court Campus, Griffith University, Queensland 4112, Australia; <sup>3</sup>School of Dentistry, and Oral Health Gold Coast Campus, Griffith University, Queensland 4222 Australia; <sup>4</sup>Department of Oral Medicine and Experimental Oral Pathology, King's College Dental Institute, London SE5 8RS UK



# Risk factor model (RFM) for identification of high risk people for Oral cancer

- Based on risk marker and lifestyle factors

Betel quid chewing

Consumption of Alcohol

Smoking

Age

Socioeconomic status



- RFM was developed to identify OPMD (oral potentially malignant disorders)



# Results of the validation study

ROC curve for risk factor score and the presence of leukoplakia, OSF and oral mucosal disorders

ROC Curves

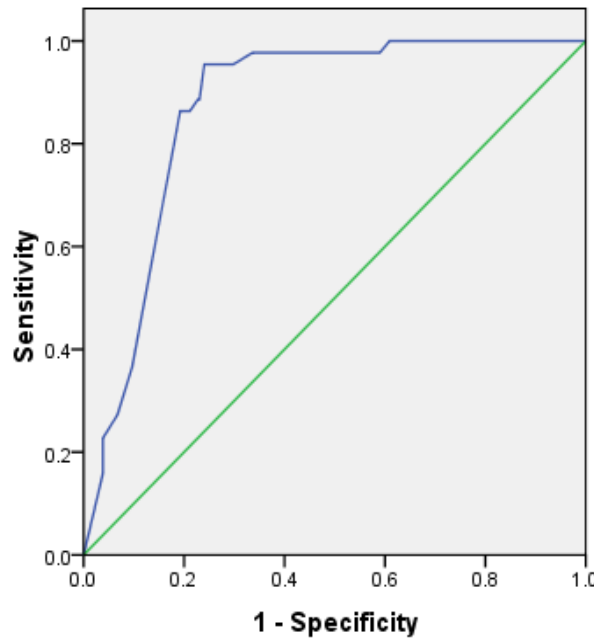


Figure 2 A

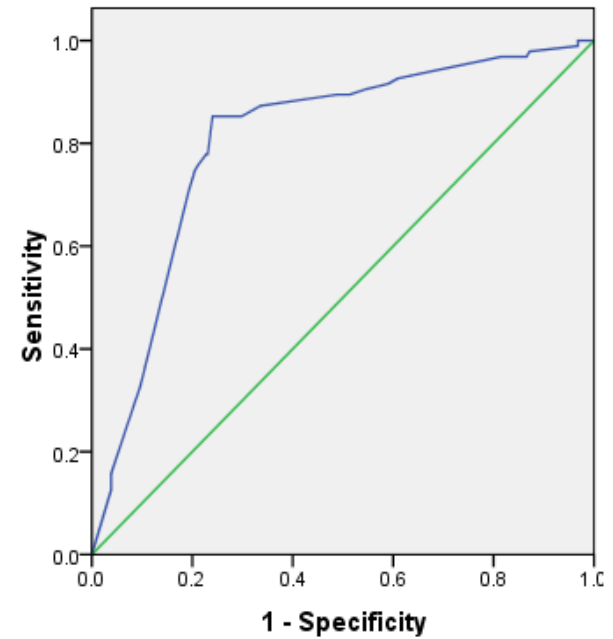


Figure 2 B



Fig 2B: Area under the curve  
0.80 , 95% CI 0.75- 0.85

- Criterion Validity
- Sensitivity of 85.3%
- specificity of 75.9%
- false positive rate (FPR) of 24.0%
- false negative rate (FNR) of 14.7%
- positive predictive value (PPV) of 51.9%
- negative predictive value (NPV) of 94.4%

# ST intervention 5: Social marketing campaign

## Social Marketing tools

- Two TV spot 30 second
- Two Radio clips 30 second
- Poster for institutions
- Stickers for School community
- Stickers for public transport buses
- Teledrama: Nelkatarolu
- Teledrama: Muka sanniya

Media campaign was launched on 27<sup>th</sup> July 2012 along with the global oral health month



Leaflets



Stickers



Posters



T.V Spots

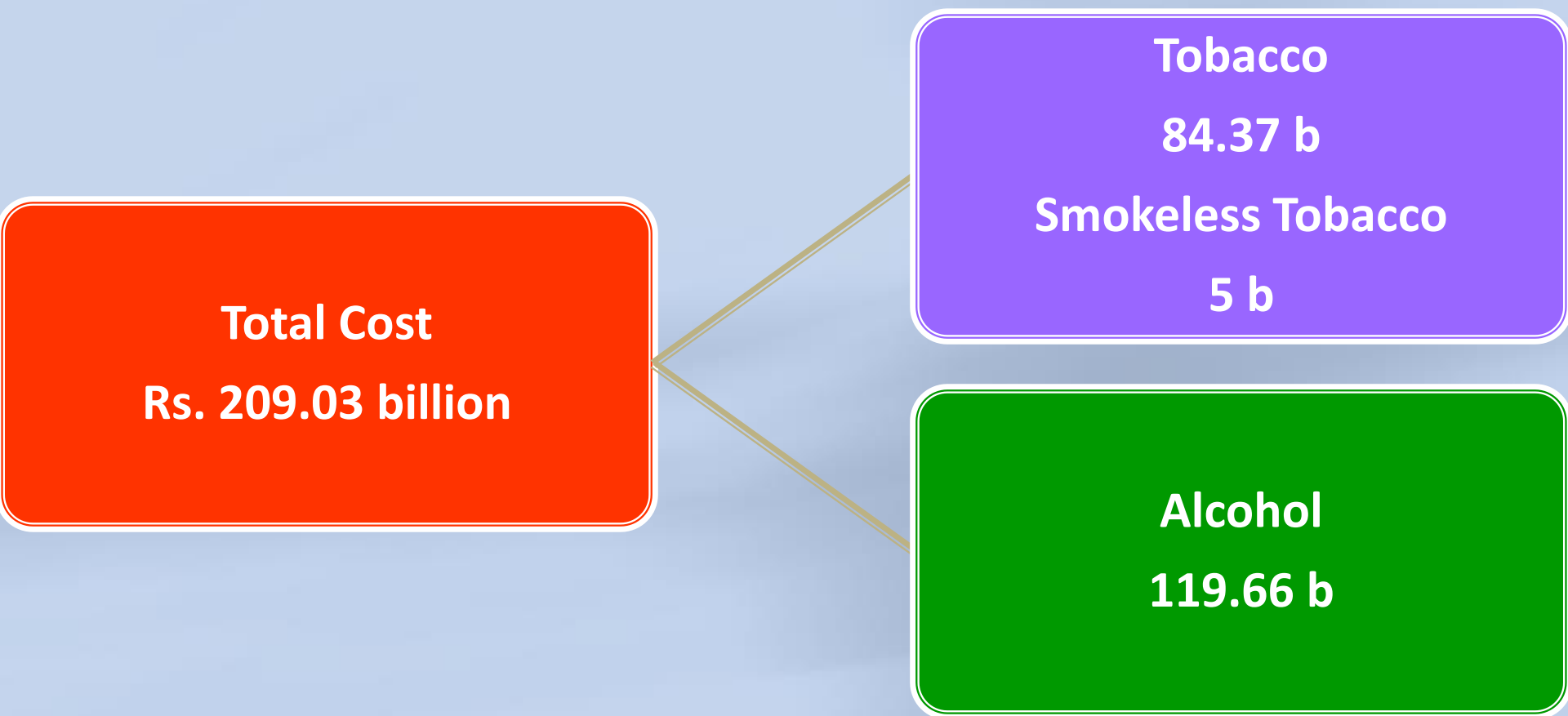
"He who delayed at the first instance,  
But advanced at the second instance,  
Yet will start to shine very soon  
Like the moon being cleared by dark clouds"

# TV spots





# ST intervention 7: Estimation of the economic cost of tobacco and alcohol- HITAP project, NATA and WHO- year 2015



**Rs 209,030,000,000**

**USD 1,548 million**



Southern Highway \$ 741m (Rs. 98.5 b)



# Barriers for implementation of interventions

1 Political influences

2 Cultural and religious factors

3 Flow of commercial ST products from neighbouring countries



*Thank you*

26.07.2014 06:59