

# HPV VACCINATION CONCEPTUAL PERSPECTIVES FROM THE CARIBBEAN

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# Introduction

- Ø Cervical cancer is a major cause of morbidity and mortality worldwide
- Ø The Caribbean sub-region bears some of the highest disease burdens with an estimated annual mortality rate of 16/100,000 women
- Ø A primary prevention strategy, human papillomavirus (HPV) vaccination, is of paramount importance for the sub-region



# Background

- Ø A sub-regional meeting of key stakeholders was convened in Barbados, June 2007 to discuss issues and challenges associated with comprehensive cervical cancer prevention and HPV vaccine introduction in the public sector
- Ø Ten countries, representatives from various faculties of the University of the West Indies, Cancer Societies, Family Planning Associations and the Caribbean Paediatric Association participated in this meeting



# Objectives of the Meeting

- ∅ To develop a plan for gathering pertinent data that would support informed public health decision regarding early introduction of HPV vaccine
- ∅ To develop and outline a clear policy position concerning use of HPV vaccines and the required surveillance indicators to measure the impact of HPV vaccination.
- ∅ To discuss the crucial issues involved in the design and implementation of a HPV vaccination program within the framework of comprehensive cervical cancer prevention and control.



## Objectives Cont'd

- ∅ To discuss critical issues, including obstacles, strengths and weaknesses in regard to current cervical cancer information systems
  - ∅ Information systems an important interface between the cervical cancer and immunization programs
- ∅ To propose a HPV laboratory network [centers of excellence], including quality assurance for the sub region



# Cervical Cancer & HPV in Caribbean Current Literature Review

- Ø Eight studies regarding cervical cancer and the associated HPV subtypes have been conducted in Barbados, Trinidad & Tobago, Jamaica and Cuba and have been published between the years 1988 and 2005
- Ø Two studies conducted more recently in Jamaica were presented at the Caribbean Health Research meeting in 2007 [abstract WIMJ, Vol. 66, Supplement 1]



## Cervical Cancer & HPV in Caribbean Current Literature Review-Cont'd

- Ø The studies varied in sample size, study subjects and populations, and types of assays and types of samples used.
- Ø Different laboratory methodologies were used for HPV sub-typing
- Ø HPV 16 and 18 were identified in a lower proportion of cervical cancers than that observed in North American studies.







# Plan for Gathering Pertinent Information

- Ø Data on the burden of illness of cervical cancer to be gathered and economic studies conducted to support the decision making process
- Ø The recommended economic studies are:
  - Ø Cost of illness
  - Ø Cost effectiveness Analyses
    - ü Vaccine introduction
    - ü Strengthening of the cervical cancer prevention and control program with emphasis on screening



# Plan for Gathering Pertinent Information Cont'd

- Ø The content of the Cost of illness studies should be determined by a Caribbean panel expert meeting
- Ø A Regional Consultant should be made available to guide the Multicentre study in the sub region



## Proposed Studies and Activities by Country

Actions/Data Collection	Countries / Responsible Agencies
Guidelines for studies to be sent to CARICOM and MOH	CAREC with guide from FCH/PAHO
Incidence of cervical cancer	All countries
Detailed information on cervical cancer morbidity	Bahamas, Barbados, Belize, Guyana, Jamaica, Suriname, Trinidad/Tobago, St. Vincent/Grenadines, St. Lucia.
??Genital warts prevalence	Bahamas, Barbados, Belize, Guyana, Jamaica, Suriname, Trinidad/Tobago, St. Vincent/Grenadines, St. Lucia
Mortality due to cervical cancer	CAREC, Bahamas, Barbados, Belize, Guyana, Jamaica, Suriname, Trinidad/Tobago, St. Vincent/Grenadines.
Prevalence of HPV types	Belize, Guyana (high risk group) Trinidad/Tobago, Jamaica.
Cost of Illness	Jamaica, Trinidad/Tobago, St. Vincent/Grenadines.
CEA: VIC Tool, Strengthen Cervical Cancer Control Program (CCCP)	Bahamas, Barbados, Belize, Guyana

# Policy position on the use of HPV vaccines

Technical officers from countries of the sub region agree that HPV vaccine should be introduced in national EPI programs providing that the following issues are addressed:

- Ø Vaccine pre-qualification by WHO

- Ø Technical components are met:

  - ü Results of research, such as cost-effectiveness studies, clearly support vaccine introduction

  - ü Pap Smear Screening is continued and strengthened as necessary



# Policy position on the use of HPV vaccines

Ø Operational capacity is assured:

Ø Guaranteed vaccine supply chain

Ø Adequate cold chain capacity

Ø Training, communication and advocacy  
(public/private sectors)

Ø Adequate human resources



# Policy position on the use of HPV vaccines

## Cont'd

- Ø Financial sustainability is assured
  - Ø Accurate assessment of the costs of introduction is determined
  - Ø Financial space is enhanced so that other critical programs are not negatively affected



# Essential surveillance indicators

## Ø Outcome indicators

Ø Vaccination coverage

Ø Trends in cervical cancer mortality

Ø Trends in HPV associated cancer incidence

Ø Trends in CIN3 histology results and associated type-specific HPV



# Essential surveillance indicators- Cont'd

## Ø Outcome indicators

### Ø Desirable

- ü Type-specific prevalence

- ü Referrals to specialty clinics

- ü Hospital discharges

## Ø Quality assurance indicators

- ü Adverse events





# Cervical Cancer Programme Information Systems

∅ The critical data outputs to be addressed:

üB = Burden of disease

üC = Coverage

üM = Management

üR = Research



# Burden of Disease

Elements related to:

- ü Incidence

- ü Grades of lesions

- ü Target population data

- ü Age specific mortality rate

- ü Hospitalization data

- ü HPV types at national level

- ü Data on natural history of non 16 non 18 types



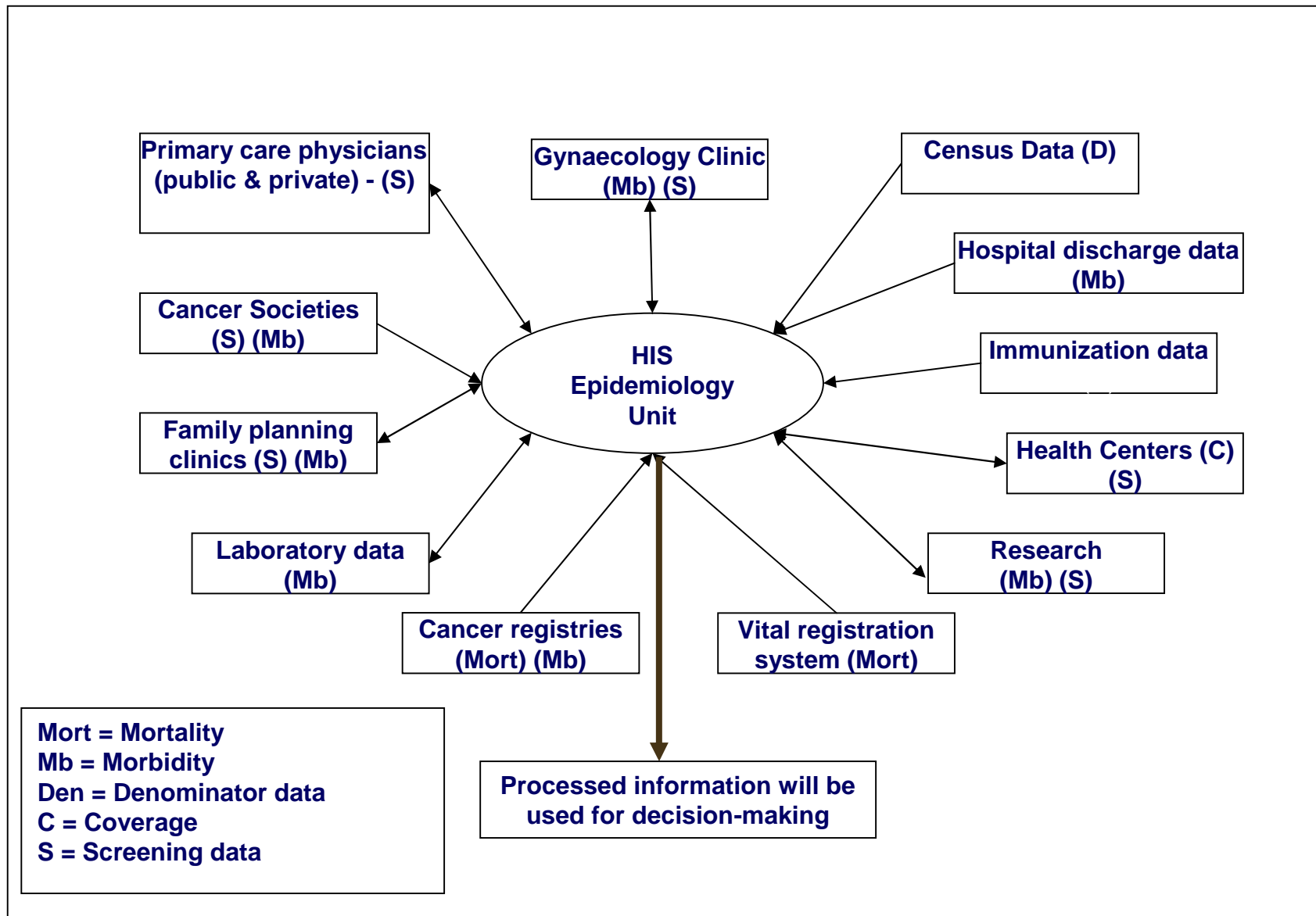
# Coverage

Elements related to:

- ü Number of smears (new and repeat)
- ü Periodicity/frequency of screening
- ü Screening methods (HPV/VIA/PAP)
- ü HPV screening data
- ü Immunization data
- ü Percentage coverage of screening target population



# INFORMATION FLOW SCHEMATIC



# SUB-REGION SUPPORTING LABORATORY NETWORK

∅ The sub-regional supporting laboratory will consists of two networks:

∅ Cytology Laboratory Network

∅ HPV Laboratory Network



# Cytology Laboratory Network

- Ø Quality assurance regarding cytology remains essential and needs to be strengthened
- Ø An external proficiency testing system for cytology was currently being funded by the European Union.
- Ø 12 countries participate with technical clearance by an informal Caribbean Reference Board for Cytology
- Ø The Group suggests that cytology proficiency should be addressed by the PAHO Office for Caribbean Program Coordination and CAREC.



# The Proposed HPV Laboratory Network

## Ø Regional reference lab:

- Ø Public Health Agency, Canada,
- Ø CDC, USA
- Ø Institute Pasteur, France

## Ø Sub regional reference:

- Ø CAREC - PCR and sequencing, standard operating procedures, training for countries



# The Proposed HPV Laboratory Network

## Ø Secondary referral:

Ø JAM, BAR, TRT, CAREC: PCR/Sequencing

## Ø Primary testing:

Ø 9 countries: HC11 & PCR

Ø Cytology at the base (health facilities and outreach sessions, closer to clients)





# HPV LABORATORY NETWORK

REGIONAL  
REFERENCE

SUB-REGIONAL  
REFERENCE - CAREC

SECONDARY REFERRAL  
JAM, BAR, TNT, CAREC

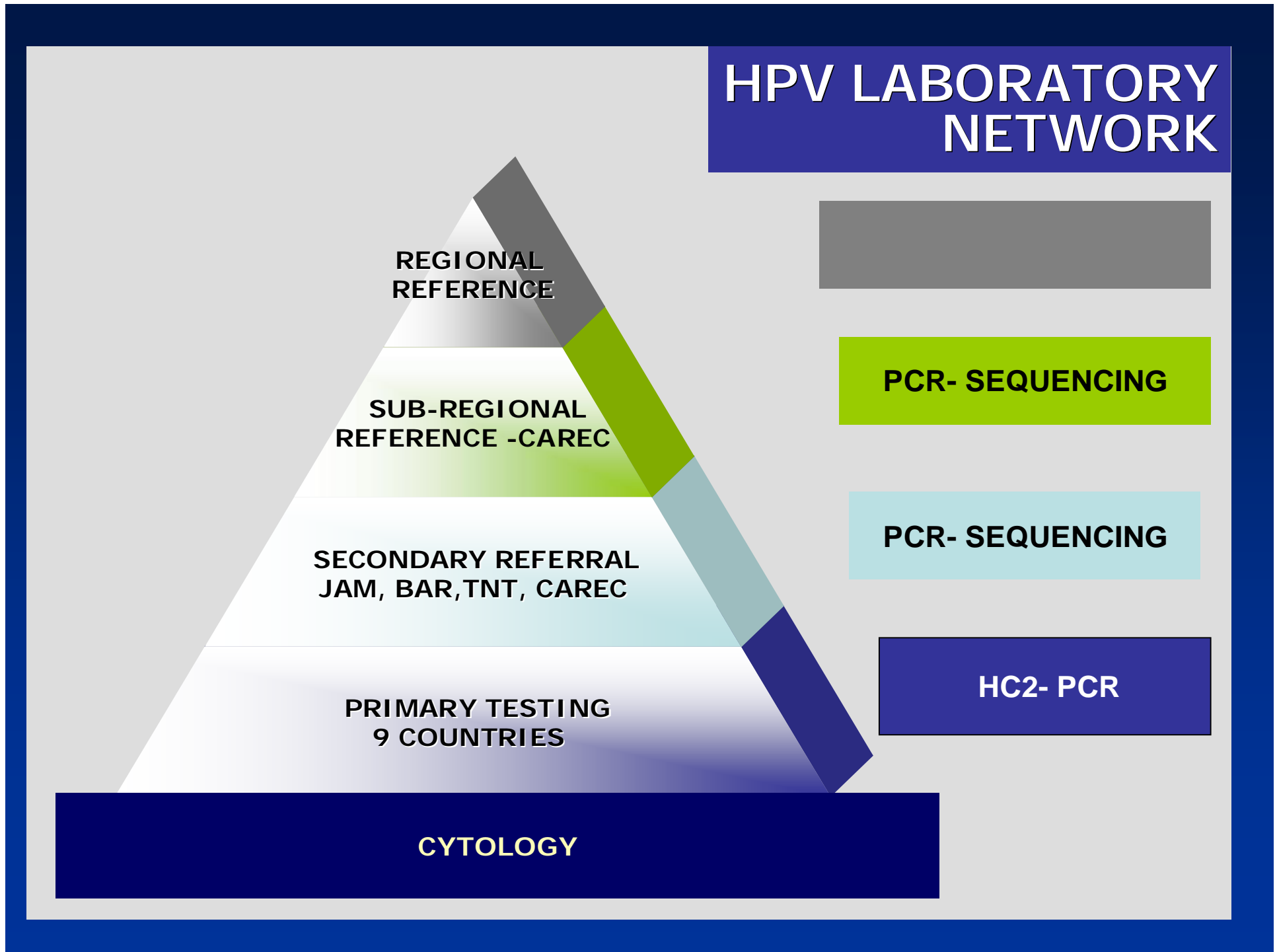
PRIMARY TESTING  
9 COUNTRIES

CYTOLOGY

PCR- SEQUENCING

PCR- SEQUENCING

HC2- PCR



# Possible Partnerships

The potential for functional partnerships are being explored and formalized with institutions:

Ø French Overseas Departments in the Caribbean;

Ø Institute Pasteur in France;

Ø Institutions in the Netherlands which have been working in Suriname;

Ø The Centers for Disease Prevention and Control, USA

Ø Public Health Agency of Canada



## Two HPV research questions to be answered:

- Ø What is the age and type specific prevalence of HPV in a general population of sexually active females?
- Ø What is the Type specific HPV prevalence in women with clinically relevant cervical disease cytological defined as ASCUS or worse? Case control study? Histology block from women with cervical cancer?
- Ø Prevalence studies to be completed before 2009 and the laboratory network to be in place to support this.



# Immediate Actions

Examples of immediate actions that should be implemented:

- Ø Conduct sensitization sessions with stakeholders at all levels
- Ø Review and prepare proposal for systematization of program interventions and data recollection
- Ø Define target population to be vaccinated



## Immediate Actions-Cont'd

- Ø Qualitative research re parental acceptance for HPV vaccine. Perception and knowledge of the general population essential
- Ø Review and propose mechanisms to reduce turn around time for pap smear results
- Ø Develop and disseminate cervical cancer control program policy
- Ø Use the momentum to capitalize support from other stakeholders – using the developed detailed introduction plan

## What Has Happened Since?

- Ø Report of HPV stakeholders' Meeting presented and endorsed by EPI Managers from all 21 countries
- Ø 2 Prevalence studies(2) completed
- Ø Countries (3) stated interest of up scaling cervical cancer prevention program and for introducing HPV vaccine within 2 years



# Summary Result of New Prevalence Studies

## Ø Trinidad Study:

Ø A pilot study of 310 sexually active women, ages 18-64 years recruited from the health facilities. Presence of HPV DNA in exfoliated cervical cells was detected by Luminex-based HPV genotyping technology

Ø The most common high risk genotypes found in the study population were HPV52 (12.5%), HPV16 (10.3%), HPV18 and HPV66 (8.7%) and HPV 58 (7.9%)



# Summary Result of New Prevalence Studies

A pilot study of 527 sexually active women recruited from the population in Belize City (Cathro et al 2008):

- Ø HPV 16 or 18 was present in 2.6% of women with normal cytology in contrast to 50% of those with HGSIL.
- Ø HPV16, HPV35 and HPV58 were the most common types in HGSIL cases
- Ø Multiple infections with high risk HPV types were also reported in these studies.





# Issues for the Caribbean

- Ø Cervical cancer prevention program will benefit from networking with EPI, sexual and reproductive health, adolescent health
- Ø Creative partnership to be forged: public – private, health insurances, NGOs
- Ø Cervical cancer screening to be enhanced- using EPI model – each clinic with target population, register and coverage charts
- Ø Qualitative research to advise communication and advocacy re acceptance of HPV vaccination



# Conclusion

- Ø Human Papillomavirus (HPV) vaccination as a primary prevention strategy will be used as a catalyst to improve the overall cervical cancer prevention programme
- Ø Necessary conditions for introduction will need to be supported by all governments



**WE ARE READY TO INTRODUCE  
THE VACCINE!**

**THE MAJOR CHALLENGE?**

**THE PRICE OF THE VACCINE!**



*Atlantic Ocean*

*Caribbean Sea*

# THANANYOU!

