# EPIDEMIOLOGY, BURDEN OF DISEASE AND SURVEILLANCE OF HPV AND HPV RELATED CANCERS -NORTHERN IRELAND





**Dr Lesley Anderson** 

Acting Deputy Director,

Northern Ireland Cancer Registry

I.anderson@qub.ac.uk

# **HPV-related Cancer Burden**



- Cervical Cancer: 10 per 100,000 (2011-2015)
- Cervical Carcinoma in situ: 125.3 per 100,000 (2011-2015)

 Oropharyngeal Cancer: 337 cases diagnosed from 2000-2011. p16 positivity = 40.5%

 No data on burden of vulval, vaginal, penile, anal or other HPV-related sites conducted in Northern Ireland but on the agenda.

# AIMS of HPV studies

 To determine the prevalence of HPV genotypes in women undergoing cervical screening in Northern Ireland before the introduction of HPV vaccination.

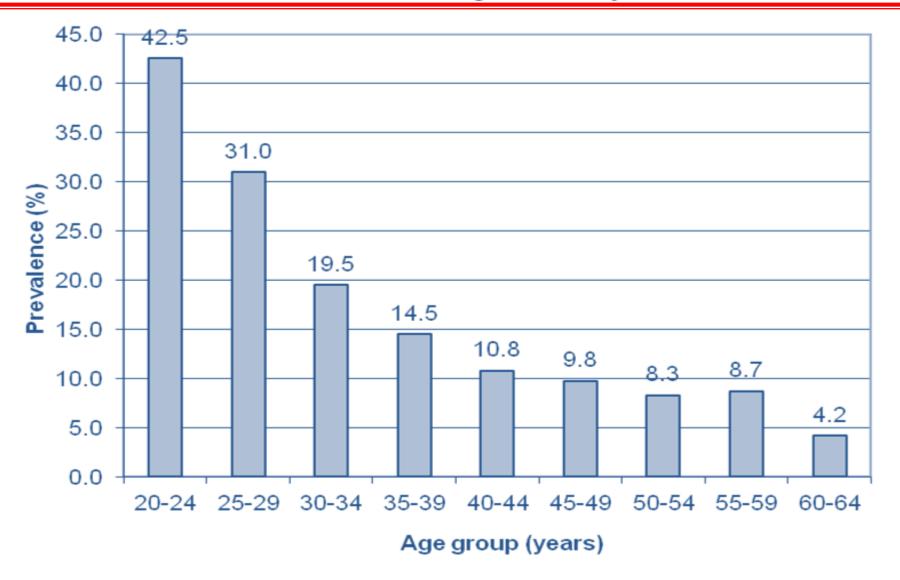
• To identify the HPV genotypes involved in highgrade cervical lesions and cervical cancer in NI.

# Methods – Prevalence study

 Clinical liquid based cytology samples collected from routine screening (20-64 years) from Feb-Dec 2009.

 Testing on Roche COBAS 4800 – real-time detection of 14 high risk HPV genotypes followed by Roche Linear Array HPV genotyping test (37 HPV DNA genotypes detected).

# High-risk HPV prevalence by age group in Northern Ireland women aged 20-64 years



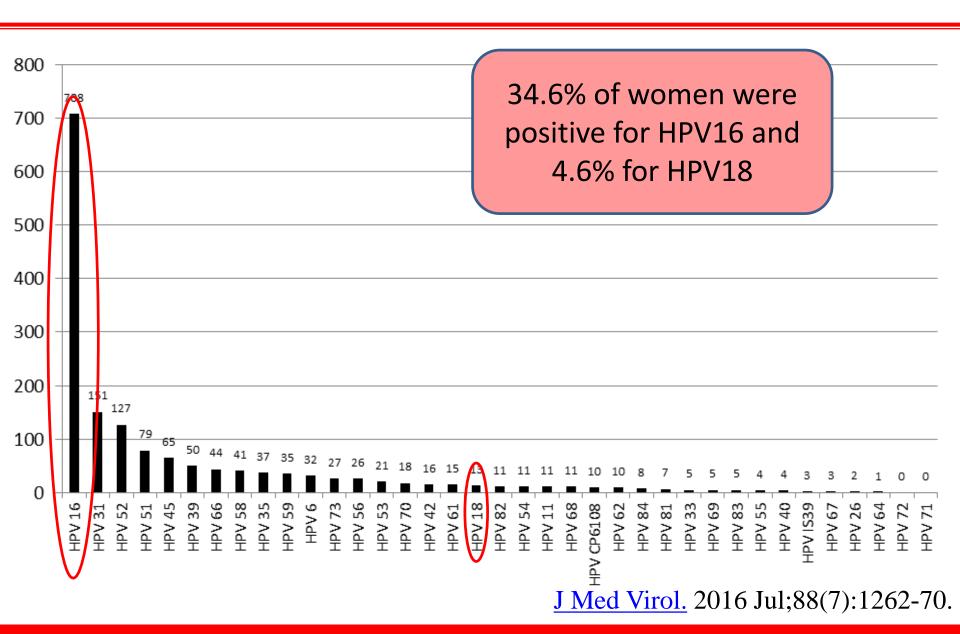
J Med Virol. 2013 Feb;85(2):295-308.

# Methods – Cervical lesions study

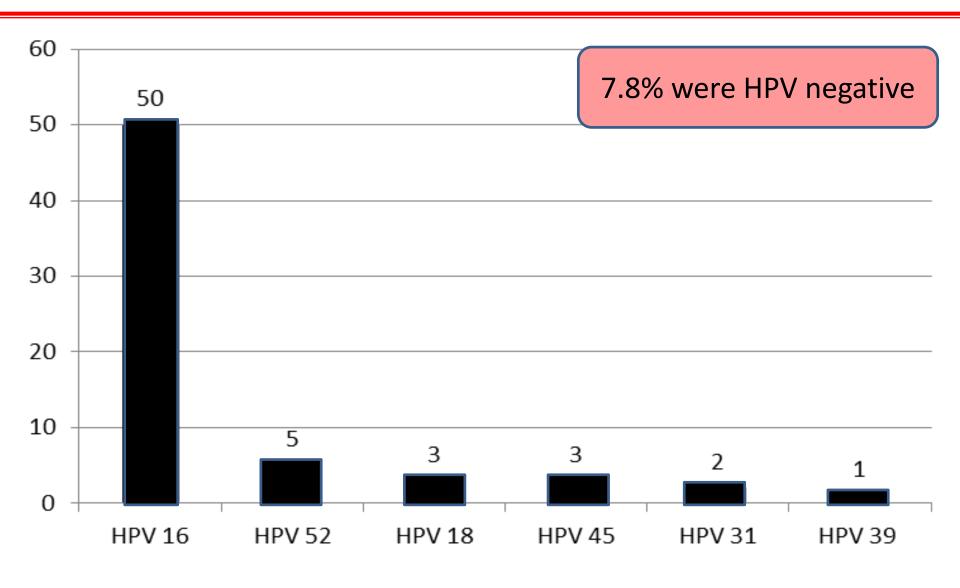
 Prospectively derived FFPE cervical tissue blocks from cervical lesions between April 2011 & Feb 2013.

N=58 - not tested due to overrepresentation in the N=2,303low grade dyskaryosis groups. samples N=200 - removed at the post-analytical phase of the N=2.245study due to samples being unsatisfactory for samples analysis e.g.: insufficient tissue remaining. N=218 - Comprised of cervical pathologies not N=2.045 included in the present study: koilocytosis (n=182), samples micro-invasive SCC (n=14), cervical glandular neoplasia (n=17) and adenosquamous carcinomas (n=5).N=1.827 eligible samples <u>J Med Virol.</u> 2016 Jul;88(7):1262-70.

## HPV genotype distribution across all cervical lesions



# **Cervical Squamous Cell Carcinoma**



# Areas of current research

- HPV in oropharyngeal cancers, staging and prognosis?
- HPV and other infectious agents in oesophageal cancer.
- HPV knowledge and attitudes in parents.
- Novel urine based cervical cancer screening tools.

# **HPV Working Group Northern Ireland**

Dr Anna Gavin (Chair)
Dr Lesley Anderson

**Prof Dennis McCance** 

Ms. Jackie Jamison Mr Robbie Wilson Dr Jim Carson

Dr Tracy Owen
Dr Margaret Boyle

**Dr Rosemary Clarke** 

Prof W Glenn McCluggae Prof Peter Coyle Dr Dianne McGibben











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