Use of National Quality Indicators to Reduce Under- and Over-diagnosis of Cervical Cancer in Israel

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on behalf of the Steering Committee, the National Program for Quality Indicators in Community Healthcare, Israel.
Israel

Population size = 8,680,000

<table>
<thead>
<tr>
<th>Religious/Ethnic Groups</th>
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<tbody>
<tr>
<td>Jews</td>
<td>76%</td>
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<tr>
<td>Muslims</td>
<td>20%</td>
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<tr>
<td>Christians/Druze/Other</td>
<td>4%</td>
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Social + Health Statistics

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<thead>
<tr>
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<tbody>
<tr>
<td>Life expectancy men</td>
<td>80.9 yrs</td>
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<tr>
<td>Life expectancy women</td>
<td>84.5 yrs</td>
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<tr>
<td>Adult population above age 65 years</td>
<td>10%</td>
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<tr>
<td>Health expenditures (% of GDP)</td>
<td>7.8%</td>
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Ref: Israel CBS
Israel Health Care System

- 4 Health plans (HMOs)
- 1995 National Health Insurance Law- “justice, equity and solidarity…medical services will be offered based on medical considerations, with reasonable quality.”
- Universal coverage
- “Health Basket” of essential drugs, services and technologies, updated every year
QICH- National Program for Quality Indicators in Community Health Care

- The National Institute for Health Policy Research (NIHPR) receives designated funds from health tax

- Mandated “to follow and assess the influence of the law on health services …, their quality, efficacy and expenditures.”

- QICH started as a research project funded by NIHPR (Porath & Rabinovitz, 2002)

- QICH adopted by the Ministry of Health as a national program in 2004, funded by NIHPR.
QICH Mission:

To provide consumers, health professionals and policy-makers with information on the quality of primary care (including preventive services, screening, treatment and management of disease) provided by the four health plans in Israel.

Method:

On-line data from EMR, via health plans, of all Israeli permanent civilian population (100% coverage)
Quality Indicators in QICH 7 Domains

Health promotion
- Smoking documentation
- Smoking status
- BMI documentation
- Weight Status

Cancer Screening
- Breast
- Colon
- Cervical

Child and Adolescent Health
- Anemia screening in infants
- Prevalence of anemia in infants
- BMI documentation

Health in Older Adults
- Influenza vaccination
- Pneumococcal vaccination
- Use of benzodiazepines
- Underweight and significant weight loss

Respiratory Diseases
- Asthma treatment
- Asthma: Influenza Vaccination
- COPD: Spirometry test documentation
- Spirometry results documentation

Cardiovascular health
- Primary prevention: Cholesterol control by risk group
- Secondary prevention: cholesterol management
- Blood pressure documentation

Diabetes
- Glycemic control
- Management of comorbidity and target organ damage: Nephropathy, Retinopathy
- Blood pressure documentation
- Blood pressure control BMI documentation

Antibiotic use
- Total Volume of Antibiotic use
- Use of Quinolones and Cephalosporines

Pediatric:
- Glycemic control
- Specialized Clinic visit
- Vaccination
USPSTF Cancer Screening Recommendations Adopted in Israel

**BREAST CANCER**
As of November 2013, the USPSTF recommended*:
- Women ages 50–74 have a screening mammography once every two years.
- Women younger than 50 should make a decision in concert with their physician about when to start regular screening after taking into account their own personal situation.

**CERVICAL CANCER**
Women ages 21–29 should have a Pap test every three years.
- Women ages 30–65 should have either a Pap test every three years or a Pap test and human papillomavirus (HPV) testing every five years.

**COLORECTAL CANCER**
As of January 2014, the USPSTF recommended**:
- Adults ages 50–75 should be screened through fecal occult blood testing yearly, sigmoidoscopy every 5 years, or colonoscopy every 10 years.

By Ministry of Health Directive
*Active screening program
QIC: Colorectal cancer screening rates, 2003-2014

Yearly FOBT or colonoscopy ages 50-74, average risk (active)
Incidence, 1980-2012

Progress, colon cancer, Israel
Mammography screening rates, QICH 2003-2014

MOH Directive*:
Screening mammography every 2 years by active reaching out to individual women at average risk aged 50-74 years
Decrease in disparities
Mammography screening Israel 2002-2015

Year

SES = socioeconomic status
Breast cancer mortality in Israel

Ref IARC GLOBOCAN 2012
Cervical cancer screening Israel

MOH- women aged 25-65 are advised to undergo a routine preventive screening Pap smear- once every three years.

Health Basket Coverage: age 35-54, every 3 years

Primary Prevention- HPV vaccine, covered for girls and boys, 8th grade
Progression of cervical disease after HPV infection

* Probability increases with viral DNA integration. CIN: cervical intraepithelial neoplasia; ASCUS: atypical squamous cells of undetermined significance

Mortality and Incidence of Cervical Cancer falls when Pap Screening Coverage Increases
Invasive cancer
- 231 new diagnoses/yr
- 80 deaths/yr

Burden of disease - Israel

CINIII
- >700 per year.
- Increasing incidence especially in Jewish population
- Peak age 30-39
OECD mortality rates decreasing

Israel slight 20-year increase
Even in Canada, cervical cancer deaths highest among the poor: despite universal health insurance.
**New QICH Cervical Screening Indicators**

- Proportion of women aged 35-54 who were screened for cervical cancer in the last 3 years.

  **Standard of care**

- Proportion of women aged 35-54 who were not screened for cervical cancer in the last 5 years

  **Improving health of underserved and high risk women**

- Proportion of women who were over-screened for cervical cancer
  (> 1 Screening Pap smear in past 3 years)

  **Preventing Over-screening**

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*No woman should die of cervical cancer.*

Screening leads to fewer deaths.

More than 50% of all new cervical cancers are in women who have never been screened, or have not been screened in the last five years.
Results: Indicator 1- Standard of Care

Women aged 35-54 who underwent PAP screening by age group, 2016

Women aged 35-54 who underwent PAP screening by SES, 2016

- Low SES: 36.09%
- Other: 49.38%
Indicator 2: Underdiagnosis

Women aged 35-54 who never underwent PAP screening in the last 5 years, by SES, 2016

Women aged 35-54 who never underwent PAP screening in the last 5 years, by age group, 2016

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<thead>
<tr>
<th>Age group</th>
<th>% Unscreened</th>
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<tbody>
<tr>
<td>35-39</td>
<td>39.09%</td>
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<tr>
<td>40-44</td>
<td>40.46%</td>
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<tr>
<td>45-49</td>
<td>42.21%</td>
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<tr>
<td>50-54</td>
<td>46.87%</td>
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<tr>
<td>Total</td>
<td>42.48%</td>
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Low SES: 53.71%
Other: 41.29%
Indicator 3: Overdiagnosis:
Proportion of women having >1 Pap Screen within 3 yrs:

- Among women screened
- Excluding “recall” within one month
- 17.5-21% (preliminary)
- Higher rates ages 30-34, higher SES

Consequences of overscreening:

- Overtreatment of lesions likely to regress
- Changes in cervix: scarring, pain, cervical stenosis, incompetence, preterm birth
Summary

- Proportion of women screened in Israel below OECD average (at UK level before drop in incidence)

- About **50%** of women not screened at all! Higher among older and low SES

- Over-screening in up to 1/5, esp. younger and higher SES

- QICH has potential to encourage appropriate screening, diminish under-diagnosis and discourage/decrease over-diagnosis, reduce disparities
thank you