The Future of Colposcopy is Well-illuminated: CON

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Disclosures

- No financial relationships or conflict of interest to disclose

Concession

Colposcopy is NOT going away

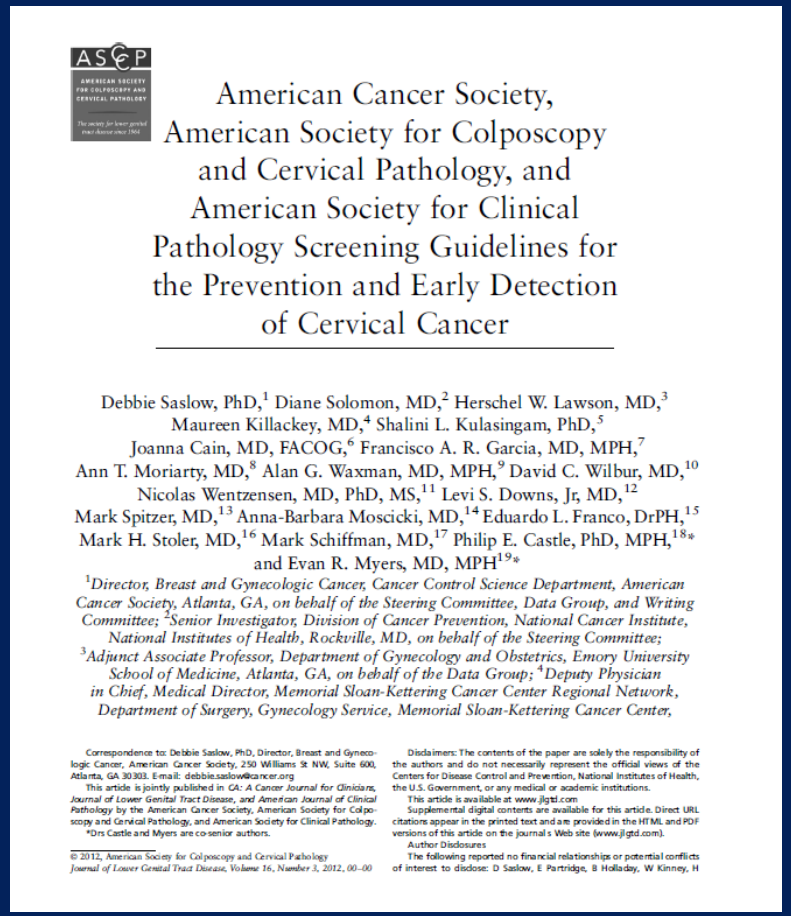
Assumptions

- No radical new technologies in near future
- HPV and cytology will remain screening tests
- HPV vaccination rates will improve (slowly)
- Guideline compliance will improve (slowly)

Screening vs Diagnostic Testing

- Pap and HPV – both high sensitivity and moderate specificity
- Need confirmatory diagnostic test

Forces at work:



American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology Screening Guidelines for the Prevention and Early Detection of Cervical Cancer

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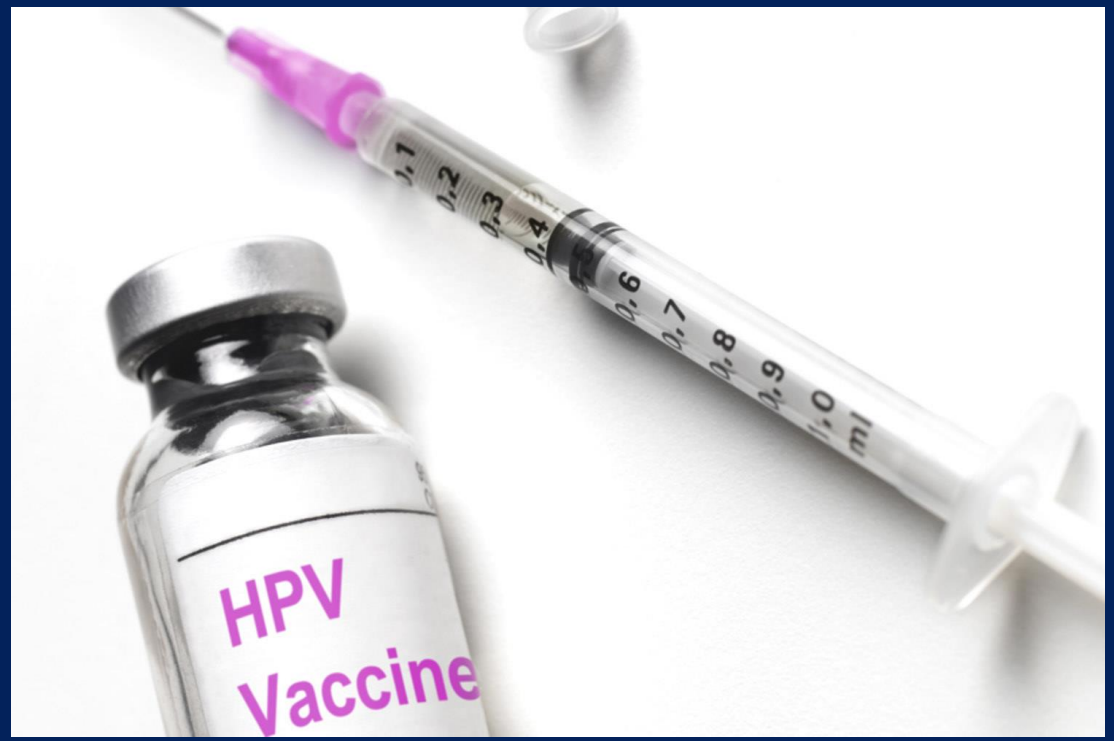
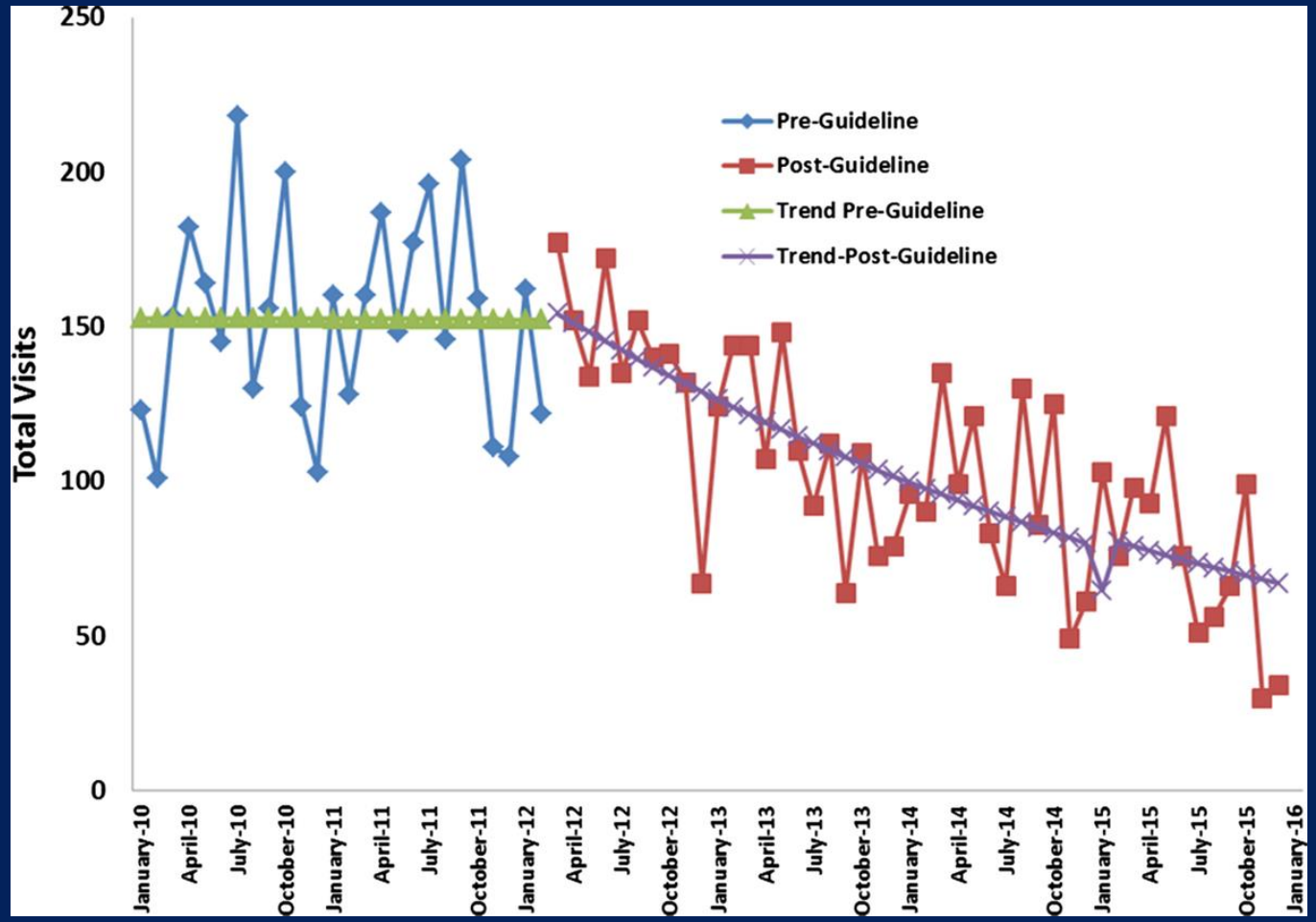


Colposcopy will change:

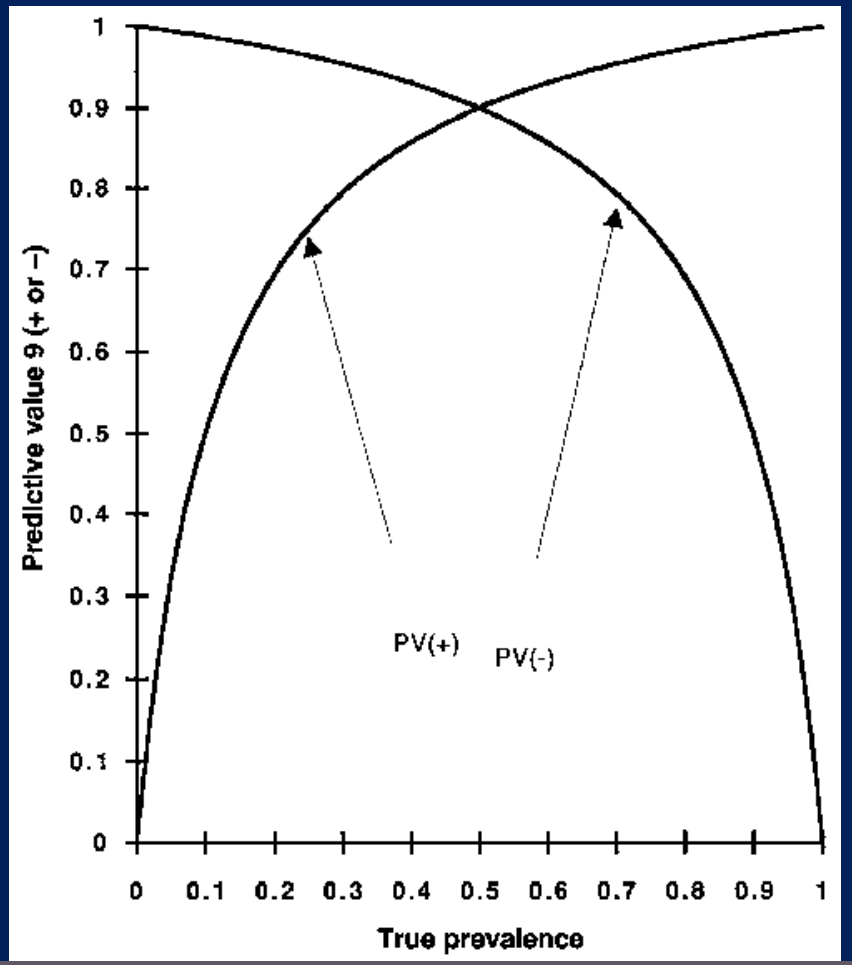
- Much lower volume
- Lower predictive value
- Possible change in lesion appearance

Monthly colposcopy clinic volume and trend: UAB 2010 to 2015.



Landers EE. JLTGD 2016;20:292-5

Test performance and disease prevalence



Test characteristics of cytology for colposcopy outcomes (CIN3+) among women attending for a colposcopy

Measure	Vaccination	N	R	Estimate (95% CI)	P-value
Sensitivity high-grade dyskaryosis CIN3+	Unimmunised	351	288	82.05 (77.70, 85.71)	0.427
	Fully immunised	75	65	86.67 (77.17, 92.59)	
Specificity Neg/Border/LG CIN3+	Unimmunised	1271	770	60.58 (57.87, 63.23)	0.081
	Fully immunised	404	265	65.59 (60.83, 70.06)	
PPV of high-grade dyskaryosis for CIN3+	Unimmunised	789	288	36.50 (33.22, 39.92)	0.249
	Fully immunised	204	65	31.86 (25.85, 38.54)	
NPV Neg/Border/LG for CIN3+	Unimmunised	833	770	92.44 (90.44, 94.04)	0.033
	Fully immunised	275	265	96.36 (93.44, 98.01)	
APV of Bl/LG for CIN3+	Unimmunised	759	51	6.72 (5.15, 8.73)	0.049
	Fully immunised	256	8	3.13 (1.59, 6.04)	
TPV of all colp for CIN3+	Unimmunised	1622	351	21.64 (19.70, 23.71)	0.005
	Fully immunised	479	75	15.66 (12.68, 19.18)	
RV of all colp for CIN3+	Unimmunised	1622	351	4.62 (4.22, 5.08)	0.005
	Fully immunised	479	75	6.39 (5.21, 7.89)	

APV=abnormal predictive value; colp=colposcopy; NPV=negative predictive value; PPV=positive predictive value; RV=referral value; TPV=total predictive value.

Palmer. Br J Cancer. 2016;114:582–9.

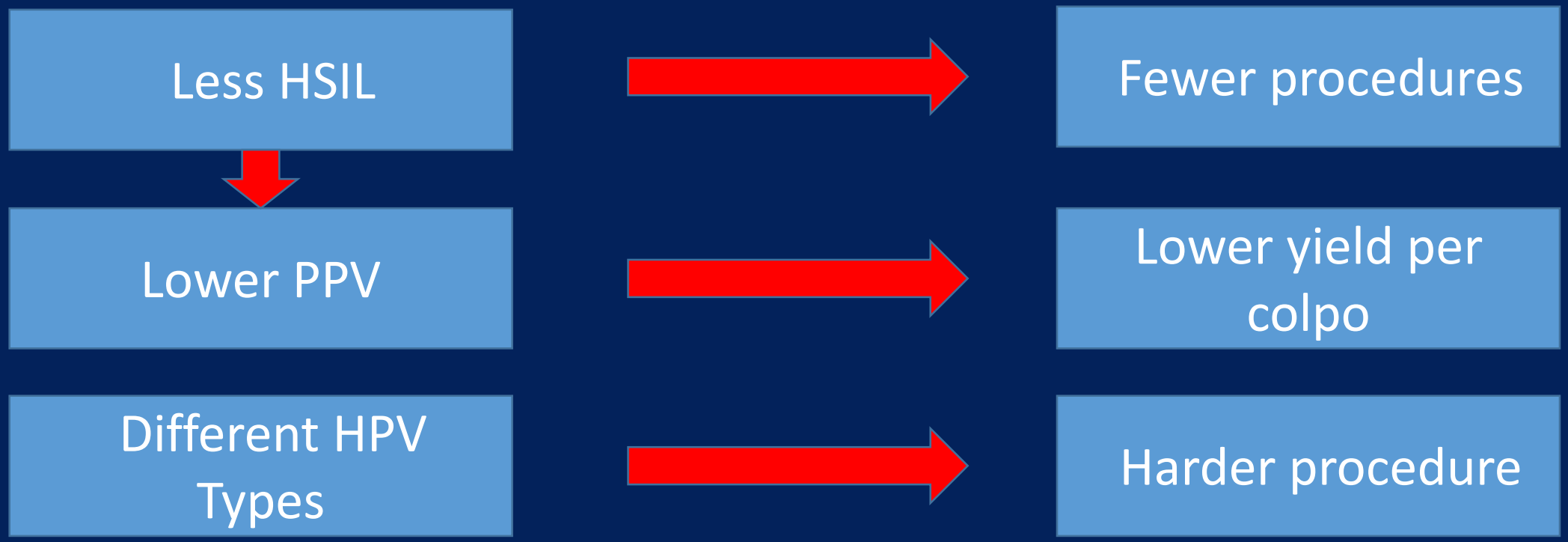
Visual appearance of HPV types

Appearance	Negative n	Negative %	Noncarcinogenic HPV n	Noncarcinogenic HPV %	Non-16 carcinogenic HPV n	Non-16 carcinogenic HPV %	HPV16 n	HPV16 %	Total
Total sample*									
Normal†	91	42.9	36	31.3	104	27.1	23	11.1	254
Equivocal‡	63	29.7	22	19.1	107	27.9	41	19.8	233
LGL+§	58	27.4	57	49.6	173	45.1	143	69.1	431
Total	212	100	115	100	384	100	207	100	918‖

Any Acetowhite lesion: OR 3.2 with HPV 16 vs 2.1 other carcinogenic HPV;
Any low grade lesion +: 2.6 vs 1.8

ALTS – Jeronimo. AJOG 2007;197:47.

Consequences

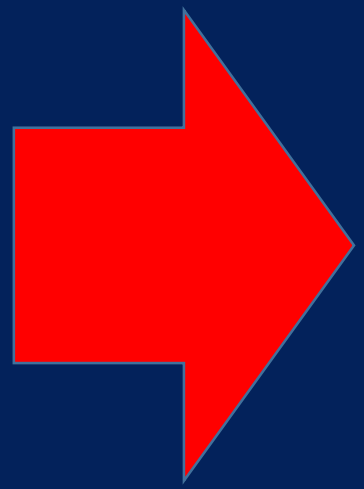


Consequences

Fewer procedures

Lower yield per colpo

Harder procedure



Workforce

- Fewer providers
- Harder to train new providers
- Harder to maintain skills

Patients

- Access
  - Regional centers?
- More biopsies

Payor

- Increased cost procedure, HSIL detected

The Future of Colposcopy

Scenario 1: Health System Solution

- Limited pool of providers
  - Certified
  - Standards
  - High volume
- Regional Centers

Scenario 2: Patient Pays

- Usual providers
- Limited provider skill and lower colposcopy predictive value addressed by more biopsies

Scenario 3: Both 1 & 2

- Patient has more biopsies by certified high volume provider