

# *Decreasing the rate of insufficient Pap Smears amongst OBGYN residents in an academic training environment*

Nia J Thompson, MD, MPH  
Department of Obstetrics & Gynecology, PGY4  
LSU Health  
University Medical Center - New Orleans

# Disclosures

- Relationship with HOLOGIC who developed and holds rights to the didactic material for the resident intervention
- No financial relationship or endorsements exist with HOLOGIC

# Background

- The Papanicolaou test (Pap Smear) is used as the primary cervical cancer screening tool and detects abnormal cervical cytology.
- 2% of pap smears are insufficient/unsatisfactory
- Unsatisfactory results → missed diagnoses, ↑ in healthcare costs, patient inconvenience
- Common reasons: red blood cells, vaginal atrophy, inflammation, and provider error

# Objective

At University Medical Center New Orleans (UMCNO) providers noted an increased rate of unsatisfactory results in the Women's Health clinic, prompting further investigation.

1. Quantify the % of insufficient pap smears
2. Identify the most common reasons for insufficient pap smears
3. Develop a multi-disciplinary approach to decrease the rates of insufficient pap smears

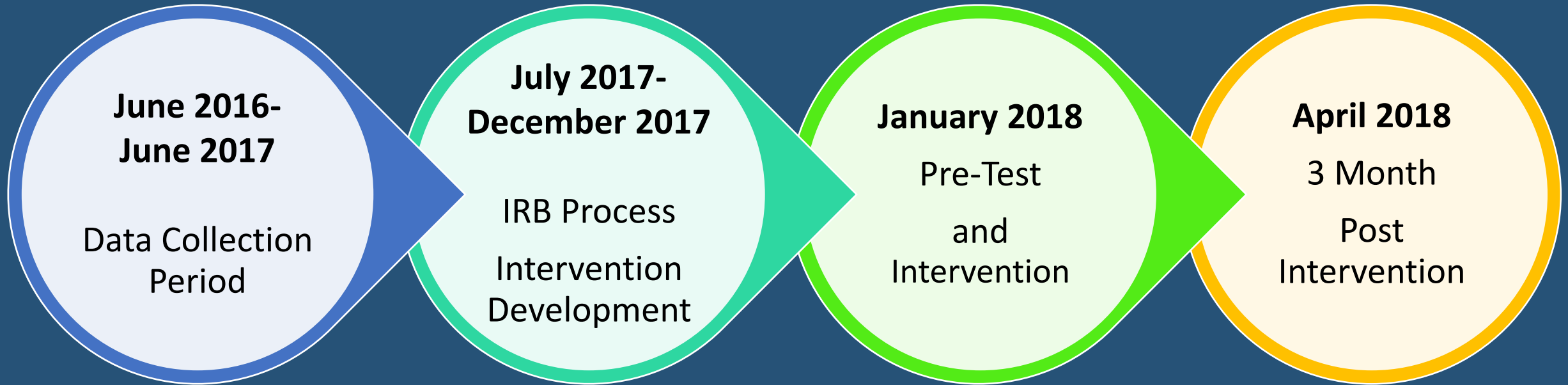
# Methods

- Pap smears collected June 2016-June 2017 were reviewed by the Cytopathology department.
- 1,410 pap smears were reviewed
- Specimens were categorized based on reasons for the insufficient result.

Inflammation	Scant cellularity	Obscured by lubricant
Obscured by blood	Atrophic pattern	Thick preparation

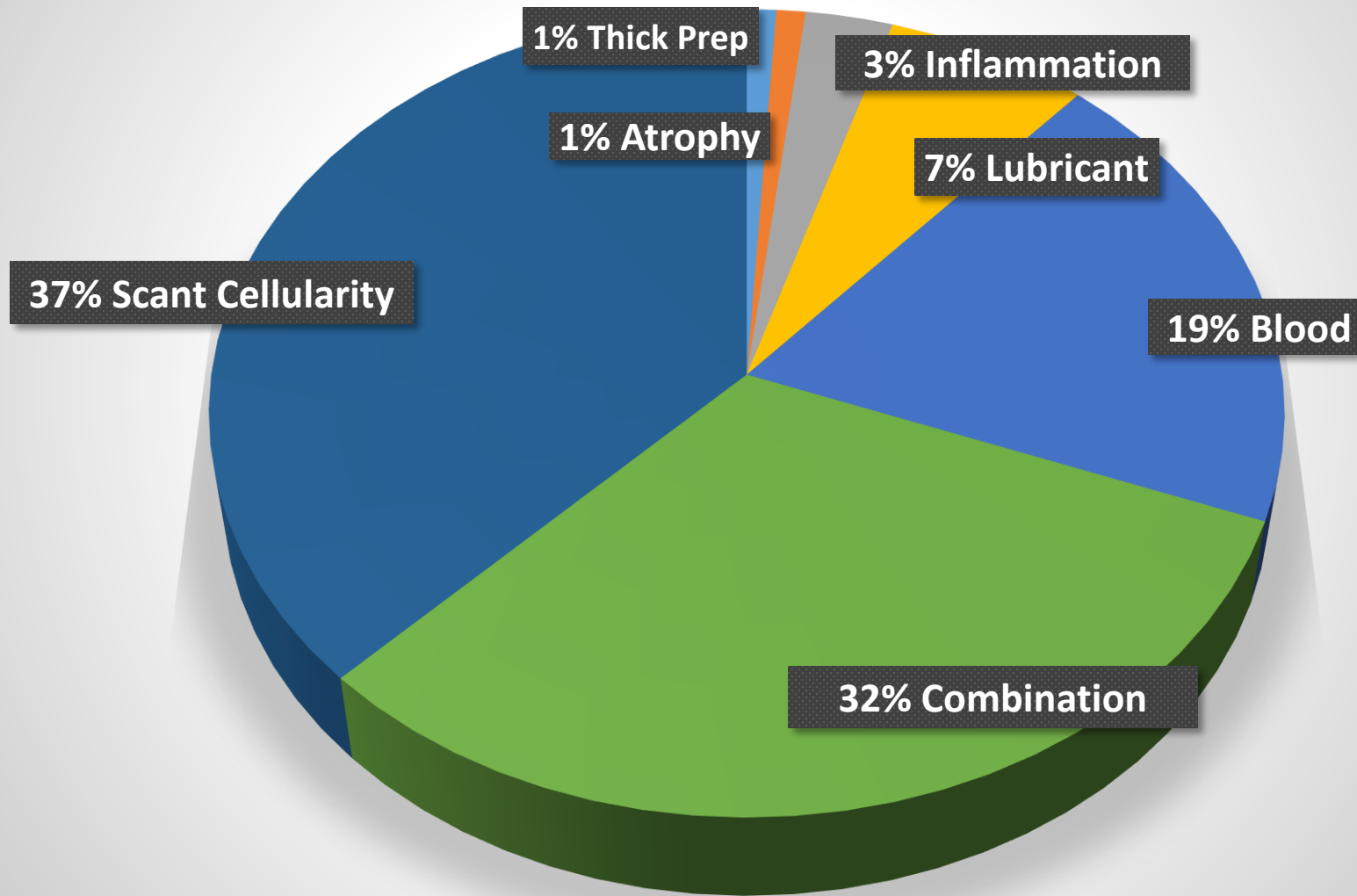
- Insufficient specimens providers were stratified by post graduate year (PGY) level.

# Timeline

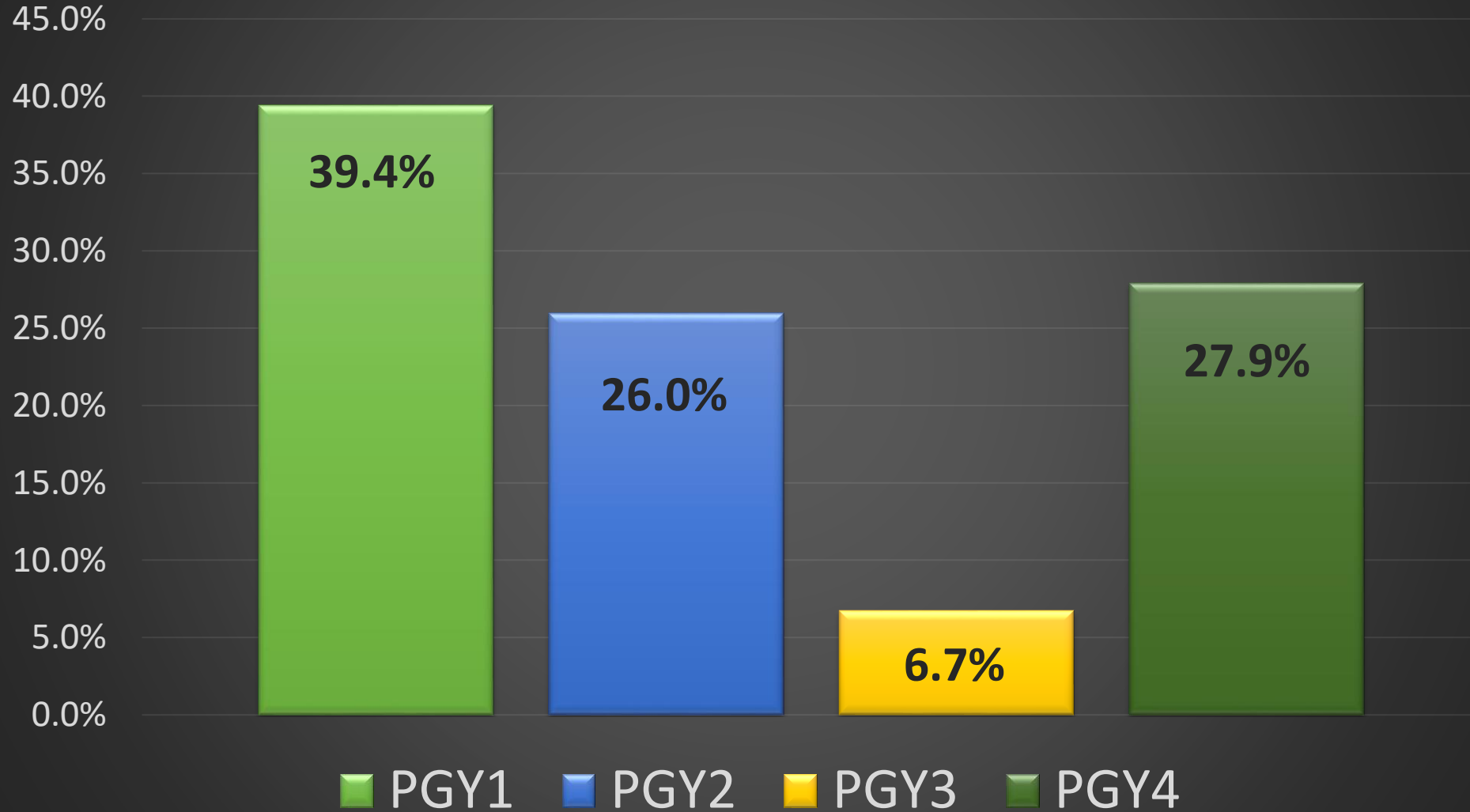


## Reasons for Insufficient Pap Smear Results

**n=104 (7.4%)**



# Insufficient Paps by Post Graduate Year





# Interventions to Date

- *Residents:* 30 minute interdisciplinary training led by HOLOGIC, the makers of ThinPrep™
  - Teaching session started with a 10 question pre-test
  - Emphasis on correct specimen collection
- *Office Staff:* Separate teaching session for nurses and medical assistants with HOLOGIC
  - Video about specimen preparation
- *System:* Discontinuation of polymer containing lubricants to use of Thin Prep approved carbomer-free lubricants for examinations

# Post-Intervention Results

## 3 MONTHS POST INTERVENTION

### Pre/Post-Test Data (n=22)

#### Average Scores

- Pre-test Scores: 68.9 %
- Post-intervention scores: 75.5%
- Change in post-test score: 6.6%

# Discussion

- Medical Students typically rotate with PGY4 or PGY1
- PGY3 and PGY2 class have limited clinic rotations
- Education vs lubrication
- Patient characteristics and demographics

# Conclusions & Future Implications

- Initiation of resident and nursing educational opportunities
  - Education for off-service physicians and medical students
  - Regardless of PGY, all resident physicians can benefit from education
  - Annual educational initiatives with the Cytopathology department to optimize specimen collection
- Multidisciplinary approach will enhance the quality of care in our Women's Health clinic.
- Assess insufficiency rate 1 year post intervention

# Resources

1. Yeoh GP, Chan KW, Lauder I, Lam MB. [Evaluation of the ThinPrep Papanicolaou test in clinical practice: 6-month study of 16,541 cases with histological correlation in 220 cases](#). Hong Kong Med J. 1999 Sep;5(3):233-239. PubMed PMID: 11828061.
2. Mahajan A, Kucher E, Hoefle W, Engelhardt S, Accola M, Barasch S, Rehauer W, Selvaggi SM. [Maximizing the adequacy of Hologic\(®\) Cervista\(®\) HPV HR results on ThinPrep\(®\) Pap samples treated with glacial acetic acid](#). Diagn Cytopathol. 2016 Mar;44(3):215-9. doi: 10.1002/dc.23426. Epub 2016 Jan 18. PubMed PMID: 26779984.
3. Owens CL, Buist DS, Peterson D, Kaminen A, Weinmann S, Ross T, Williams AE, Stark A, Adams KF, Doubeni CA, Field TS. [Follow-up and clinical significance of unsatisfactory liquid-based Papanicolaou tests](#). Cancer Cytopathol. 2015 Jan;123(1):59-65. doi: 10.1002/cncy.21490. Epub 2014 Oct 23. PubMed PMID: 25346238; PubMed Central PMCID: PMC4356524.
4. Randolph ML, Wu HH, Crabtree WN. [Reprocessing unsatisfactory ThinPrep papanicolaou tests using a modified SurePath preparation technique](#). Cancer Cytopathol. 2014 May;122(5):343-8. PubMed PMID: 24940587.
5. Power Y, Bowes C. [Reprocessing bloodstained ThinPrep Papanicolaou cervical cytology samples using glacial acetic acid increases the satisfactory rate in previously unsatisfactory smears](#). Br J Biomed Sci. 2013;70(3):130. PubMed PMID: 24273902
6. Siebers AG, Klinkhamer PJ, Vedder JE, Arbyn M, Bulten J. [Causes and relevance of unsatisfactory and satisfactory but limited smears of liquid-based compared with conventional cervical cytology](#). Arch Pathol Lab Med. 2012 Jan;136(1):76-83. doi: 10.5858/arpa.2011-0113-OA. PubMed PMID: 22208490.
7. Moriarty AT, Clayton AC, Zaleski S, Henry MR, Schwartz MR, Eversole GM, Tench WD, Fatheree LA, Souers RJ, Wilbur DC. [Unsatisfactory reporting rates: 2006 practices of participants in the college of american pathologists interlaboratory comparison program in gynecologic cytology](#). Arch Pathol Lab Med. 2009 Dec;133(12):1912-6. doi: 10.1043/1543-2165-133.12.1912. PubMed PMID: 19961244.
8. Rowe LR, Bentz JS. [A simple method to determine the need for glacial acetic acid treatment of bloody ThinPrep Pap tests before slide processing](#). Diagn Cytopathol. 2004 Nov;31(5):321-5. PubMed PMID: 15468133.
9. Carpenter AB, Davey DD. [ThinPrep Pap Test: performance and biopsy follow-up in a university hospital](#). Cancer. 1999 Jun 25;87(3):105-12. PubMed PMID: 10385440
10. Weintraub J, Wenger D. [A large-scale investigator-sponsored field study of the test performance of the ThinPrep papanicolaou test in a low-risk routine outpatient setting](#). Prim Care Update Ob Gyns. 1998 Jul 1;5(4):164. PubMed PMID: 10838306.

# Acknowledgements



- *Louisiana State University Health New Orleans*
  - *Department of OBGYN Faculty Mentor - Stacey L. Holman, MD*
  - *Resident Collaborators – Eliza Rodrigue, MD & Markeiya Polite, MD, MPH*
- *University Medical Center - New Orleans*
  - *Pathology/Cytotechnologist - Elizabeth Bohrer, CT (ASCP)*
- *Spirit of Charity Foundation*
- *HOLOGIC*



Improving Lives Through the Prevention & Treatment  
of Anogenital & HPV-Related Diseases

## ASCCP2018 Annual Meeting