

# Cost Effectiveness of Offering Free Colonoscopies



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# Disclosure Slide

- We have no actual or potential conflicts of interest in relation to this presentation.

# Economic Burden of CRC

- The economic impact of colorectal cancer (CRC) in the United States is expected to increase to \$14.03 billion by 2020.
- Efforts at reducing the economic burden of CRC focus on preventing late stage presentation by improving access to screening colonoscopies.

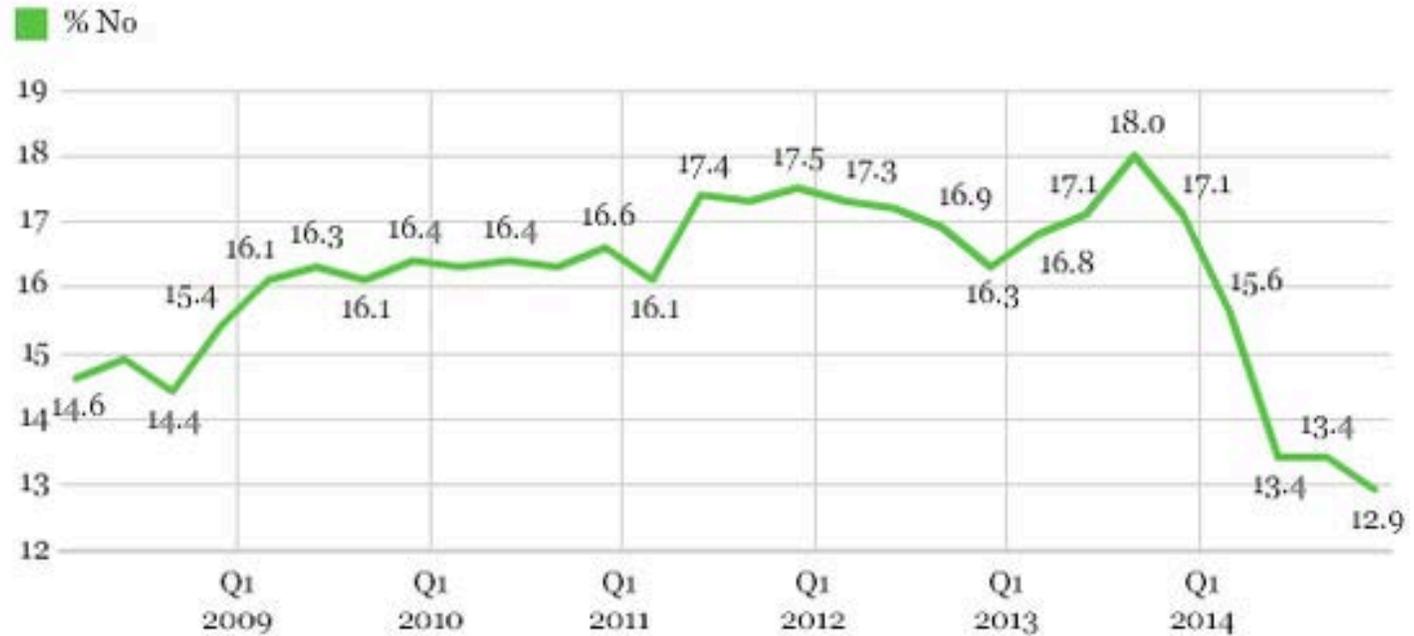
# Implications for uninsured?

- In 2013, 30% of uninsured adults went without needed medical care
- 40% of uninsured adults have outstanding medical bills, 20% say those bills create significant financial strain

# ACA's Impact

Percentage of U.S. Adults Without Health Insurance, by Quarter

Do you have health insurance coverage?  
Among adults aged 18 and older



Quarter 1 2008-Quarter 4 2014  
Gallup-Healthways Well-Being Index

GALLUP

# Despite ACA, gaps exist

- It is estimated that 13.4% of Americans will continue to be uninsured.
- Uninsured in KY (500,000)
  - 20.4% in 2013
  - 11.4% in July 2014
  - 10.4% in Feb 2015 (481, 315)
  - Ineligible (est. 80,000)
- Underinsured

# Impact of being uninsured in Kentucky

- Patients who lack insurance have more than twice the odds (OR = 2.2) of being diagnosed with advanced colorectal cancer
- Patients with Medicaid have more than a 60% increase in the odds (OR = 1.62) of being diagnosed with late stage disease compared to patients with private insurance

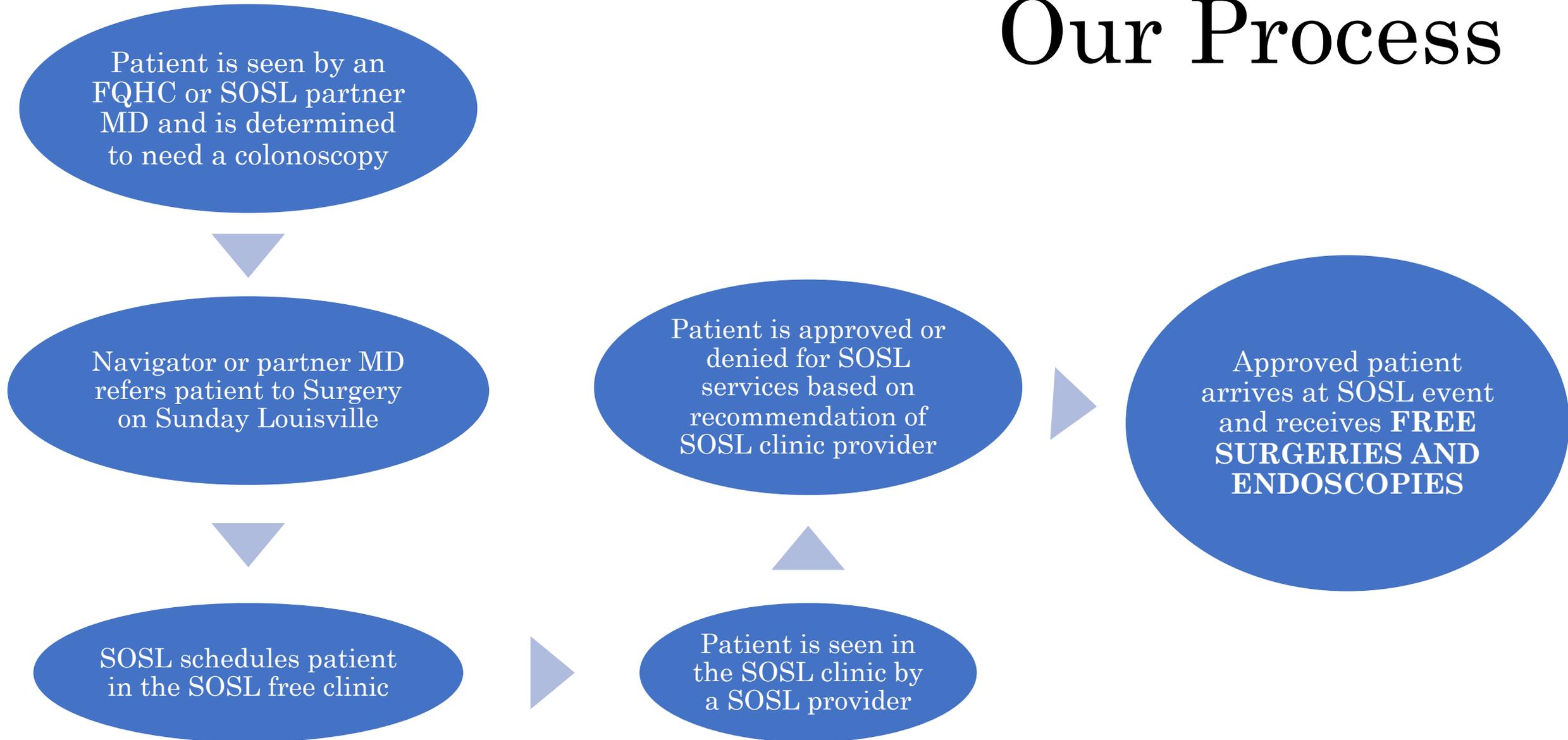
# How are we preventing colon cancer for people in the gap?

- Our central hypothesis is that providing *pro bono* colonoscopies to uninsured patients at high-risk for CRC successfully detects early stage disease and is cost-effective.

# Methods: The Partnership

- The Kentucky Colon Cancer Prevention Project was funded by the state of Kentucky when the Cabinet of Health examined our ranking of 48<sup>th</sup> in the country for colon cancer screening.
- Surgery on Sunday Louisville, Inc. is a non profit organization that provides free outpatient surgical procedures to uninsured/underinsured people in areas surrounding Louisville, KY

# Our Process



# Methods: Patient cohort

- Patients who were considered high risk for CRC were offered free screening colonoscopies.
- Patient data from these colonoscopies was prospectively collected over a 12-month period, and the incidence of CRC within the cohort was compared to a control group of uninsured patients from the SEER registry.

# Methods: Cost comparison

- SEER-Medicare data was used to analyze health expenditures by CRC stage to develop a cost model.
- To compare overall costs between the cohort and the SEER control, the average initial cost of care was weighted by the stage-specific CRC incidence in each group.

# Results: Demographics

- 682 patients (all high risk), 35 to 64 years old were screened, with 9 cancers identified.
- Colonoscopies were performed by a total of 23 gastroenterologists (18), general surgeons (2) and colorectal surgeons (3).
- Overall, the incidence of CRC in our cohort was 1.3%.

# Results: Cohort vs. SEER

<b>Table 1. Distribution of CRC by Stage</b>		
	<b>Cohort</b>	<b>SEER</b>
Stage 0	11.1%	6.7%
Stage 1	33.3%	22.2%
Stage 2	22.2%	30.5%
Stage 3	33.3%	22.0%
Stage 4	0%	14.5%

# Results

- A total cost of \$353,262 was estimated to be incurred during the initial phase of care.
- Compared to the SEER control, the cohort included more early stage cancers, and subsequently had a lower per patient initial cost (\$39,251 vs \$45,827, a 16% decrease).

Stage	Cost of 1 <sup>st</sup> yr of care
0	\$19,432
1	\$29,746
2	\$46,623
3	\$50,449

# What happens to CRC if we make screening available to all high risk individuals?

- We found a 1.3% CRC incidence rate in our study sample, which represents a 32.5-fold increase in CRC incidence over the general normal risk population.
- When compared to SEER data, we detected cancer earlier than would have been predicted.

# Limitations

- Our sample size is small with less than 700 patients treated to date.
- We made the assumption that reported SEER-Medicare costs for CRC are accurate and valid representations of healthcare costs associated with the various stages of CRC.

# What we Learned

- Our screening criteria successfully identified a high-risk population with an overall 1.3% incidence of CRC.
- For these patients, the provision of free screening colonoscopies not only identifies earlier stage tumors, but may decrease overall health care costs.

# How we got it DONE

- Formed a nonprofit organization (IRS 501c3)
- COVINCED EVERYONE
  - Hospital administrators
  - Lawyers
  - Human Resources
  - Unit Managers
  - Billing Office
  - Doctors

# How we got it DONE

- Started SLOW
- Problem SOLVED
  - Formed partnerships with central credentialing organization
  - Obtained an organization specific malpractice insurance policy
- KEPT going NEVER quit REPEAT

