March is COLORECTAL CANCER AWARENESS MONTH

Colorectal Cancer: You Can Prevent It.

New Patient Education Materials to Download
BIKE • RUN • WALK

AMERICAN COLLEGE OF GASTROENTEROLOGY
March Colorectal Cancer Awareness Month

The American College of Gastroenterology RECOMMENDS colorectal cancer screening STARTING AT AGE 45

Share Your Photos
#RideOrStride45 @AmCollegeGastro

TUNE IT UP: A CONCERT TO RAISE COLON CANCER AWARENESS
Wednesday, March 31st at 8 pm EDT

gi.org/Concert
Participating in the Webinar

All attendees will be muted and will remain in Listen Only Mode.

Type your questions here so that the moderator can see them. Not all questions will be answered but we will get to as many as possible.

How to Receive CME and MOC Points

LIVE VIRTUAL GRAND ROUNDS WEBINAR
ACG will send a link to a CME & MOC evaluation to all attendees on the live webinar.

ABIM Board Certified physicians need to complete their MOC activities by December 31, 2021 in order for the MOC points to count toward any MOC requirements that are due by the end of the year. No MOC credit may be awarded after March 1, 2022 for this activity.
MOC QUESTION

If you plan to claim MOC Points for this activity, you will be asked to: Please list specific changes you will make in your practice as a result of the information you received from this activity.

Include specific strategies or changes that you plan to implement. THESE ANSWERS WILL BE REVIEWED.

ACG Virtual Grand Rounds

Join us for upcoming Virtual Grand Rounds!

Week 13, 2021
Healthcare Carbon Footprint: “Scope” of the Problem
Swapna Gayam, MD
April 1, 2021 at Noon Eastern

Week 14, 2021
Cystic Fibrosis – Navigating Gastrointestinal Complications
Christine Y. Hachem, MD, FACG
April 8, 2021 at Noon Eastern

Visit gi.org/ACGVGR to Register
Disclosures:

**Moderator:**
David A. Greenwald, MD, FACG
Dr. Greenwald, faculty for this educational event, has no relevant financial relationship(s) with ineligible companies to disclose.

**Speaker:**
Francis A. Farraye, MD, MSc, MACG
Inflammatory Bowel Disease Boards for Pfizer; Research Grant: Mayo Clinic Florida; Royalties: Jones and Bartlett; Stockholder: Innovation Pharmaceuticals

**Speaker:**
Pascale M. White, MD
Dr. White, faculty for this educational event, has no relevant financial relationship(s) with ineligible companies to disclose.

**Speaker:**
Freddy Caldera, DO, M5
Dr. Caldera, faculty for this educational event, has no relevant financial relationship(s) with ineligible companies to disclose.

**Speaker:**
David T. Rubin, MD, FACG
Consultant and/or Grant Support: AbbVie, Altrubio, Arena Pharmaceuticals, Athos Therapeutics, Bellatrix Pharmaceuticals, Boehringer Ingelheim, Ltd., Bristol-Myers Squibb, Celgene Corp/Syneos, GalenPharma/Atlantica, Genentech/Roche, Gilead Sciences, InDex Pharmaceuticals, Ironwood Pharmaceuticals, Iterative Scopes, Janssen Pharmaceuticals, Lilly, Materia Prima, Pfizer, Prometheus Laboratories, Reistone, Takeda, Techlab, Inc.
COVID-19 Vaccines
Where Are We Now?

David A. Greenwald, MD, FACG
ACG President
Director of Clinical Gastroenterology and Endoscopy
Mount Sinai Hospital
New York, NY

Where We Are Now: Worldwide
Where We Are Now: United States

Global Confirmed
124,550,506

Global Deaths
2,739,395

U.S. Confirmed
29,995,669

U.S. Deaths
545,027

Johns Hopkins Coronavirus Resource Center 3/24/21

DAILY CONFIRMED NEW CASES (7-DAY MOVING AVERAGE)
Outbreak evolution for the current most affected countries

Johns Hopkins Coronavirus Resource Center 3/24/21
93 million people have received at least one dose of a COVID-19 vaccine in US, 15% fully vaccinated as of 3/24/2021
440 million people have received at least one dose of a COVID-19 vaccine worldwide as of 3/24/2021

93 million people have received at least one dose of a COVID-19 vaccine in US, 15% fully vaccinated as of 3/24/2021
440 million people have received at least one dose of a COVID-19 vaccine worldwide as of 3/24/2021
Dear Colleagues,

As we write this, vaccinations against coronavirus are becoming available to combat COVID-19, and the FDA and CDC advisory panels have deemed these vaccines to be safe and highly effective.

Public health officials tell us that a successful vaccination program will require 70-80% of the U.S. population to be vaccinated. We know there is significant mistrust and vaccine hesitancy amongst the population.

As a community of gastroenterologists and other GI-related healthcare providers, we are well positioned to lead by example. For the vast majority of patients, the benefits of vaccination overwhelmingly outweigh the risks. While we each have our own personal choice about whether to be vaccinated, the decision we make will be followed closely by our colleagues, coworkers and, most importantly, our patients.

We urge you to share your decision to be vaccinated with others, and to have open discussions with your patients about this critically important topic. The availability of SARS-CoV-2 vaccines is a historic opportunity that we must act on promptly —to help our patients and our peers best take advantage of the scientific breakthroughs which, if applied widely, will help control the COVID-19 pandemic.

Review of Johnson and Johnson Covid-19 Vaccine

Francis A. Farraye, MD, MSc, MACG
Professor of Medicine
Division of Gastroenterology and Hepatology
Director, Inflammatory Bowel Disease Center
Mayo Clinic, Jacksonville, FL
farraye.francis@mayo.edu
@FarrayeIBD
Understanding Viral Vector Vaccines: Adenovirus

- Common cause of respiratory infections
- DNA in the adenovirus is modified so that it produces the spike protein of the SARS-CoV-2 virus to which the body then develops an immune response
- The adenovirus cannot multiply, so it does not cause infection
- Does not require ultracold storage, making it easier to distribute


J&J Ensemble Vaccine Study Design

- Randomized, double-blind, placebo-controlled clinical trial of 43,783 participants in individuals 18 years of age and older designed to evaluate safety and efficacy of a single vaccine dose in protecting against both moderate and severe COVID-19 disease, with assessment of efficacy as of day 14 and as of day 28 as co-primary endpoints.
- Conducted in 8 countries across 3 continents, includes a diverse and broad population, including 34% of participants over age 60.
- The study enrolled 44% of participants in the United States. Seventy-four percent of participants in the U.S. are White/Caucasian; 15% are Hispanic and/or Latinx; 13% are Black/African American; 6% are Asian and 1% are Native American.
- Forty-one percent of participants in the study had comorbidities associated with an increased risk for progression to severe COVID-19.
Johnson and Johnson Covid-19 Vaccine

- 85% effective in preventing severe COVID-19 requiring hospitalization
- 72% effective in the US
- Overall efficacy is 66% when including all countries
- Efficacy was 64% in South Africa, where the highly contagious variant B.1.351 was present and is now spreading throughout the world including the US

FDA webpage; Awaiting peer reviewed manuscript

Johnson and Johnson Covid-19 Vaccine

One and Done: Why People Are Eager for Johnson & Johnson’s Vaccine

Johnson & Johnson’s one-shot vaccine is allowing states to rethink distribution, even as health officials and experts worry some will view it as inferior.

NY Times 3/11/2021

NY Times 3/5/2021
Vaccine Safety

• No participant developed a severe allergic reaction
• Side effects of the vaccine were similar to those of other vaccines, including fever experienced by 9% of volunteers
• Did not cause any excess serious complications

• March 2, 2021 Press Release: Merck will help manufacture the Johnson & Johnson vaccine

Johnson and Johnson Covid-19 Vaccine

• February 26, 2021: Unanimous vote by the U.S. FDA’s Vaccines and Related Biological Products Advisory Committee (VRBPAC) on February 26, 2021.
• February 27, 2021: FDA issued Emergency Use Authorization (EUA) for its single-dose COVID-19 vaccine, developed by Johnson & Johnson, to prevent COVID-19 in individuals 18 years of age and older
Real World Efficacy (not yet peer reviewed)

• Study in Israel where Pfizer vaccine became available in January 2021
• Nationwide effort to vaccinate population - as of 3/15/2021, 50% of Israel’s population had been fully vaccinated, and 60% had its first dose
• More transmissible B.1.1.7 variant was dominant strain (80%)
• For all outcomes, vaccine effectiveness was measured from two weeks after the second dose
• Vaccine effectiveness was at least 97% against symptomatic COVID-19 cases, hospitalizations, severe and critical hospitalizations, and deaths
• Vaccine effectiveness of 94% against asymptomatic SARS-CoV-2 infections


Real World Efficacy of Moderna and Pfizer Vaccines

• CDC enrolled 3950 people at high risk of being exposed to the virus (health care workers, first responders, etc.)
• Participants collected nasal swabs weekly
• 58% of infections developed before symptoms and 10.2% of patients never developed symptoms
• 68% of participants received both doses, 12.1% one dose and the remainder no vaccine
• Among those fully vaccinated, there were 0.04 infections/1000 person days, 0.19 infections per 1000 person days if received one dose and 1.38 infections per 1000 person days in unvaccinated individuals

Thank You
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@FarrayelBD

COVID-19 Vaccine Updates from Advisory Committee on Immunization Practice (ACIP)
Freddy Caldera, DO, MS
Associate Professor of Medicine
University of Wisconsin Department of Medicine – Division of Gastroenterology & Hepatology
fcaldera@medicine.wisc.edu
@dr_fcalderaiBD
Objectives

- Update on Clinical Considerations for Use of COVID-19 Vaccines
- Provide an update from VAERS on safety following COVID-19 vaccination
- Update on data regarding safety of COVID-19 vaccines in pregnant patients

COVID Cases and Vaccination in US

- COVID-19 vaccines are administered intramuscularly as either a two-dose series or single dose

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Authorized age group</th>
<th>Number of doses</th>
<th>Interval between doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pfizer-BioNTech</td>
<td>≥16 years</td>
<td>2</td>
<td>3 weeks (21 days)</td>
</tr>
<tr>
<td>Moderna</td>
<td>≥18 years</td>
<td>2</td>
<td>1 month (28 days)</td>
</tr>
<tr>
<td>Janssen</td>
<td>≥ 18 years</td>
<td>1</td>
<td>N/A</td>
</tr>
</tbody>
</table>
COVID-19 Cases and Vaccination in US

• COVID Cases in US 29,976,179 and 545,273 Deaths

<table>
<thead>
<tr>
<th>People Vaccinated</th>
<th>At least one dose</th>
<th>Fully vaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>95,015,762</td>
<td>52,614,231</td>
</tr>
<tr>
<td>% of total population</td>
<td>28.6%</td>
<td>15.8%</td>
</tr>
<tr>
<td>Populations &gt;18 years of age</td>
<td>94,686,188</td>
<td>52,529,949</td>
</tr>
<tr>
<td>% of Population &gt;18 Years of Age</td>
<td>36.7%</td>
<td>20.4%</td>
</tr>
<tr>
<td>Population &gt;65 Years of Age</td>
<td>39,799,162</td>
<td>26,905,023</td>
</tr>
<tr>
<td>% of Population &gt;65 Years of Age</td>
<td>71.8%</td>
<td>49.2%</td>
</tr>
</tbody>
</table>

Which COVID-19 vaccine should you recommend?

• ACIP states no preference for any of the three authorized vaccines
• Results of Janssen Phase III trial not comparable with mRNA vaccine
  • Different calendar time
  • Different geography
  • Different circulating variants
  • Higher background incidence

www.cdc.gov
Which COVID-19 vaccine should you recommend?

• Strong protection against severe COVID-19
  • 93% VE against hospitalization (2 cases in vaccinated vs. 29 in placebo)
  • No COVID-associated deaths in vaccinated vs. 7 in placebo

Are the COVID-19 vaccines interchangeable?

• COVID-19 vaccines are not interchangeable

1st dose of mRNA vaccine → unable to complete series → Single dose of Janssen vaccine 28 days later

www.cdc.gov
Can I provide other vaccines with COVID-19 vaccines?

- Has not been studied so not unsafe, but not currently recommended
- Other vaccines are commonly co-administered
- Certain situations may warrant administration (tetanus, rabies)

Diagram:
- no vaccine 14 days prior
- COVID 19 vaccine
- 14 days wait till next vaccine

Should I vaccinate those with current or prior COVID-19 infections?

- Persons with active SARS-COV-2 infections
  - Vaccination deferred until recovery from acute illness
  - No minimum interval between infection and vaccination
- Vaccination should be offered to persons regardless of history of prior symptomatic or asymptotic SARS-CoV-2 infection
  - Data from clinical trials indicated vaccination is safe in these patients
- Viral testing for current infection, or serologic testing for prior testing is not recommended

www.cdc.gov
Contraindication to vaccines

**Known allergy to vaccine component**

- **Known PEG allergy**
  - May receive Janssen vaccine with 30-minute observation*

- **Known polysorbate allergy**
  - May receive either mRNA vaccine with 30-minute observation*

*Vaccination should be undertaken in an appropriate setting under the supervision of a health care provider experienced in the management of severe allergic reactions.

Update on Vaccine Safety from VAERS
Vaccine Adverse Event Reporting System (VAERS)

• Strengths
  - National data
  - Rapidly detects safety signals
  - Can detect rare adverse events

• Limitations
  - Reporting bias
  - Not designed to assess causality
  - Lack of unvaccinated comparison group

• VAERS accepts all reports from everyone regardless of the plausibility of the vaccine causing the event or the clinical seriousness of the event
• As a hypothesis-generating system, VAERS identified potential vaccine safety concerns that can be studied in more robust data systems.

Vaers.hhs.gov/index

US reports to VAERS after COVID-19 vaccines through February 16, 2021

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>N</th>
<th>Non-serious AEs (%)</th>
<th>Serious (AE) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderna</td>
<td>56,567</td>
<td>54,708(97)</td>
<td>1,859 (3)</td>
</tr>
<tr>
<td>Pfizer-BioNTech</td>
<td>48,196</td>
<td>43,974 (91)</td>
<td>4,222 (9)</td>
</tr>
<tr>
<td>Total</td>
<td>104,763</td>
<td>98,682 (94)</td>
<td>6,081 (6)</td>
</tr>
</tbody>
</table>

https://www.cdc.gov/vaccines/covid-19/index.html
Most commonly reported adverse events to VAERS after COVID-19 vaccine

<table>
<thead>
<tr>
<th>Adverse event</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>2,322 (20.0)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>1,801 (15.1)</td>
</tr>
<tr>
<td>Dizziness</td>
<td>1,659 (14.3)</td>
</tr>
<tr>
<td>Pyrexia</td>
<td>1,551 (13.4)</td>
</tr>
<tr>
<td>Chills</td>
<td>1,508 (13.0)</td>
</tr>
<tr>
<td>Nausea</td>
<td>1,482 (12.6)</td>
</tr>
<tr>
<td>Pain</td>
<td>1,464 (12.6)</td>
</tr>
<tr>
<td>SARS-CoV-2 Test positive</td>
<td>1,002 (8.6)</td>
</tr>
<tr>
<td>Injection Site Pain</td>
<td>997 (8.6)</td>
</tr>
<tr>
<td>Pain in extremity</td>
<td>923 (8.0)</td>
</tr>
</tbody>
</table>

Adverse event

<table>
<thead>
<tr>
<th>Adverse event</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>1,353 (23.4)</td>
</tr>
<tr>
<td>Pyrexia</td>
<td>1,093 (18.9)</td>
</tr>
<tr>
<td>Chills</td>
<td>1,056 (18.3)</td>
</tr>
<tr>
<td>Pain</td>
<td>945 (16.3)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>888 (15.4)</td>
</tr>
<tr>
<td>Nausea</td>
<td>884 (15.3)</td>
</tr>
<tr>
<td>Dizziness</td>
<td>792 (13.7)</td>
</tr>
<tr>
<td>Injection Site Pain</td>
<td>671 (11.6)</td>
</tr>
<tr>
<td>Pain in extremity</td>
<td>576 (10.0)</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>487 (8.4)</td>
</tr>
</tbody>
</table>

https://www.cdc.gov/vaccines/covid-19/index.html

Update on Safety in Pregnant Patients from V-safe program
Summary of Vaccine Safety Update - V-Safe Data February 16, 2021

<table>
<thead>
<tr>
<th>People receiving 1 or more doses in the United States</th>
<th>Pfizer-BioNTech</th>
<th>Moderna</th>
<th>All COVID-19 Vaccines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28,374,410</td>
<td>26,738,853</td>
<td>55,220,364</td>
</tr>
<tr>
<td>Registrants completing at least 1 v-safe health check in</td>
<td>1,776,960</td>
<td>2,121,022</td>
<td>3,897,982</td>
</tr>
<tr>
<td>Pregnancies reported to v-safe</td>
<td>16,039</td>
<td>14,455</td>
<td>30,494</td>
</tr>
</tbody>
</table>

As of 2/16/2021 v-safe data

V-safe: Day 1 post vaccination local reactions in pregnant and non-pregnant women age 16-54 years

CDC-unpublished v-safe data through January 13, 2021
V-safe: Day 1 post-vaccination systemics reaction in pregnant and non-pregnant women age 16-54 years

V-safe pregnancy registry

- V-safe participants who report pregnancy following COVID-19 vaccination are actively contacted to enroll in pregnancy registry*
- Participants are contacted once per trimester, after delivery, and when the infant is 3 months old†
- Outcomes of interest include miscarriage and still birth, pregnancy complications, maternal intensive care unit admission, adverse birth outcomes, neonatal death, infant hospitalizations, and birth defects
V-safe pregnancy registry enrollment as of February 19, 2021

<table>
<thead>
<tr>
<th>Registry participants to date (n=1949)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled</td>
<td>1815</td>
</tr>
<tr>
<td>Not Eligible</td>
<td>103</td>
</tr>
<tr>
<td>Refused/declined</td>
<td>31</td>
</tr>
</tbody>
</table>

- In the enrolled population, there have been 275 completed pregnancies, including 232 live births
- Other outcomes include miscarriage, stillbirth, ectopic/tubal, other

CDC-unpublished v-safe data through January 13, 2021

V-safe pregnancy registry outcomes of interested in COVID-19 vaccinated pregnant women

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Background Rates</th>
<th>V-safe pregnancy Registry overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscarriage (&lt;20 weeks)</td>
<td>26%</td>
<td>15%</td>
</tr>
<tr>
<td>Stillbirth (&gt;20 weeks)</td>
<td>0.6%</td>
<td>1%</td>
</tr>
<tr>
<td>Pregnancy complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gestational diabetes</td>
<td>7-14%</td>
<td>10%</td>
</tr>
<tr>
<td>Preeclampsia or gestational hypertension</td>
<td>10-15%</td>
<td>15%</td>
</tr>
<tr>
<td>Eclampsia</td>
<td>0.27%</td>
<td>0%</td>
</tr>
<tr>
<td>Intrauterine growth restriction</td>
<td>3-7%</td>
<td>1%</td>
</tr>
<tr>
<td>Neonatal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preterm birth</td>
<td>10.1%</td>
<td>10%</td>
</tr>
<tr>
<td>Congenital anomalies</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Small for gestational age</td>
<td>3-7%</td>
<td>4%</td>
</tr>
<tr>
<td>Neonatal death</td>
<td>0.38%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Recommending COVID-19 Vaccine

- Legitimize concerns, empathize with fears, and normalize hesitancy
- Presume patients are open to vaccine administration but lack information on where to get it
- Employ positive framing techniques when discussing the benefits of vaccination
- Discuss the risk of disease and benefits of immunization.
- Strongly recommend a vaccine

https://www.cdc.gov/vaccines/partners/vaccinate-with-confidence.html

Thank you

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@dr_fcalderaibd
Updates on COVID-19 for Inflammatory Bowel Diseases

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Joseph B. Kirsner Professor of Medicine
University of Chicago

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Disclosures

Consultant and/or Grant Support

- Abbie
- Altrubio
- Arena Pharmaceuticals
- Athos Therapeutics
- Bellatrix Pharmaceuticals
- Boehringer Ingelheim, Ltd.
- Bristol-Myers Squibb
- Celgene Corp/Syneos
- GalenPharma/Atlantica
- Genentech/Roche
- Gilead Sciences
- InDex Pharmaceuticals
- Ironwood Pharmaceuticals
- Iterative Scopes
- Janssen Pharmaceuticals
- Lilly
- Materia Prima
- Pfizer
- Prometheus Laboratories
- Reistone
- Takeda
- Techlab, Inc
Updates in COVID and IBD

- IBD patients are not at increased risk for becoming infected with SARS-CoV-2
- IBD patients are not at increased risk of COVID-19
- Risk factors for worse outcomes with COVID-19 in IBD have been described
- Management of COVID in patients with IBD is mostly supportive
- It is recommended that patients with IBD be vaccinated against SARS-CoV-2

### Selected COVID-19 and IBD Publications: 2020-2021

**n=284 as of March 30, 2021**

<table>
<thead>
<tr>
<th>First Author</th>
<th>Journal</th>
<th>Setting</th>
<th>N of IBD (COVID+)</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norsa L</td>
<td>Gastroenterology</td>
<td>Italy</td>
<td>522 (0)</td>
<td>No COVID in IBD</td>
</tr>
<tr>
<td>Burgueno JF</td>
<td>Inflamm Bowel Dis</td>
<td>USA</td>
<td>(65)</td>
<td>Viral entry molecules ACE2 and TMPRSS2 expressed in the ileum and colon IBD does not have higher expression with inflammation; medical therapy is associated with lower levels of ACE2</td>
</tr>
<tr>
<td>Allocca M</td>
<td>Clin Gastroenterol Hepatol</td>
<td>Italy, France</td>
<td>6000 (15)</td>
<td>5/15 patients with COVID-19 hospitalized, but none in ICU and no deaths</td>
</tr>
<tr>
<td>Lukin DJ</td>
<td>Gastroenterology</td>
<td>USA</td>
<td>(240)</td>
<td>Less death, ICU admission, or intubation in IBD compared with matched controls</td>
</tr>
<tr>
<td>Mak JWY</td>
<td>J Gastroenterology</td>
<td>Hong Kong and Taiwan</td>
<td>5508 (0)</td>
<td>No COVID in IBD</td>
</tr>
<tr>
<td>Axinrad JE</td>
<td>Inflamm Bowel Dis</td>
<td>NYC, USA</td>
<td>(83)</td>
<td>6% hospitalization, active Crohn’s disease or older men with comorbidities, and 1 death</td>
</tr>
</tbody>
</table>

### COVID-19 and IBD Publications: 2020-2021

**n=284 as of March 30, 2021**

<table>
<thead>
<tr>
<th>First Author</th>
<th>Journal</th>
<th>Setting</th>
<th>N of IBD (COVID+)</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aziz M</td>
<td>Inflamm Bowel Dis</td>
<td>France, Italy, Spain, China, USA</td>
<td>9177 (32)</td>
<td>IBD pts might be protected from COVID-19 with therapy</td>
</tr>
<tr>
<td>Bezzio C</td>
<td>Gut</td>
<td>Italy</td>
<td>(79)</td>
<td>Active IBD, age and comorbidities: negative COVID-19 outcome IBD treatments were not a risk factor</td>
</tr>
<tr>
<td>Rodriguez-Lago I</td>
<td>Gastroenterology</td>
<td>Spain</td>
<td>(40)</td>
<td>Most frequent symptoms of COVID-19 were fever (77%) and cough (67%), with 21% reporting diarrhea</td>
</tr>
<tr>
<td>Macaluso FS</td>
<td>Dig Liver Dis</td>
<td>Italy</td>
<td>(800)</td>
<td>IBD not at higher risk of being infected by SARS-COV-2 Immunomodulators or biologics not associated with worse prognosis, steroids possibly bad</td>
</tr>
<tr>
<td>Brenner EJ &amp; Ungaro RS</td>
<td>Gastroenterol Gut</td>
<td>International</td>
<td>(525)</td>
<td>Older age, steroids, co-morbidities, 5-ASA are risks for worse outcomes Anti-TNF protective for some outcomes Combination therapy and thiopurines assoc w severe COVID</td>
</tr>
<tr>
<td>Khan N</td>
<td>Gut</td>
<td>USA (VA)</td>
<td>(649)</td>
<td>Vedolizumab patients more likely to be infected with SARS-CoV-2 compared w 5-ASA Steroids associated with worse COVID-19 outcomes No IBD treatment assoc w worse COVID-19 outcomes</td>
</tr>
</tbody>
</table>
### Selected Case Reports: COVID-19 and IBD in 2020-2021

<table>
<thead>
<tr>
<th>First Author</th>
<th>Journal</th>
<th>Setting</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Okeke F</td>
<td>Antibodies</td>
<td>USA</td>
<td>Combined immune suppression was associated with MILD COVID</td>
</tr>
<tr>
<td>Di Ruscio M</td>
<td>Inflamm Bowel Dis</td>
<td>Italy</td>
<td>IBD Flare, COVID pneumonia, steroids -&gt; urgent colectomy</td>
</tr>
<tr>
<td>Rosen MH</td>
<td>Inflamm Bowel Dis</td>
<td>USA</td>
<td>Pregnancy, IBD, COVID, miscarriage, IBD treated with cyclosporine</td>
</tr>
<tr>
<td>Wolf DC</td>
<td>Am J Gastroenterol</td>
<td>USA</td>
<td>Bismuth subsalicylate has anti-viral properties, treats COVID</td>
</tr>
<tr>
<td>Jacobs J</td>
<td>Inflamm Bowel Dis</td>
<td>USA</td>
<td>Tofacitinib continued during COVID without consequence</td>
</tr>
<tr>
<td>Dolinger MT</td>
<td>J Pediatr Gastroenterol</td>
<td>USA</td>
<td>Anti-TNF-α in the treatment of COVID-19 multi-system inflammatory cascade in a child with IBD</td>
</tr>
</tbody>
</table>

**SECURE-IBD**

Voluntary, International Registry of COVID and IBD

COVIDIBD.org

![COVID-19 Map](image)

- **Cases**: 5,662
- **Hospitalizations**: 886
- **Deaths**: 91

### SECURE-IBD Multivariable Regression for Primary and Secondary Outcomes of COVID

#### Table 1: Multivariable Regression for Primary Outcome

<table>
<thead>
<tr>
<th>Variable (Referent Group)</th>
<th>ICU/Vent/Death OR (95% CI) N = 513</th>
<th>P-value</th>
<th>Hospitalization or Death OR (95% CI) N = 517</th>
<th>P-value</th>
<th>Death OR 95% CI N = 513</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1.04 (1.01-1.06)</td>
<td>0.002</td>
<td>1.03 (1.01-1.04)</td>
<td>&lt;0.001*</td>
<td>1.07 (1.03-1.11)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Male (Female)</td>
<td>1.20 (0.55-2.60)</td>
<td>0.65</td>
<td>1.38 (0.89-2.15)</td>
<td>0.15</td>
<td>2.78 (0.76-10.14)</td>
<td>0.12</td>
</tr>
<tr>
<td>Diagnosis CD (UC/unspecified)</td>
<td>0.76 (0.31-1.85)</td>
<td>0.54</td>
<td>0.84 (0.51-1.38)</td>
<td>0.49</td>
<td>1.64 (0.42-6.43)</td>
<td>0.48</td>
</tr>
<tr>
<td>Disease severity Active disease (remission)</td>
<td>1.14 (0.49-2.66)</td>
<td>0.76</td>
<td>1.96 (1.23-3.11)</td>
<td>0.005*</td>
<td>0.97 (0.26-3.62)</td>
<td>0.96</td>
</tr>
<tr>
<td>Systemic corticosteroid (none)</td>
<td>6.87 (2.30-20.51)</td>
<td>&lt;0.001*</td>
<td>6.46 (2.74-15.23)</td>
<td>&lt;0.001*</td>
<td>11.62 (2.09-64.74)</td>
<td>0.005*</td>
</tr>
<tr>
<td>TNF antagonist (none)</td>
<td>0.90 (0.37-2.17)</td>
<td>0.81</td>
<td>0.60 (0.38-0.96)</td>
<td>0.03*</td>
<td>0.99 (0.23-4.23)</td>
<td>0.99</td>
</tr>
<tr>
<td>Current smoker</td>
<td>0.55 (0.06-4.94)</td>
<td>0.59</td>
<td>2.38 (0.92-6.16)</td>
<td>0.07</td>
<td>1.47 (0.12-17.53)</td>
<td>0.76</td>
</tr>
<tr>
<td>BMI ≥30</td>
<td>2.00 (0.72-5.51)</td>
<td>0.18</td>
<td>1.18 (0.61-2.31)</td>
<td>0.63</td>
<td>1.58 (0.28-8.80)</td>
<td>0.60</td>
</tr>
<tr>
<td>Comorbidities (none)</td>
<td>1.22 (0.45-3.26)</td>
<td>0.70</td>
<td>1.29 (0.76-2.10)</td>
<td>0.34</td>
<td>&lt;0.001*</td>
<td>1.64 (0.35-7.67)</td>
</tr>
<tr>
<td>5-ASA/Sulfasalazine (none)</td>
<td>3.14 (1.28-7.71)</td>
<td>0.01*</td>
<td>1.77 (1.00-3.12)</td>
<td>0.05*</td>
<td>1.71 (0.46-6.38)</td>
<td>0.43</td>
</tr>
</tbody>
</table>

* Adjusted each odds ratio for all other variables listed in this table
* Other sex excluded from analysis due to low numbers
* By physician global assessment (PGA) at time of COVID-19 infection

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### SECURE-IBD Multivariable Regression for Secondary Outcome

#### Table 2: Multivariable Regression for Secondary Outcome

<table>
<thead>
<tr>
<th>Variable (Referent Group)</th>
<th>ICU/Vent/Death OR (95% CI) N = 513</th>
<th>P-value</th>
<th>Hospitalization or Death OR (95% CI) N = 517</th>
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<th>Death OR 95% CI N = 513</th>
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<tr>
<td>Age</td>
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<td>0.65</td>
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<td>0.15</td>
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</tr>
<tr>
<td>Diagnosis CD (UC/unspecified)</td>
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American College of Gastroenterology
Secure-IBD Multivariable Regression for Primary and Secondary Outcomes of COVID

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<tr>
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<td>0.76</td>
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<td>0.005*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TNF antagonist (none)</td>
<td>0.90 (0.37-2.7)</td>
<td>0.92</td>
<td>0.80 (0.23-2.67)</td>
<td>0.99</td>
<td></td>
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</tr>
<tr>
<td>Current smoker</td>
<td>0.55 (0.06-4.49)</td>
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<td>0.76</td>
<td></td>
<td></td>
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*cBy physician global assessment (PGA) at time of COVID-19 infection

Why Might 5-ASA Appear as a Risk?
• Unclear/lack of obvious biological risk
• Most prescribed therapy, is it due to unadjusted confounders such as disease activity
• Wrong comparator group (need to look at non-IBD?)

Secure-IBD Effect of IBD Medications on COVID-19 Outcomes

N=1439

<table>
<thead>
<tr>
<th>Medication comparison</th>
<th>OR (95% CI)</th>
<th>aOR (95% CI)</th>
<th>P value</th>
<th>P value</th>
<th>Total n in model</th>
<th>n with severe COVID-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>TNF Antagonist (ref=No TNF antagonist)</td>
<td>0.47 (0.29-0.72)</td>
<td>0.05 (0.43 to 1.50)</td>
<td>0.12</td>
<td>0.52</td>
<td>1415</td>
<td>111</td>
</tr>
<tr>
<td>Combination therapy</td>
<td>3.20 (1.31 to 8.25)</td>
<td>4.02 (1.65 to 9.78)</td>
<td>0.002</td>
<td>0.08</td>
<td>670</td>
<td>34</td>
</tr>
<tr>
<td>Thiopurine monotherapy (ref=TNF antagonist monotherapy)</td>
<td>3.15 (1.55 to 6.43)</td>
<td>4.08 (1.73 to 9.61)</td>
<td>0.001</td>
<td>0.013</td>
<td>670</td>
<td>34</td>
</tr>
</tbody>
</table>

# Outcomes of COVID-19 in 79 patients with IBD in Italy

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>COVID-19 related pneumonia OR [95%CI]</th>
<th>P-value</th>
<th>COVID-19 related death OR [95%CI]</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt; 65</td>
<td>5.87 [1.15, 29.66]</td>
<td>0.03</td>
<td>19.6 [2.95, 130.6]</td>
<td>0.002</td>
</tr>
<tr>
<td>CCI* score &gt; 1</td>
<td>2.91 [1.06, 9.21]</td>
<td>0.04</td>
<td>16.66 [1.8, 153.9]</td>
<td>0.01</td>
</tr>
<tr>
<td>UC diagnosis</td>
<td>2.72 [1.06, 6.99]</td>
<td>0.03</td>
<td>2.95 [0.31, 27.73]</td>
<td>0.34</td>
</tr>
<tr>
<td>Active IBD</td>
<td>10.25 [2.11, 49.73]</td>
<td><strong>0.003</strong></td>
<td>8.45 [1.26, 56.56]</td>
<td><strong>0.02</strong></td>
</tr>
<tr>
<td>Corticosteroids</td>
<td>4.94 [0.95, 25.55]</td>
<td>0.05</td>
<td>6.28 [0.89, 44.24]</td>
<td>0.064</td>
</tr>
<tr>
<td>Thiopurines</td>
<td>1.21 [0.22, 6.40]</td>
<td>0.82</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Anti-TNF</td>
<td>1.18 [0.47, 2.97]</td>
<td>0.71</td>
<td>0.4 [0.04, 3.78]</td>
<td>0.42</td>
</tr>
<tr>
<td>Vedolizumab</td>
<td>0.53 [0.16, 1.73]</td>
<td>0.29</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Charlson Comorbidity Index

---

# Does Disease Activity Matter in IBD and COVID-19 Outcomes?

- **Maybe?**
- Assessed subjectively by clinicians, confounded by steroid use in those cases
  - Active IBD is associated with COVID-19 related pneumonia (OR 10.25) and death (OR 8.45)<sup>1</sup>
  - Moderate/severe IBD disease activity associated with hospitalization (64% vs 15%; \( P < .01 \))<sup>2</sup>

---


• N=2709

• Outcomes:
  • Hospitalization+ AUC 0.79: composite outcome of hospitalization, ICU admission, mechanical ventilation, or death
  • ICU+ AUC 0.88: composite outcome of ICU admission, mechanical ventilation, or death
  • Death AUC 0.94

• Age, comorbidities, corticosteroid use, and male gender were associated with higher risk of death, while use of biologic therapies were associated with a lower risk

Management of IBD During the COVID Pandemic

• Education of your patients; reassurance but vigilance and vaccination

• Details matter:
  - Check and supplement vitamin D\(^1\) (goal >30 ng/mL, especially in Black patients)
  - Evaluate new GI symptoms carefully
  - Calprotectin can be elevated with COVID, but not usually more than 100-200\(^2\)-\(^4\)
  - Don’t forget C. diff, other GI pathogens!

• When acutely ill with COVID-19, decisions to hold therapy should be in the context of the IBD risks, half-life of the therapy and plan for the COVID

SARS-CoV-2 Vaccinations for IBD

Who Should Get Vaccinated? (everyone!)

<table>
<thead>
<tr>
<th>Individual Risk Factors</th>
<th>Age &gt;65</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hypertension</td>
</tr>
<tr>
<td></td>
<td>Diabetes</td>
</tr>
<tr>
<td></td>
<td>Obesity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IBD-Related Risk Factors</th>
<th>Steroid use (probably &gt;20 mg/d prednisone equivalent)/steroid dependence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Moderately to severely active disease (possibly)</td>
</tr>
</tbody>
</table>

| Geographic Risk Factors | Local/regional prevalence of COVID-19 based on test positive rate (often >8% triggers mitigation plans) or by Re (reproductive rate of the virus in the population after social distancing and other plans are activated) |

| Likelihood of Occupational Exposure to SARS-CoV-2 | Patients with IBD who are health care workers, teachers, daycare workers, other essential workers |
Virtual Grand Rounds

SARS-CoV-2 vaccination for patients with inflammatory bowel diseases: recommendations from an international consensus meeting

Corey A Siegel,1 Gil Y Melmed,2 Dermot PB McGovern,2 Victoria Ral,1,4 Florian Krammer,2 David T Rubin,1,2 Maria T Abreu,6 Marla C Dubinsky,1,2 on behalf of the International Organization for the Study of Inflammatory Bowel Disease (IOIBD)


Box 1 Highlighted themes of accepted statements related to SARS-CoV-2 vaccination for patients with IBD by the International Organization for the Study of Inflammatory Bowel Disease (IOIBD)

- Patients with IBD should be vaccinated against SARS-CoV-2.
- The best time to administer SARS-CoV-2 vaccination in patients with IBD is at the earliest opportunity to do so.
- SARS-CoV-2 vaccines including messenger RNA vaccines, replication-competent vector vaccines, inactivated vaccines and recombinant vaccines are safe to administer to patients with IBD.
- SARS-CoV-2 vaccination should not be deferred because a patient with IBD is receiving immune-modifying therapies.
- Patients with IBD vaccinated with SARS-CoV-2 should be counselled that vaccine efficacy may be decreased when receiving systemic corticosteroids.

Will IBD Patients Convert to Active Immunity with Vaccines? (YES)
Patients with Immune-Mediated Inflammatory Diseases Receiving Cytokine Inhibitors Have Low Prevalence of SARS-CoV-2 Seroconversion (NOT VACCINE RELATED)

**Prevalence of anti-SARS-CoV-2 IgG antibodies across study groups**

- **NHC**: non-health care, **HC**: health care, **IMIDs**: immune-mediated inflammatory diseases, **CI**: cytokine inhibitors

**Exposure risk across study groups.**

*Are anti-cytokine therapies protective against infection or protective against sero-conversion?*


---

**Immunogenicity of a SINGLE DOSE of SARS-CoV-2 Messenger RNA Vaccine in Solid Organ Transplant Recipients**

N=436

<table>
<thead>
<tr>
<th>Type of Regimen</th>
<th>Antibody, No. (%)</th>
<th>Bivariable IRR (95% CI)</th>
<th>P value</th>
<th>Adjusted multivariable IRR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Detectable (n = 76)</td>
<td>Undetectable (n = 360)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes anti-metabolite maintenance immunosuppression</td>
<td>28 (37)</td>
<td>292 (81)</td>
<td>0.21 (0.14-0.32)</td>
<td>&lt;.001</td>
<td>0.22 (0.15-0.34)</td>
</tr>
<tr>
<td>Does not include anti-metabolite maintenance immunosuppression</td>
<td>48 (63)</td>
<td>68 (19)</td>
<td>2.14 (1.24-3.69)</td>
<td>.006</td>
<td>2.15 (1.29-3.57)</td>
</tr>
</tbody>
</table>

Boyarsky BJ et al., JAMA. [Epub ahead of print March 15 2021]
Immunogenicity to BNT162b2 (Pfizer/BioNTech) and ChAdOx1 (AstraZeneca) nCoV-19 SARS-CoV-2 Vaccines in IBD

Infliximab n=865; Vedolizumab n=428

- Age >59, immunomodulator use, CD, and smoking were associated with lower, while non-white ethnicity was associated with higher, anti-SARS-CoV-2 antibody concentrations.
- Infliximab was associated with attenuated immunogenicity to a single-dose of the BNT162b2 and ChAdOx1 nCoV-19 SARS-CoV-2 vaccines BUT vaccination after SARS-CoV-2 infection or a second dose of vaccine led to seroconversion in most patients.
- Delayed second dosing should be avoided in patients treated with infliximab.


More Data Coming....
Virtual Grand Rounds

COVID-19 Vaccine Studies in IBD

We want to learn more about how well the COVID-19 vaccine works in people with IBD, and we need your help!

If you have received your first COVID-19 vaccine in the past 28 days, you may be able to take part in PREVENT COVID, a research study to learn about the vaccine experiences of people with IBD.

https://ibdpartners.org/preventcovid.

ICARUS IBD
International study of COVID-19 Antibody Response Under Sustained minute supplement to IBD

https://www.icarusibd.org

Virtual Grand Rounds

COVID-19 Vaccine Educational Video for IBD

- Brief (1 minute) animated video
- COVID precautions and vaccination education for IBD
- Based on IOIBD statements
- Developed with patient input
- Will soon be available in English and Spanish

(Melmed GY, Ha C, Weisbein L, Rubin DT, Long M, van Deen W)
Summary: COVID and IBD Update!

- IBD itself is not a risk for SARS-CoV-2 infection or adverse COVID-19 outcomes
- Standard recommendations for the management of IBD apply:
  - Communicate goals of therapy with patients
  - Avoid prolonged steroid exposure
  - Maintain deep remission
  - Monitor for relapse and treat to deep remission
- Risk factors for poor COVID-19 outcomes are similar in the IBD population as in the non-IBD population
- Emerging data support the need and safety of full vaccination of patients with IBD
  - mRNA (Pfizer/Moderna) and adenovirus-replication-deficient vaccines (J&J) appear very safe and are supported by recommendations in IBD and emerging data

COVID-19 Vaccine Disparities:
It’s More Than Mistrust

Pascale M. White, MD
Assistant Professor of Medicine
Director, Gastroenterology Clinic
Dr. Henry D. Janowitz Division of Gastroenterology
I have no disclosures.

Outline

- Review racial demographic data for COVID-19 vaccinations
- Discuss barriers to vaccine administration in underrepresented minorities
- Identify key actions that will promote vaccine equity
National Strategy for the COVID-19 Response and Pandemic Preparedness

7 Goals

1. Restore trust with the American people.
2. Mount a safe, effective, and comprehensive vaccination campaign.
3. Mitigate spread through expanding masking, testing, data, treatments, health care workforce, and clear public health standards.
5. Safely reopen schools, businesses, and travel while protecting workers.
6. Protect those most at risk and advance equity, including across racial, ethnic and rural/urban lines.
7. Restore U.S. leadership globally and build better preparedness for future threats.

Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity

<table>
<thead>
<tr>
<th>Rate ratios compared to Whites, Non-Hispanic persons</th>
<th>American Indian or Alaska Native, Non-Hispanic persons</th>
<th>Asian, Non-Hispanic persons</th>
<th>Black or African American, Non-Hispanic persons</th>
<th>Hispanic or Latino persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases†</td>
<td>1.7x</td>
<td>0.7x</td>
<td>1.1x</td>
<td>1.3x</td>
</tr>
<tr>
<td>Hospitalization‡</td>
<td>3.7x</td>
<td>1.0x</td>
<td>2.9x</td>
<td>3.1x</td>
</tr>
<tr>
<td>Death†</td>
<td>2.4x</td>
<td>1.0x</td>
<td>1.9x</td>
<td>2.3x</td>
</tr>
</tbody>
</table>

Race and ethnicity are risk markers for other underlying conditions that affect health, including socioeconomic status, access to health care, and exposure to the virus related to occupation, e.g., among frontline, essential, and critical infrastructure workers.

How to Slow the Spread of COVID-19

- Wear a mask
- Stay 6 feet apart
- Avoid crowds and poorly ventilated spaces
- Wash your hands

[cdc.gov/coronavirus]
Key Actions for Goal #6

1. Establish the COVID-19 Health Equity Task Force
2. Increase data collection and reporting for high-risk groups
3. Ensure equitable access to critical COVID-19 PPE, tests, therapies, and vaccines
4. Expand access to high quality health care
5. Expand the clinical and public health workforce, including community-based workers
6. Strengthen the social service safety net to address unmet basic needs
7. Support communities most at-risk for COVID-19

References:

Racial/Ethnic Minorities 39.6%

White 60.4%

Race/Ethnicity Reported 52%

COVID-19 Vaccine Recipients - Month #1

American College of Gastroenterology
Reporting Race/Ethnicity Data - February 2021

County-Level COVID-19 Vaccination Coverage and Social Vulnerability — United States
December 14, 2020 – March 1, 2021

Pandemic's Racial Disparities Persist in Vaccine Rollout

By Amy Schoenfeld Walker, Arjali Singhvi, Josh Holder, Robert Gabriel and Yuriria Aduia  March 5, 2021

Highlights of the Methodology:

- Only 10 states had current race and ethnicity origin data current from their websites from late February
- Variable reporting practices among states (e.g. reporting all doses given, incomplete racial data, etc.)
- Race and ethnicity information is missing from a significant number of vaccination records across states, by as much as a third in some states

New York Times, March 5, 2021
And here's the Black share of the vaccinated population, which is lower than the Black general population in every state.
Vaccination Barriers in Minority Communities

- Technology
- Transportation
- Neighborhood pharmacies
- Vaccination sites

CDC, Health Equity Considerations and Racial and Ethnic Minority Groups, February 2021
Disparities in Vaccination Sites

Where COVID-19 Vaccination Sites Are in East Baton Rouge Parish

Percent white: 0% to 100%

Notes: Louisiana's Vaccine Location Master List as of Feb. 4
Source: Louisiana Department of Health, Census Bureau
Credit: Ruth Tabo and Sean McDermott

Where Black Residents Live Farther Than White Residents From Potential Vaccination Sites

Urban counties by Black residents (%) living more than 1 mile from a potential vaccination site, compared with white residents.

Number of Black residents living more than 1 mile from a potential vaccination site

Notes: Only counties with greater than 100,000 Black residents are shown. Potential vaccination site defined as a pharmacy, federally qualified health center, rural clinic or outpatient hospital.

Source: University of Pittsburgh, Urban Health Policy Center
Credit: Ruth Tabo and Sean McDermott
Vaccination Barriers in Minority Communities

- Limited Time: less flexibility with work schedules
- Lack of Support: child care, elder care
- Language/Communication Barriers

Barriers ➔ Disparities

CDC, Health Equity Considerations and Racial and Ethnic Minority Groups, February 2021
Major Driver of Vaccine Hesitancy: Trust

- Trust in Vaccine Safety
  - 14% of Black Americans
  - 34% of Latinx Americans
  - Mostly or completely trust that a vaccine will be safe

- Trust in Vaccine Effectiveness
  - 18% of Black Americans
  - 40% of Latinx Americans
  - Mostly or completely trust that a vaccine will be effective

- Trust in Culturally Specific Testing and Safety
  - 28% of Black Americans
  - 47% of Latinx Americans
  - Are confident that a vaccine will be tested specifically for safety in their racial/ethnic group

Intentions to Get Vaccinated

Safety and Intention
- 78% of Black Americans
- 76% of Latinx Americans

Effectiveness and Intention
- 75% of Black Americans
- 72% of Latinx Americans

Physician Strategies in Addressing Vaccine Hesitancy

Trust in Healthcare Provider
- 72% of Black Americans
- 66% of Latinx Americans

Rate their healthcare provider positively at giving clear information for decision-making

1. Lead with Listening
2. Tailor your responses
3. Describe the vaccine development process
4. Acknowledge uncertainty

COVID Collaborative; UnidosUS; NAACP. Coronavirus Vaccine Hesitancy in Black and Latinx Communities. 2020.
State Strategies in Addressing Vaccine Disparities

Colorado: COVID-19 Vaccine Equity Taskforce – pop up vaccination clinics and commercials in Spanish → addresses technology and language barriers

Louisiana: mobile community teams → addresses transportation barriers

Tennessee: African American Health Care Clinician Workgroup disseminating information and vaccines in Black communities → addresses misinformation barrier

West Virginia: funding faith-based community members and people of color to administer COVID-19 vaccines directly to communities of color → addresses trust barrier

NASHP, States Identify and Address COVID-19 Vaccine Disparities through Targeted Rollout and Outreach, 2021

Key Steps Towards Vaccine Equity

Prioritize Direct Support Monitor Engage

White, PM, COVID-19 Vaccine Disparities: It’s More Than Mistrust, ACG Special Grand Rounds, March 2021
Questions?

Moderator: David A. Greenwald, MD, FACG

Speaker: Pascale M. White, MD

Speaker: Francis A. Farraye, MD, MSc, MACG

Speaker: Freddy Caldera, DO, MS

Speaker: Francis A. Farraye, MD, MSc, MACG

Speaker: David T. Rubin, MD, FACG

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