

**The Impact of Malnutrition Among Patients with a COVID-19-Associated Hospitalization:  
A Pilot Study from the National COVID Cohort Collaborative (N3C) Consortium Short  
Course**

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† Membership of the National COVID Cohort Collaborative (N3C) Consortium is provided in  
the Acknowledgements

**ABSTRACT WORD COUNT:** 345

**MANUSCRIPT WORD COUNT:** 2,345

## **Abstract**

**Introduction:** Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean ornare, elit quis commodo malesuada, mi neque congue massa, at tincidunt nisl elit vel leo. Pellentesque mollis tempus posuere. Donec in varius ligula, vitae lobortis neque. Suspendisse condimentum ornare consectetur. Nunc fermentum, libero malesuada sollicitudin suscipit, mauris quam sollicitudin lorem, posuere suscipit lectus ipsum ut lorem. Ut lobortis magna molestie nunc volutpat, ut ullamcorper ante sodales. Fusce ut interdum magna.

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**Conclusions:** Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut enim sapien, imperdiet et tempor vitae, aliquet vel eros. Maecenas consequat ligula sagittis urna volutpat sodales. Pellentesque nec neque vel diam commodo lacinia. Cras tempor nibh a lacus auctor aliquet. In eget lacinia enim. Fusce accumsan diam sed orci pulvinar fringilla. Vestibulum convallis nunc non fringilla gravida. Maecenas dapibus porta pharetra. Donec porta in erat vitae tempus. Aenean id suscipit quam.

## Introduction

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## **Methods**

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## **National COVID Cohort Collaborative (N3C)**

*N3C has broad inclusion criteria, harmonizing data from US sites nationwide.<sup>1</sup> N3C collects longitudinal Electronic Health Record (EHR) or Health Information Exchange (HIE) data (with a data inclusion period starting January 2018 to assess diseases and conditions before COVID-19) on all persons with a positive SARS-CoV-2 polymerase chain reaction (PCR), antigen, or antibody test or a COVID-19 (ICD-10-CM U07.1) diagnosis.* Nunc ac

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### **Data Extraction and Curation**

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## **Outcomes**

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## **Statistical Analyses**

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## Results

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## **Discussion**

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## **Limitations**

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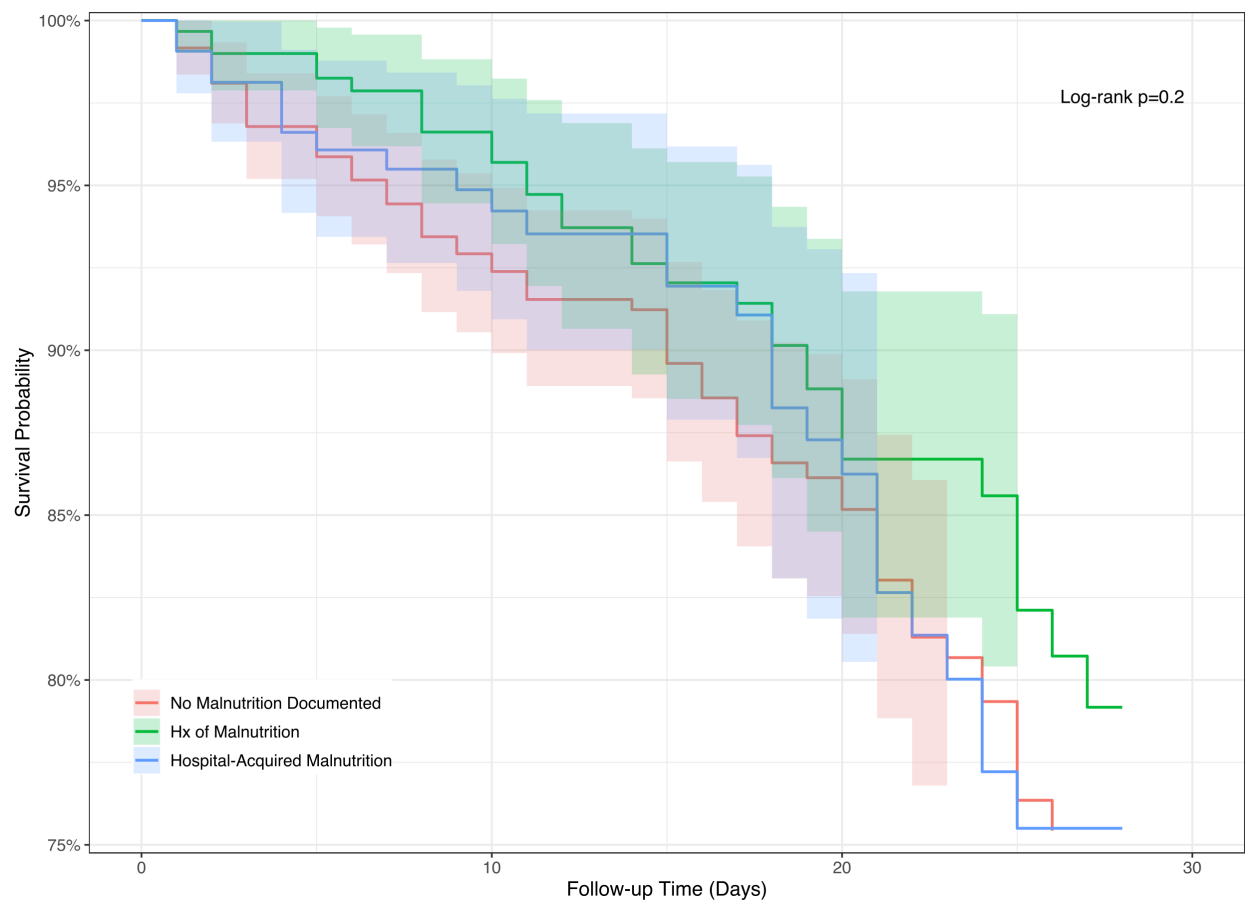
## **Conclusions**

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**Table 1. Baseline Characteristics of Patients with SARS-CoV-2 Infection by Malnutrition Status**

Characteristic <sup>1</sup>	No History of Malnutrition, N = 500	History of Malnutrition, N = 200	Hospital-Acquired Malnutrition, N = 100	p value <sup>2</sup>
Sex				0.6
Female	251 (52%)	149 (49%)	106 (49%)	
Male	230 (48%)	155 (51%)	109 (51%)	
Age at COVID-19 Diagnosis	54 (36, 73)	54 (36, 71)	54 (35, 70)	0.8
Race/Ethnicity				0.2
White Non-Hispanic	237 (49%)	170 (56%)	107 (50%)	
Black or African American Non-Hispanic	59 (12%)	42 (14%)	29 (13%)	
Hispanic or Latino Any Race	94 (20%)	59 (19%)	45 (21%)	
Other	32 (6.7%)	<20 <sup>3</sup>	<20 <sup>3</sup>	
Missing/Unknown	59 (12%)	<30 <sup>3</sup>	<30 <sup>3</sup>	
Quan-Charlson Comorbidity Index	4 (2, 7)	4 (2, 7)	5 (2, 7)	0.9
Current or Former Tobacco User	142 (30%)	91 (30%)	57 (27%)	0.7
US Census Region				0.25
Midwest	83 (17%)	64 (21%)	37 (17%)	
Northeast	101 (21%)	54 (18%)	43 (20%)	
South	118 (25%)	78 (26%)	54 (25%)	
West	95 (20%)	70 (23%)	51 (24%)	
Missing	84 (17%)	38 (13%)	30 (14%)	
Death or Transfer to Hospice	77 (16%)	38 (13%)	33 (15%)	0.4
1. Median (IQR); n (%)				
2. Wilcoxon rank sum test; Pearson's Chi-squared test				
3. Small cell counts representing <20 patients and any adjacent cells that allow back-calculation of small cell counts are obfuscated per N3C policies				
NOTE: THIS IS ENTIRELY FAKE DATA GENERATED USING DPLYR				

Figure 1. Kaplan Meier 30-Day Survival Estimates by Malnutrition Status



NOTE: THIS IS ENTIRELY FAKE DATA GENERATED USING DPLYR

**Table 2. Logistic Regression Models for All-Cause Mortality within 30 Days After Acute SARS-CoV-2 Infection Among Patients with and without Malnutrition**

Characteristic	Event Rate	Crude Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)
Malnutrition			
No Malnutrition Documented	77 / 481 (16%)	Reference	Reference
Hx of Malnutrition	38 / 304 (13%)	0.75 (0.49, 1.13)	0.76 (0.49, 1.15)
Hospital-Acquired Malnutrition	33 / 215 (15%)	0.95 (0.60, 1.47)	0.97 (0.61, 1.50)
Age at COVID-19 Diagnosis	148 / 1,000 (15%)	1.01 (1.00, 1.01)	1.01 (1.00, 1.01)
Sex			
Female	71 / 506 (14%)	Reference	Reference
Male	77 / 494 (16%)	1.13 (0.80, 1.61)	1.15 (0.81, 1.64)
Race/Ethnicity			
White Non-Hispanic	66 / 514 (13%)	Reference	Reference
Black or African American	21 / 130 (16%)	1.31 (0.75, 2.20)	1.33 (0.76, 2.24)
Non-Hispanic			
Hispanic or Latino Any Race	36 / 198 (18%)	1.51 (0.96, 2.34)	1.49 (0.94, 2.32)
Other	<20	2.04 (0.98, 3.98)	1.94 (0.93, 3.83)
Missing/Unknown	<20	0.95 (0.48, 1.74)	0.94 (0.47, 1.73)
Quan-Charlson Comorbidity Index	148 / 1,000 (15%)	1.01 (0.95, 1.07)	1.01 (0.94, 1.07)
Tobacco Usage			
No Hx of Tobacco Usage	100 / 710 (14%)	Reference	Reference
Current or Former Tobacco User	48 / 290 (17%)	1.21 (0.83, 1.75)	1.22 (0.83, 1.77)
US Census Region			
Midwest	30 / 184 (16%)	Reference	Reference
Northeast	33 / 198 (17%)	1.03 (0.60, 1.77)	1.01 (0.58, 1.76)
South	34 / 250 (14%)	0.81 (0.47, 1.38)	0.79 (0.46, 1.35)
West	30 / 216 (14%)	0.83 (0.48, 1.44)	0.8 (0.46, 1.40)
Missing	21 / 152 (14%)	0.82 (0.44, 1.50)	0.81 (0.43, 1.48)
NOTE: THIS IS ENTIRELY FAKE DATA GENERATED USING DPLYR			





## **N3C Attribution**

The analyses described in this [abstract/publication/report/presentation] were conducted with data or tools accessed through the NCATS N3C Data Enclave <https://covid.cd2h.org> and N3C Attribution & Publication Policy v 1.2-2020-08-25b supported by NCATS U24 TR002306, Axle Informatics Subcontract: NCATS-P00438-B, and [insert additional funding agencies or sources and reference numbers as declared by the contributors in their form response above]. This research was possible because of the patients whose information is included within the data and the organizations

(<https://ncats.nih.gov/n3c/resources/data-contribution/data-transfer-agreement-signatories>) and scientists who have contributed to the on-going development of this community resource [<https://doi.org/10.1093/jamia/ocaa196>].

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## **Individual Acknowledgements For Core Contributors**

We gratefully acknowledge the following core contributors to N3C:

Adam B. Wilcox, Adam M. Lee, Alexis Graves, Alfred (Jerrod) Anzalone, Amin Manna, Amit Saha, Amy Olex, Andrea Zhou, Andrew E. Williams, Andrew Southerland, Andrew T. Girvin, Anita Walden, Anjali A. Sharathkumar, Benjamin Amor, Benjamin Bates, Brian Hendricks, Brijesh Patel, Caleb Alexander, Carolyn Bramante, Cavin Ward-Caviness, Charisse Madlock-Brown, Christine Suver, Christopher Chute, Christopher Dillon, Chunlei Wu, Clare Schmitt, Cliff Takemoto, Dan Housman, Davera Gabriel, David A. Eichmann, Diego Mazzotti, Don Brown, Eilis Boudreau, Elaine Hill, Elizabeth Zampino, Emily Carlson Marti, Emily R. Pfaff, Evan French, Farrukh M Koraishy, Federico Mariona, Fred Prior, George Sokos, Greg Martin, Harold Lehmann, Heidi Spratt, Hemalkumar Mehta, Hongfang Liu, Hythem Sidky, J.W. Awori Hayanga, Jami Pincavitch, Jaylyn Clark, Jeremy Richard Harper, Jessica Islam, Jin Ge, Joel Gagnier, Joel H. Saltz, Joel Saltz, Johanna Loomba, John Buse, Jomol Mathew, Joni L. Rutter, Julie A. McMurphy, Justin Guinney, Justin Starren, Karen Crowley, Katie Rebecca Bradwell, Kellie M. Walters, Ken Wilkins, Kenneth R. Gersing, Kenrick Dwain Cato, Kimberly Murray, Kristin Kostka, Lavance Northington, Lee Allan Pyles, Leonie Misquitta, Lesley Cottrell, Lili Portilla, Mariam Deacy, Mark M. Bissell, Marshall Clark, Mary Emmett, Mary Morrison Saltz, Matvey B. Palchuk, Melissa A. Haendel, Meredith Adams, Meredith Temple-O'Connor, Michael G. Kurilla, Michele Morris, Nabeel Qureshi, Nasia Safdar, Nicole Garbarini, Noha Sharafeldin, Ofer Sadan, Patricia A. Francis, Penny Wung Burgoon, Peter Robinson, Philip R.O. Payne, Rafael Fuentes, Randeep Jawa, Rebecca Erwin-Cohen, Rena Patel, Richard A. Moffitt, Richard L. Zhu, Rishi Kamaleswaran, Robert Hurley, Robert T. Miller, Saiju Pyarajan, Sam G. Michael, Samuel Bozzette, Sandeep Mallipattu, Satyanarayana Vedula, Scott

Chapman, Shawn T. O'Neil, Soko Setoguchi, Stephanie S. Hong, Steve Johnson, Tellen D. Bennett, Tiffany Callahan, Umit Topaloglu, Usman Sheikh, Valery Gordon, Vignesh Subbian, Warren A. Kibbe, Wendy Hernandez, Will Beasley, Will Cooper, William Hillegass, Xiaohan Tanner Zhang. Details of contributions available at [covid.cd2h.org/core-contributors](https://covid.cd2h.org/core-contributors)

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 UL1TR002319: Institute of Translational Health Sciences • University of Wisconsin-Madison —  
 UL1TR002373: UW Institute for Clinical and Translational Research • Vanderbilt University  
 Medical Center — UL1TR002243: Vanderbilt Institute for Clinical and Translational Research •  
 Virginia Commonwealth University — UL1TR002649: C. Kenneth and Dianne Wright Center  
 for Clinical and Translational Research • Wake Forest University Health Sciences —

UL1TR001420: Wake Forest Clinical and Translational Science Institute • Washington University in St. Louis — UL1TR002345: Institute of Clinical and Translational Sciences • Weill Medical College of Cornell University — UL1TR002384: Weill Cornell Medicine Clinical and Translational Science Center • West Virginia University — U54GM104942: West Virginia Clinical and Translational Science Institute (WVCTSI) Submitted: Icahn School of Medicine at Mount Sinai — UL1TR001433: ConduITS Institute for Translational Sciences • The University of Texas Health Science Center at Tyler — UL1TR003167: Center for Clinical and Translational Sciences (CCTS) • University of California, Davis — UL1TR001860: UC Davis Health Clinical and Translational Science Center • University of California, Irvine — UL1TR001414: The UC Irvine Institute for Clinical and Translational Science (ICTS) • University of California, Los Angeles — UL1TR001881: UCLA Clinical Translational Science Institute • University of California, San Diego — UL1TR001442: Altman Clinical and Translational Research Institute • University of California, San Francisco — UL1TR001872: UCSF Clinical and Translational Science Institute NYU Langone Health Clinical Science Core, Data Resource Core, and PASC Biorepository Core — OTA-21-015A: Post-Acute Sequelae of SARS-CoV-2 Infection Initiative (RECOVER) Pending: Arkansas Children's Hospital — UL1TR003107: UAMS Translational Research Institute • Baylor College of Medicine — None (Voluntary) • Children's Hospital of Philadelphia — UL1TR001878: Institute for Translational Medicine and Therapeutics • Cincinnati Children's Hospital Medical Center — UL1TR001425: Center for Clinical and Translational Science and Training • Emory University — UL1TR002378: Georgia Clinical and Translational Science Alliance • HonorHealth — None (Voluntary) • Loyola University Chicago — UL1TR002389: The Institute for Translational Medicine (ITM) • Medical College of Wisconsin — UL1TR001436: Clinical and Translational Science Institute of Southeast Wisconsin • MedStar Health Research Institute — None (Voluntary) • Georgetown University — UL1TR001409: The Georgetown-Howard Universities Center for Clinical and Translational Science (GHUCCTS) • MetroHealth — None (Voluntary) • Montana State University — U54GM115371: American Indian/Alaska Native CTR • NYU Langone Medical Center — UL1TR001445: Langone Health's Clinical and Translational Science Institute • Ochsner Medical Center — U54GM104940: Louisiana Clinical and Translational Science (LA CaTS) Center • Regenstrief Institute — UL1TR002529: Indiana Clinical and Translational Science Institute • Sanford Research — None (Voluntary) • Stanford University — UL1TR003142: Spectrum: The Stanford Center for Clinical and Translational Research and Education • The Rockefeller University — UL1TR001866: Center for Clinical and Translational Science • The Scripps Research Institute — UL1TR002550: Scripps Research Translational Institute • University of Florida — UL1TR001427: UF Clinical and Translational Science Institute • University of New Mexico Health Sciences Center — UL1TR001449: University of New Mexico Clinical and Translational Science Center • University of Texas Health Science Center at San Antonio — UL1TR002645: Institute for Integration of Medicine and Science • Yale New Haven Hospital — UL1TR001863: Yale Center for Clinical Investigation

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