85605 Appendices

APPENDIX A.

Clergy Health Initiative Sample Size and Response Rates, 2008–2021

Wave	Eligible Clergy	Sample Size	Response Rate
2008 combined	1820	1726	94.8%
2008 web	–	1139	95.3%
2008 phone	–	587	94.6%
2010 (web and paper)	2008	1749	87.1%
2012 (web and paper)	2186	1777	81.3%
2014 (web and paper)	2380	1788	75.1%
2016 (web)	2479	1802	72.7%
2019 (web)	1997	1451	72.6%
2021 (web)	2018	1460	72.2%

Note. Clergy who had ever been invited since 2008 continued to be invited for the 2014 and 2016 waves, even if they had left the UMC or retired; in 2019 and 2021, clergy who had previously been invited to take the survey and had been retired for fewer than 4 years were included.

APPENDIX B.

Summary of Survey Measures and Response Categories

Measure	Question	Response Categories
Obesity	BMI ≥ 30	Yes / No
Obesity (class 3)	BMI ≥ 40	Yes / No
Hypertension	Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?	Yes / No
High cholesterol	Blood cholesterol is a fatty substance found in the blood. Have you ever been told by a doctor, nurse, or other health professional that your blood cholesterol is high?	Yes / No
Diabetes	Have you ever been told by a doctor that you have diabetes?	Yes / No
Angina	Has a doctor, nurse, or other health professional ever told you that you had angina or coronary heart disease?	Yes / No
Arthritis	Have you ever been told by a doctor or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?	Yes / No
Asthma	Have you ever been told by a doctor, nurse, or other health professional that you had asthma?	Yes / No

Note. Questions with the same wording were asked in all waves, and in both the CHI and BRFSS data.

APPENDIX C.

Longitudinal Modeling of Clergy Health, 2008–2021

Using the CHI longitudinal data, we were able to fit modified Poisson models to estimate changes in the prevalence of each health condition over time. Time in number of years from 2008 was included in the models, in linear, square, and/or cubic terms. First, we ran unadjusted regressions on each health condition to ascertain whether square and cubic terms of time needed to be included for model fit. Second, we ran a multivariate model adjusting for age in 2008, gender, and race/ethnicity on each health condition. Incidence rate ratios with 95% confidence intervals and *P* values are reported in Supplemental Table 1 below.

SUPPLEMENTAL TABLE 1.

Longitudinal Modified Poisson Models of Binary Health Outcomes with Time Among UMC Clergy in North Carolina, Adjusting for Age, Gender, and Race/Ethnicity

Health Condition	Time in Linear Term	Time in Square Term	Time in Cubic Term
Obesity	1.01 [1.00, 1.01]; *P* = .010	–	–
Class 3 obesity	1.08 [1.01, 1.16]; *P* = .028	0.988 [0.974, 1.002]; *P* = .080	1.0005 [0.9998, 1.0013]; *P* = .175
Diabetes	1.04 [1.03, 1.05]; *P* < .001	–	–
Arthritis	1.03 [1.00, 1.06]; *P* = .074	0.994 [0.988, 1.000]; *P* = .046	1.0005 [1.0001, 1.0008]; *P* = .005
Hypertension	1.03 [1.02, 1.03]; *P* < .001	–	–
Angina	1.07 [1.06, 1.09]; *P* < .001	–	–
Asthma	1.00 [1.00, 1.01]; *P* = .298	–	–
High cholesterol	1.05 [1.02, 1.07]; *P* < .001	0.994 [0.990, 0.999]; *P* = .012	1.0003 [1.0000, 1.0005]; *P* = .027

Note. For 5 of the health conditions we observed (obesity, class 3 obesity, diabetes, hypertension, and angina), the natural logarithm of the prevalence has a statistically significant linear relationship with time. Notably, the prevalence of class 3 obesity was estimated to increase by 8% with each additional year (95% CI 1%, 16%; P = .028); the prevalence of ever having had angina was estimated to increase by 7% with each additional year (95% CI 6%, 9%; P < .001).

Two health conditions (arthritis and high cholesterol) have statistically significant non-linear relationships between the logarithm of the prevalence and time. The salience of the association between the health condition and time decreases as the exponent of the term increases (from linear to square then to cubic). Because of the non-linearity of the relationship between the logarithm of the prevalence and time, the amount of change in the prevalence of these health conditions with an additional year depends on the year. For example, in 2008 (when time = 0 years), the prevalence of high cholesterol was estimated to increase by 5% with an additional year (95% CI 2%, 7%; P < .001); but such increase in prevalence slows down as time elapses further, because the incidence rate ratio of the square term of time was lower than 1 and statistically significant (IRR 0.994; 95% CI 0.990, 0.999; P < .001).