Chronic Outcomes

(CVD, diabetes, cancer, mortality, aging, longevity)



Dietary Patterns

(Mediterranean diet, vegetarianism, DASH, etc.)

Micronutrients

(dietary supplements, multivitamins, multiminerals)

Role of Dietary Patterns

Seven Countries Study

Mediterranean Diet Pyramid







What was the "Mediterranean Way"?

"...the ordinary food of common Southern Italians---

homemade minestrone (vegetable soup); pasta in endless variety, always freshly cooked,

served with tomato sauce and a sprinkle of cheese;

a hearty dish of beans and short lengths of macaroni ('pasta e fagioli');

lots of bread...never served with any kind of spread; great quantities of fresh vegetables;

a modest portion of meat or fish twice a week; wine...; always fresh fruit for dessert..."



"Eat Well, Stay Well, the Mediterranean Way" Ancel Keys & Margaret Harvey (1975)

Naples, the beating heart of Mediterranean Italy, early 1940

MEDITERRANEAN FEASTS

NYS SHALLADADATA TEM XIXAMISTY ALLEMENT

The Mediterranean Diet

- Olive Oil
- Wine
- Garlic
- Fish
- Vegetables
- Legumes
- Fruit as dessert
- A philosophy of life…

'Mediterranean' dietary pattern for the primary prevention of cardiovascular disease (Review)

Rees K, Hartley L, Flowers N, Clarke A, Hooper L, Thorogood M, Stranges S



Cochrane Database Syst Rev. 2013;8:CD009825

Rees K, et al. Mediterranean-Style Diet for the Primary and Secondary Prevention of Cardiovascular Disease: A Cochrane Review. *Global Heart*. 2020; 15(1): 56. DOI: https://doi.org/10.5334/gh.853

ORIGINAL RESEARCH

Mediterranean-Style Diet for the Primary and Secondary Prevention of Cardiovascular Disease: A Cochrane Review

Karen Rees¹, Andrea Takeda², Nicole Martin², Leila Ellis¹, Dilini Wijesekara¹, Abhinav Vepa¹, Archik Das¹, Louise Hartley³ and Saverio Stranges^{4,5,6}







Healthy eating is more than the foods you eat



From Dietary Patterns to Nutritional Supplements: A potential shortcut to chronic disease prevention...?













Vitamin E Supplementation and Mortality



Miller ER et al. Ann Intern Med 2005;142:37-46

Mortality in Randomized Trials of Antioxidant Supplements



Bielakovic G. JAMA. 2007;297:842-857 & Cochrane Database Syst Rev. 2012;3:CD007176

Selenium Supplementation & Chronic Disease Prevention

Nutritional Prevention of Cancer (NPC) Trial



JAMA 1996;276:1957-63

Selenium Supplementation and <u>CVD</u> NPC Trial (1983-1996)

Participants without prevalent CVD at randomization (n = 1,004)

Mean follow-up: 7.6 years

CVD	Cases		Adjusted hazard ratios*			
C V D	Se	Placebo	HR	95% CI	P	
All CVD	103	96	1.03	0.78-1.37	0.81	
All CHD	63	59	1.04	0.73-1.49	0.81	
ALL CVA	40	37	1.02	0.65-1.59	0.94	
CVD Mortality	40	31	1.22	0.76-1.95	0.41	
All-cause Mortality	110	111	0.95	0.73-1.24	0.71	

Stranges S et al. Am J Epidemiol. 2006;163:694-9

Selenium Supplementation and Diabetes NPC Trial



Stranges S et al. Ann Intern Med. 2007;147:217-23

Selenium supplementation for the primary prevention of cardiovascular disease (Review)

Rees K, Hartley L, Day C, Flowers N, Clarke A, Stranges S





Cochrane Database Syst Rev. 2013;1:CD009671

Selenium Supplementation & <u>CVD</u> Prevention: Cochrane Systematic Review

All CVD events (fatal and non-fatal)



Type 2 Diabetes

	Selenium supplemen	tation	Contr	ol		Risk Ratio	Risk	Ratio	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% C	I M-H, Fixe	ed, 95% Cl	
Algotar 200µg 2010	1	47	2	23	0.3%	0.24 [0.02, 2.56]	+ -		
Algotar 800µg 2010	3	47	2	23	0.3%	0.73 [0.13, 4.09]	· · · · ·		
Klein 2011	913	8752	869	8696	95.2%	1.04 [0.96, 1.14]			
Stranges 2007	58	600	39	602	4.3%	1.49 [1.01, 2.20]			
Total (95% CI)		9446		9344	100.0%	1.06 [0.97, 1.15]		•	
Total events	975		912						
Heterogeneity: Chi ² = 4	.75, df = 3 (P = 0.19); l ²	= 37%							4
Test for overall effect: 2	Z = 1.33 (P = 0.18)					F	avours experimental	Favours control	Э

Rees K, Stranges S. Cochrane Database Systematic Reviews 2013;1:CD009671

Effect of Selenium Supplementation (5 years) on <u>All-cause Mortality</u> – DK PRECISE Trial



Rayman MP, Stranges S, et al. Free Radic Biol Med. 2018;127:46-54

Geographic variations in Selenium status might explain inconsistent results across populations (biological plausibility)



Rayman MP, Stranges S. Free Radic Biol Med. 2013;65:1557-64

Selenium and Vitamin E Cancer Prevention Trial (SELECT)

	Vitar (400 J	nin E	
	1.001	Unday)	
Selenium	+		
(200 µg/day)			
÷	8,100	8,100	16,200
	8,100	8,100	16,200
Т	16,200	16,200	32,400

Cost: \$175,000,000 (NCI, NIH, etc.)

SELECT: Findings...Stopped after 5.5 y n=35,533 US male adults



JAMA. 2009; 301:39-51

Editorial

Annals of Internal Medicine

Enough Is Enough: Stop Wasting Money on Vitamin and Mineral Supplements

Ann Intern Med. 2013;159:850-851.



Eliseo Guallar, MD, DrPH Johns Hopkins Bloomberg School of Public Health Baltimore, Maryland

Saverio Stranges, MD, PhD Warwick Medical School, University of Warwick Coventry, United Kingdom

Cynthia Mulrow, MD, MSc Annals of Internal Medicine, American College of Physicians Philadelphia, Pennsylvania

Lawrence J. Appel, MD, MPH Edgar R. Miller III, MD, PhD Johns Hopkins School of Medicine Baltimore, Maryland





Available online at www.sciencedirect.com

Nutrition, Metabolism & Cardiovascular Diseases

journal homepage: www.elsevier.com/locate/nmcd

COMMENTARY

Nutrition and health: Time for a paradigm shift for climate change

Saverio Stranges ^{a,b,c,e,*}, Isaac Luginaah ^{a,b,d}

^a Departments of Epidemiology & Biostatistics, Family Medicine & Medicine, Western University, London, ON, Canada ^b Western Centre for Climate Change, Sustainable Livelihoods and Health, Western University, London, ON, Canada ^c Department of Precision Health, Luxembourg Institute of Health, Strassen, Luxembourg

^d Department of Geography and Environment, Western University, London, ON, Canada

^e The Africa Institute, Western University, ON, Canada





News & Events

Bernstein Der

The Western Centre for Climate Change, Sustainable Livelihoods and Health has a broad mandate of engaging researchers policymakers, civil society organizations and students to conduct cutting edge research and build capacity on critical amountermentations and an early in the twenty-first century.



Check for







Emerging Risk Factors: Sleep Health & Chronic Disease





In whatever disease sleep is laborious, it is a deadly symptom; but if sleep does good, it is not deadly.

Hippocrates, 460-370 BC Ancient Greek physician, the "Father of Medicine"

On average, we spend a third of our lives sleeping...



SLEEP TIME INFOGRAPHIC



Societal-Level Factors

Globalization, 24/7 Society, Geography, Public Policy, Technology and Progress, Racism and Discrimination, Economics, Natural Environment

Social-Level Factors

Home, Family, Work, School, Neighborhood, Religion, Culture, Race/Ethnicity, Socioeconomic Status, Social Networks

Individual-Level Factors

Genetics, Beliefs, Attitudes, Behaviors, Physiology, Psychology, Health, Choices





Physical/Social Environment and Sleep Health. CHEST. 2020;157:1304-13

Sleep Health: Can We Define It? Does It Matter?

		Rarely/ Never (0)	Sometimes (1)	Usually/ Always (2)
<u>Satisfaction</u>	Are you satisfied with your sleep?			
<u>A</u> lertness	Do you stay awake all day without dozing?			
<u>T</u> iming	Are you asleep (or trying to sleep) between 2:00 a.m. and 4:00 a.m.?			
<u>E</u> fficiency	Do you spend less than 30 minutes awake at night? (This includes the time it takes to fall asleep and awakenings from sleep.)			
D uration	Do you sleep between 6 and 8 hours per day?			
	Total for all for ite	ms ranges from	n 0-10	
0=	Poor Sleep Health	Good	Sleep Health=	10

Buysse DJ. SLEEP 2014;37:9-17



AN UNMET PUBLIC HEALTH PROBLEM

INSTITUTE OF MEDICINE OF THE NATIONEL NEADERINE

"Insufficient sleep is a public health **EPIDEMIC**" -CDC

RAND EUROPE

Why sleep matters – the economic costs of insufficient sleep

A cross-country comparative analysis

Marco Hafner, Martin Stepanek, Jirka Taylor, Wendy M. Troxel, Christian van Stolk

Rand Health Q. 2017; 6(4):11



http://dx.doi.org/10.5665/sleep.2012

Sleep Problems: An Emerging Global Epidemic? Findings From the INDEPTH WHO-SAGE Study Among More Than 40,000 Older Adults From 8 Countries Across Africa and Asia

Saverio Stranges, MD, PhD1; William Tigbe, MD, PhD1; Francesc Xavier Gómez-Olivé, MD23; Margaret Thorogood, PhD123; Ngianga-Bakwin Kandala, PhD1

¹Division of Health Sciences, University of Warwick Medical School, Coventry, UK; ²MRC/Wits Rural Public Health and Health Transitions Research Unit (Agincourt), School of Public Health, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa; ³INDEPTH Network, Accra, Ghana



Sleep Problems: an Emerging Global Epidemic?



Health and Demographic Surveillance System sites

Stranges S, Kandala N-B, et al. Sleep. 2012;35:1173-1181

Decline in Sleep Duration over time: Canadian National Population Health Survey (2002-2011), N=8,673



Gilmour H, Stranges S, et al. Health Rep. 2013;24:14-20

SLEEP PROBLEMS & CHRONIC DISEASE

Cardiometabolic Risk Factors/Disease

- Obesity/Body Fat Distribution
- Type 2 Diabetes
- Hypertension
- Cardiovascular Disease/Stroke
- ≻ Cancer
- Mental Disorders
- > Multimorbidity
- Neurodegenerative Disease/Cognitive Decline
- > Overall & Cause-Specific Mortality



Sleep problems and <u>mortality</u> in South Africa: Agincourt Study, Health & Demographic Surveillance System (HDSS)

Women

Men



Log rank test P<.001

Log rank test P<.001.

Stranges S, Kandala N-B, Tigbe W, et al. Sleep Medicine 2014;15:56-63

Hypertension. 2007 October; 50(4): 693-700. doi:10.1161/HYPERTENSIONAHA.107.095471.

Gender-specific associations of short sleep duration with prevalent and incident hypertension: the Whitehall II Study

Francesco P Cappuccio^{*}, Saverio Stranges^{*}, Ngianga-Bakwin Kandala^{*}, Michelle A Miller^{*}, Frances M Taggart^{*}, Meena Kumari[†], Jane E Ferrie[†], Martin J Shipley[†], Eric J Brunner[†], and Michael G Marmot[†]

^{*}Clinical Sciences Research Institute, Warwick Medical School, Coventry, UK

[†]International Centre for Health & Society, University College London Medical School, London, UK

A population-based study of reduced sleep duration and hypertension: the strongest association may be in premenopausal women

Saverio Stranges^{a,b}, Joan M. Dorn^{b,c}, Francesco P. Cappuccio^d, Richard P. Donahue^b, Lisa B. Rafalson^e, Kathleen M. Hovey^b, Jo L. Freudenheim^b, Ngianga-Bakwin Kandala^d, Michelle A. Miller^d and Maurizio Trevisan^{b,f}





Journal of Hypertension 2010, 28:896-902



A short questionnaire discriminating different levels of sleep disturbances should be routinely adopted in CVD prevention programs to identify individuals at increased risk for early-onset

Sleep Deprivation & Diabetes

Short Sleep Duration is Associated with the Development of Impaired Fasting Glucose: The Western New York Health Study

LISA RAFALSON, PHD, RICHARD P. DONAHUE, PHD, MPH, SAVERIO STRANGES, MD, PHD, MICHAEL J. LAMONTE, PHD, MPH, JACEK DMOCHOWSKI, PHD, JOAN DORN, PHD, AND MAURIZIO TREVISAN, MD, MS

	Diabetes & Metab	polism 48 (2022) 101263	
	Available online at	Elsevier Masson France	E Diabetes Metabolism
ELSEVIER	ScienceDirect www.sciencedirect.com	EM consulte www.em-consulte.com	 Statistical Statistical Statisticae Stati

Check fo

Original article

Objective and subjective sleep measures are associated with HbA1c and insulin sensitivity in the general population: Findings from the ORISCAV-LUX-2 study

G.A. Aguayo^{a,*}, J. Pastore^a, A. Backes^a, S. Stranges^{a,b}, D.R. Witte^{c,d}, N.J. Diederich^e, A. Alkerwi^f, L. Huiart^a, M. Ruiz-Castell^a, L. Malisoux^a, G. Fagherazzi^a on behalf of the Oriscav-Lux Study Group

Major Health Behaviors & Sleep Problems: Canadian Community Health Surveys (2015-2017), N=44,911

- Only half of all respondents met the recommended sleep duration (7-9 hours)
- ➤ 55% of women and 41% of men reported sleep problems
- Binge drinking and smoking were associated with increased risk of sleep problems
- Increased fruit & vegetable consumption associated with lower risk of sleep problems
- There is a high prevalence of sleep problems among Canadians
- Sleep problems tend to cluster with unhealthy lifestyle behaviors





Poor sleep: an emerging risk factor for CVD?



AHA SCIENTIFIC STATEMENT

Sleep Duration and Quality: Impact on Lifestyle Behaviors and Cardiometabolic Health

A Scientific Statement From the American Heart Association



← → C ■ newsroom.heart.org/news/american-heart-association-adds-sleep-to-cardiovascular-health-checklist

Sleep duration (new):

Sleep duration is associated with cardiovascular health. Measured by average hours of sleep per night, the ideal level is **7-9 hours** daily for adults. Ideal daily sleep ranges for children are **10-16 hours** daily for ages 5 and younger; **9-12 hours** for ages 6-12 years; and **8-10 hr.** for ages 13-18 years.



American Heart Association adds sleep to cardiovascular health checklist

American Heart Association Presidential Advisory



Advisory Highlights:

- American Heart Association's checklist to measure cardiovascular health is updated, now called Life's Essential 8[™], adding healthy sleep as essential for optimal cardiovascular health.
- Other health and lifestyle factors in the checklist, which were part of the previous, 7item scoring tool, are nicotine exposure, physical activity, diet, weight, blood glucose, cholesterol and blood pressure.
- The new sleep metric suggests 7-9 hours of sleep daily for optimal cardiovascular health for adults, and more for children depending on age.
- The updated scoring can now be used for people ages 2 and older, and four components are measured in new ways: a new guide to assess diet; nicotine exposure replaces cigarette smoking to include electronic cigarettes (vaping) and exposure to secondhand smoke; non-HDL cholesterol is suggested instead of total cholesterol; and the blood sugar measure is expanded to include hemoglobin Alc levels.
- Life's Essential BTM is assessed by the online My Life Check tool, which has an updated scoring system to give users a score of up to 100 points based on an average of scores for each health and lifestyle factor.

Embargoed until 4 a.m. CT / 5 a.m. ET Wednesday, June 29, 2022

DALLAS, June 29, 2022 — Sleep duration is now considered an essential component for ideal heart and brain health. Life's Essential 8TM cardiovascular health score replaces Life's Simple 7TM, according to a new Presidential Advisory, Life's Essential 8—Updating and Enhancing the American Heart Association's Construct on Cardiovascular Health,

Related Images



AHA Life's Essential 8™ Circle graphic

The American Heart Association's Life's Essential 8™ image is a wheel shape with 8 wedges representing the 8 elements that are essential for cardiovascular health.

Infographic transcript (doc)

copyright American Heart Association 2022

Download (789.4 kB)





GA



Approximately 70% live with multimorbidity using the primary care definition (females: 67.9%; males 57.9%), whereas nearly 30% live with multimorbidity using the public health definition (females: 30.9%; males: 24.0%). The odds of multimorbidity were higher for participants who self-reported either <u>short or long</u> <u>sleep duration</u>, as well as <u>dissatisfaction with sleep quality</u>. Associations were stronger among younger age groups (45-54 years and 55-64 years). Disrupted sleep may be a risk factor for multimorbidity across sexes and age groups



Highlights

- ✓ Systematic review of studies published between Jan 1990-Jan 23
- ✓ Twenty-four cross-sectional and five cohort studies from 16 countries included with a total participant number of 481,862
- Focus on relationship between sleep health and multiple concurrent chronic diseases
- $\checkmark\,$ Sleep duration outside guidelines associated with multimorbidity
- $\checkmark\,$ Poor sleep quality consistently associated with multimorbidity







Contents lists available at ScienceDirect

Journal of Psychosomatic Research

journal homepage: www.elsevier.com/locate/jpsychores

Relationships between sleep and internalizing problems in early adolescence: Results from Canadian National Longitudinal Survey of Children and Youth



Sophia Nunes^a, M. Karen Campbell^{a,b,c,d,g}, Neil Klar^a, Graham J. Reid^{c,d,e,f,g}, Saverio Stranges^{a,f,g,h,*}



Canadian Journal on Aging / La Revue canadienne du vieillissement

www.cambridge.org/cjg

Sleep Problems and Psychological Well-Being: Baseline Findings from the Canadian Longitudinal Study on Aging

Rebecca Rodrigues¹, Kathryn Nicholson¹, Giuseppe Guaiana^{1,2}, Piotr Wilk^{1,3,4}, Saverio Stranges^{1,5,6} and Kelly K. Anderson^{1,2,3}

Sleep Medicine Reviews 56 (2021) 101414



Contents lists available at ScienceDirect

Sleep Medicine Reviews

journal homepage: www.elsevier.com/locate/smrv



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sleepmedicine

CLINICAL REVIEW

Interplay between social media use, sleep quality, and mental health in youth: A systematic review

Rea Alonzo^a, Junayd Hussain^a, Saverio Stranges^{a, c, d}, Kelly K. Anderson^{a, b, *}

Epidemiological observational evidence links excessive social media use to poor sleep quality and negative mental health in youth (aged 16-25)







International Journal of Environmental Research and Public Health



Article

Does Shiftwork Impact Cognitive Performance? Findings from the Canadian Longitudinal Study on Aging (CLSA)

Rea Alonzo^{1,*}, Kelly K. Anderson^{1,2,3}, Rebecca Rodrigues¹, Neil Klar¹, Paolo Chiodini⁴, Manuel Montero-Odasso^{1,5,6} and Saverio Stranges^{1,7,8,*}

Int. J. Environ. Res. Public Health 2022;19:10124

- Shiftwork was significantly associated with poorer performance for executive functioning
- Our findings confirm the association between shiftwork and cognitive performance among middle-aged and older adults



18-64 years

CANADIAN 24-HOUR MOVEMENT GUIDELINES

FOR ADULTS AGED 18-64 YEARS:

An Integration of Physical Activity, Sedentary Behaviour, and Sleep

8

6



integrate recommendations for physical activity, sedentary behaviour and sleep. Following the guidelines can help you obtain health benefits and live your best life!

CANADIAN 24-HOUR MOVEMENT GUIDELINES FOR ADULTS (AGED 18-64 YEARS)

For health benefits, adults aged 18-64 years should be physically active each day, minimize sedentary behaviour, and achieve sufficient sleep.

A healthy 24 hours includes:



Replacing sedentary behaviour with additional physical activity and trading light physical activity for more moderate to vigorous physical activity, while preserving sufficient sleep, can provide greater health benefits.



Progressing towards any of these targets will result in some health benefits.

Health Promotion International, 2019;34:877–886 doi: 10.1093/heapro/day038 Advance Access Publication Date: 8 June 2018 Debate

OXFORD

Debate

Physical activity promotion in primary care: a Utopian quest?

Alexis Lion^{1,2}, Anne Vuillemin³, Jane S. Thornton⁴, Daniel Theisen¹, Saverio Stranges^{5,6,7}, and Malcolm Ward^{8,*}





BRAIN HEALTH

• A state of complete physical, mental and social well-being through a full, balanced continuous development and exercise of the brain.

V Hachinski, S Stranges, et al. Lancet Neurol 2021

THE DEMENTIA PREVENTION/BRAIN HEALTH GROUP

Charles Alessi, Public Health England Shehzad Ali, Western U Robert Andersen, Ivey School of Business Reza Azarpazhooh, Western U W David Colby, Chatham Kent Health Unit Ruthe Anne Conyngham, LHSC Mark Daley, Western U Valery Feigin, Auckland U Serge Gauthier, McGill U Jason Gilliland, Western U Moira Kapral, U of Toronto Nadia Khan, Hypertension Canada

Patrice Lindsay, HSFC Janet Martin, Western U Matthew Meyer, Western U Naghmeh Mokhber, Western U Kathryn Nicholson, Western U Kenneth Rockwood, Dalhousie U Kem Rogers, Western U Eric Smith, U of Calgary Sandy Steinwender, Western U Saverio Stranges, Western U Piotr Wilk, Western U Vladimir Hachinski, Western U



Population attributable fraction of potentially modifiable risk factors for dementia

Up to 40% of dementia can be prevented



The Lancet 2020

FINGER TRIAL- Multidomain lifestyle intervention



Maturitas 167 (2023) 24-31

Contents lists available at ScienceDirect

Maturitas

journal homepage: www.elsevier.com/locate/maturitas

Review article

FVIFR

Strategies to improve health status among adults with multimorbidity: A scoping review



- ^a Department of Epidemiology & Biostatistics, Schulich School of Medicine & Dentistry, Western University, Canada
- ^b Department of Epidemiology, Care and Public Health Research Institute (CAPHRI), Maastricht University, the Netherlands
- ^e Department of Social and Behavioural Medicine, Faculty of Medicine, PJ Safarik University, Kosice, Slovakia
- ^d Institute of General Practice, Goethe University Frankfurt am Main, Germany
- ^e Department of Family Medicine, Care and Public Health Research Institute, Maastricht University, Maastricht, The Netherlands
- f Department of Public Health and Primary Care, Academic Centre of General Practice, KU Leuven, Leuven, Belgium
- ⁸ Department of Precision Health, Luxembourg Institute of Health, Strassen, Luxembourg



MATURITA

	WHAT MAKES CANADIANS SICK?	† *†*†*†*†* **†*†*†*
50%	YOUR LIFE INCOME EARLY CHILDHOOD D DISABILITY EDUCATION SOCIAL EXCLUSION SOCIAL SAFETY NET GENDER EMPLOYMENT/WORK RACE ABORIGINAL STATUS SAFE AND NUTRITION HOUSING/HOMELESS COMMUNITY BELONG	ING CONDITIONS JS FOOD NESS ING
25%	YOUR HEALTH CARE - ACCESS TO HEALTH CARE SYSTEM	
15%	YOUR BIOLOGY BIOLOGY GENETICS	
10%		



Annals of Internal Medicine	POSITION PAPER	MILBANK QUARTERLY
Addressing Social Determinants to Health Equity: An American College Health Equity: An American College Health Equity: An American College Health Equity: An American College Health Equity: An American College Social determinants of health are non-medical factors that can affect a person's overall health and health outcomes. Where a person is born and the social conditions they are born into can affect their tek factors for premature death and their life expec- tancy. In this position paper, the American College of Physicians acknowledges the role of social determinants in health, exam- ines the complexities associated with them, and offers recom-	Ann Intern Mad. 2018;168:577:578. doi:10.7326/M17.2441 Annah.org For suffer and Made 2018;168:577:578. doi:10.7326/M17.2441 Annah.org	Opinion Forty Years After Alma-Ata: At the Intersection of Primary Care and Population Health SANDRO GALEA and MARGARET E. KRUK
Integrating Primary Ca A Strateg Sarah Linde-Feucht, MD,	are and Public Health ic Priority ^{Natasha Coulouris, MPH}	Valaitis et al. BMC Health Services Research (2018) 18:420 https://doi.org/10.1186/s12913-018-3194-7 BMC Health Services Research RESEARCH ARTICLE Open Access Organizational factors influencing successful primary care and public health collaboration Ruta Valaitis ^{1*} ^(a) , Donna Meagher-Stewart ² , Ruth Martin-Misener ² , Sabrina T. Wong ³ , Marjorie MacDonald ⁴ , Linda O'Mara ¹ and The Strengthening Primary Health Care through Primary Care and Public Health Collaboration
Primary Health Care Research & Development 2018; 19 : 378- doi:10.1017/S1463423617000895	-391 RESEARCH	International Journal of Public Health
Strengthening primary h primary care and public the influence of intraper interpersonal factors	health care through health collaboration: sonal and	COMMENTARY
Ruta K. Valaitis ¹ , Linda O'Mara ² , Sabrina T. Wong ³ , Mar Ruth Martin-Misener ⁶ and Donna Meagher-Stewart ⁷	rjorie MacDonald⁴, Nancy Murray⁵,	The integration of primary care and public health to improve
 ¹Associate Professor and Dorothy C. Hall Chair in Primary Ho Sciences, McMaster University, Hamilton ON, Canada ²Associate Professor, School of Nursing, McMaster Universi ³Professor, School of Nursing, University of British Columbia ⁴Professor, School of Nursing, University of Victoria, Victoria 	ealth Care Nursing, School of Nursing, Faculty of Health ty, Hamilton, ON, Canada a, Vancouver, BC, Canada a, BC, Canada	population health: tackling the complex issue of multimorbidity
^c Research Coordinator, School of Nursing, McMaster Univer ⁶ Professor, School of Nursing, Dalhousie University, Halifax, ⁷ Associate Professor, School of Nursing, Dalhousie Universi	sity, Hamilton, ON, Canada NS, Canada ty, Halifax, NS, Canada	Kathryn Nicholson ¹ • Tatjana T. Makovski ^{2,3,4} • Saverio Stranges ^{1,2,5}





Immorality of inaction on inequality

Our collective failure to reverse inequality is at the heart of a global malaise

Kate E Pickett professor of epidemiology, Richard G Wilkinson honorary visiting professor

Department of Health Sciences, University of York, York, UK; Correspondence to: K E Pickett kate.pickett@york.ac.uk







FIGURE: Degrees of Primary Care and Public Health Integration

Isolation	Mutual Awareness	Collaboration		Mor
1501811011		Cooperation	Partnership	- werg



Lessons learned

- Lifestyles (including poor sleep) play a major role in chronic disease
- Socioeconomic determinants play a major role in chronic disease
- There are widening disparities in chronic disease burden driven by SES
- ✓ NCDs are an additional public health burden in LMICs
- Geographic variation analyses are important for public health policy
- Have we seen the end of long-term decline in CVD mortality?

Chronic Disease Prevention: the way forward

- Translate research findings in "real-world" settings
- From "what works" to "how can we make this happen..."
- Increase the proportion of people with ideal cardiovascular health
- Combining population and high-risk strategies
- Increase research focus and policy on disadvantaged subgroups
- Reconfigure health systems to tackle multimorbidity burden
- Need for multisectoral approaches
 - Stranges S & Guallar E. Nutr Metab Cardiovasc Dis. 2012;22:1013-8

Study Populations

- Western New York Health Study, USA
- Nutritional Prevention of Cancer Trial, USA
- National Health & Nutrition Examination Survey, USA
- National Population Health Survey, Canada
- Canadian Community Health Surveys, Canada
- Canadian Longitudinal Study on Aging, Canada
- National Diet & Nutrition Survey, UK
- Whitehall II Study, UK
- PRECISE Trial, UK/Denmark
- EPIC Study & Olivetti Heart Study, Italy
- Demographic & Health Surveys (DHS), LMICs
- INDEPTH-WHO-SAGE, LMICs
- ORISCAV & EHES, Luxembourg



"The primary determinants of disease are mainly economic and social, and therefore remedies must also be economic and social."

Geoffrey Rose

