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KIDNEY DISEASE IS A MAJOR CAUSE OF CARDIOVASCULAR DEATHS

Highlight

- In 2013, reduced kidney function was associated with 4% of deaths worldwide, or 2.2 million deaths.
- More than half of these deaths were cardiovascular deaths.

Maintaining kidney health may help prevent cardiovascular diseases and deaths.

Washington, DC (April 13, 2017) — A new analysis indicates that by 2013, cardiovascular deaths attributed to reduced kidney function outnumbered kidney failure deaths throughout the world. The findings, which appear in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN), provide insights on the true impact of kidney disease on societies and underscore the importance of screening for kidney disease.

Reduced kidney function can have detrimental effects on cardiovascular health, increasing individuals' risks of congestive heart failure, heart attacks, and strokes. To understand the impact of chronic kidney disease (CKD) on cardiovascular health, Bernadette Thomas MD, MS (University of Washington), along with dozens of international collaborators as well as the International Society of Nephrology and the Chronic Kidney Disease Prognosis Consortium, estimated the prevalence of reduced kidney function categories (CKD stages 3, 4, and 5) for 188 countries at 6 time points from 1990 to 2013 as part of the Global Burden of Disease Study.

The investigators estimated that in 2013, reduced kidney function was associated with 4% of deaths worldwide, or 2.2 million deaths. More than half (1.2 million) of these attributable deaths were cardiovascular deaths, while 0.96 million were deaths from kidney failure. Compared with metabolic risk factors, reduced kidney function ranked below high systolic blood pressure, high body mass index, and high fasting blood sugar and similarly with high total cholesterol as a risk factor for disability-adjusted life years (the number of years lost due to ill-health, disability, or early death) in both developed and developing world regions.

“Understanding the true health impact of kidney disease on society necessitates considering cardiovascular as well as end-stage renal disease deaths and disability,” said

Dr. Thomas. "This is especially important within the developing world, where the death rate has increased since 1990."

Study co-authors include Kunihiro Matsushita, Kalkidan Hassen Abate, Ziyad Al-Aly, Johan Arnlov, Kei Asayama, Robert Atkins, Alaa Badawi Shoshana H. Ballew, Amitava Banerjee, Lars Barregard, Elizabeth Barrett-Connor, Sanjay Basu, Aminu Bello, Isabela Bensenor, Jaclyn Bergstrom, Boris Bikbov, Christopher Blosser, Hermann Brenner, Juan-Jesus Carrero, Steve Chadban, Massimo Cirillo, Monica Cortinovia Karen Courville de Vaccaro, Lalit Dandona,* Rakhi Dandona, Kara Estep, Joao Fernandes, Florian Fischer, Caroline Fox, Ron T. Gansevoort, Phil Gona, Orlando M. Gutierrez, Samer Hamidi, Sarah Hanson, Jonathan Himmelfarb, Simerjot K. Jassal, Sun Ha Jee, Vivekanand Jha, Aida Jimenez-Corona, Jost B. Jonas, Andre Pascal Kengne, Yousef Khader, Young-Ho Khang, Yun Jin Kim, Barbara E. K. Klein, Ronald Klein, Yoshihiro Kokubo, Dhaval Kolte, Kristine Lee, Andrew S. Levey, Yongmei Li, Paulo Lotufo, Hassan Magdy Abd El Razek,* Walter Mendoza, Hirohito Metoki, Yejin Mok, Isao Muraki, Paul M. Muntner, Hiroyuki Noda, Takayoshi Ohkubo, Alberto Ortiz, Norberto Perico, Kevan Polkinghorne, Rajaa Raddadi, Giuseppe Remuzzi, Gregory Roth, Dietrich Rothenbacher, Michihiro Satoh, Kai-Uwe Saum, Monika Sawhney, Ben Schöttker, Anoop Shankar, Michael Shlipak, Diego Augusto Santos Silva, Hideaki Toyoshima, Kingsley Ukwaja, Mitsumasa Umesawa, Stein Emil Vollset, David G. Warnock, Andrea Werdecker, Kazumasa Yamagishi, Yuichiro Yano, Naohiro Yonemoto, Maysaa El Sayed Zaki, Mohsen Naghavi, Mohammad H. Forouzanfar, Christopher J.L. Murray, Josef Coresh, and Theo Vos.

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The article, entitled "Worldwide cardiovascular and ESRD outcomes attributable to reduced GFR," will appear online at <http://jasn.asnjournals.org/> on April 13, 2017, doi: 10.1681/ASN.2016050562.

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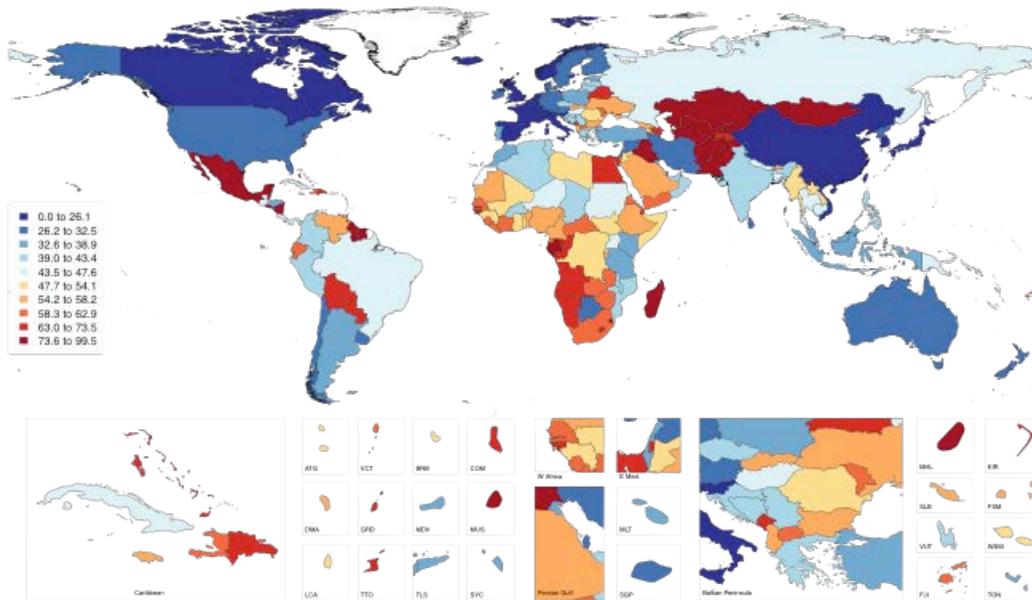
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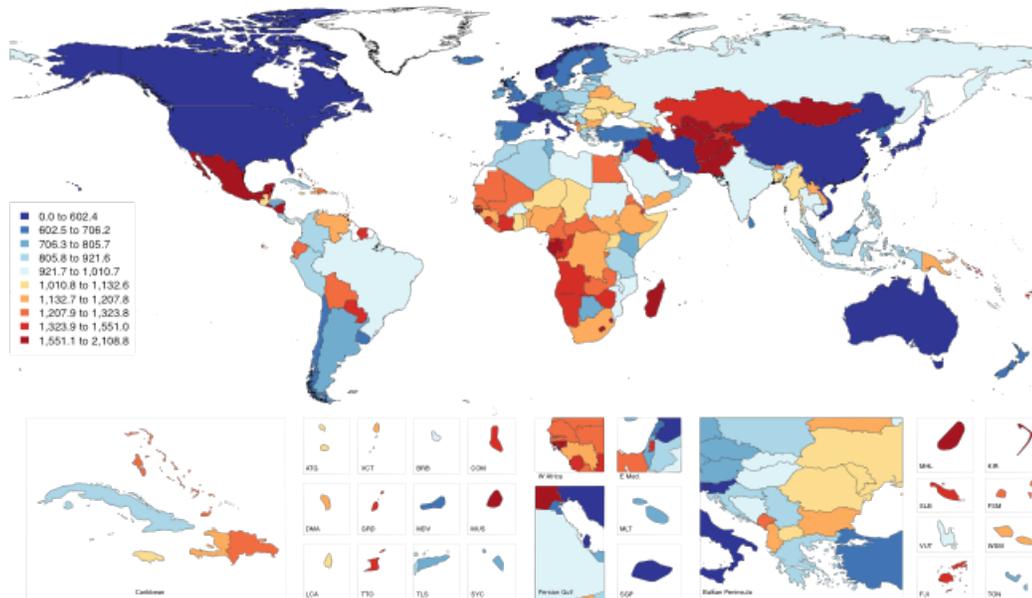
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a.



b.

Figure. a: Age-standardized deaths per 100,000 attributed to reduced GFR; **b:** Age-standardized DALYs per 100,000 attributed to reduced GFR

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