



## But who are “they,” anyway...?

### Influencer Rates\* Worldwide, by Social Media Platform and Influencer Tier, March 2019

	Nano (500-5K followers)	Micro (5K-30K followers)	Power (30K-500K followers)	Celebrity (500K+ followers)
<b>Instagram</b>				
—Post	\$100	\$172	\$507	\$2,085
—Video	\$114	\$219	\$775	\$3,138
—Story	\$43	\$73	\$210	\$721
<b>YouTube video</b>	<b>\$315</b>	<b>\$908</b>	<b>\$782</b>	<b>\$3,857</b>
<b>Facebook post</b>	<b>\$31</b>	<b>\$318</b>	<b>\$243</b>	<b>\$2,400</b>

Note: n=2,500; \*represents rate that influencers charge brands  
Source: Klear, "The Klear Influencer Marketing Rate Card," May 13, 2019

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www.eMarketer.com

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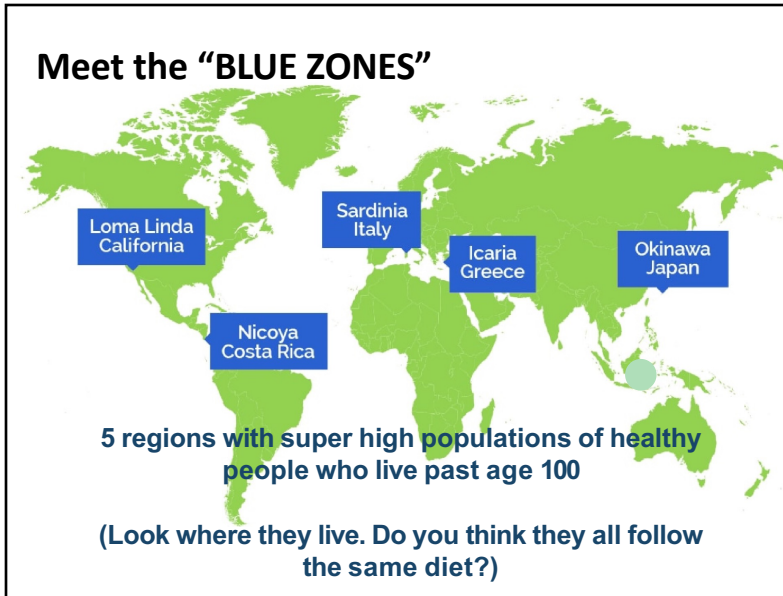
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## When it comes to longevity, these are the MOST credible influencers!

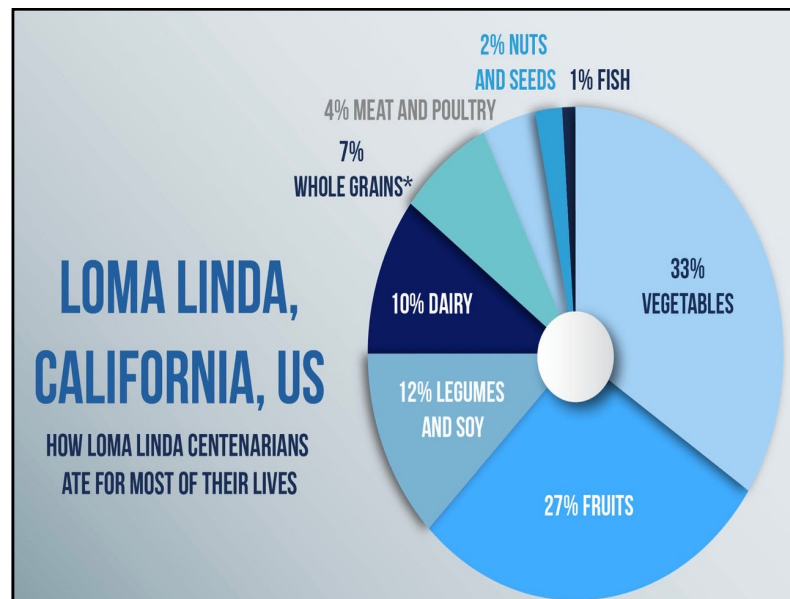


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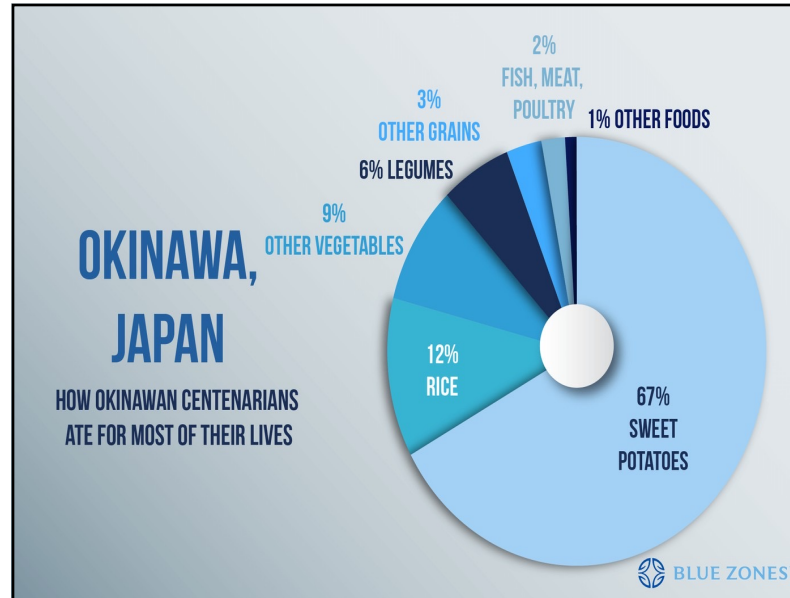
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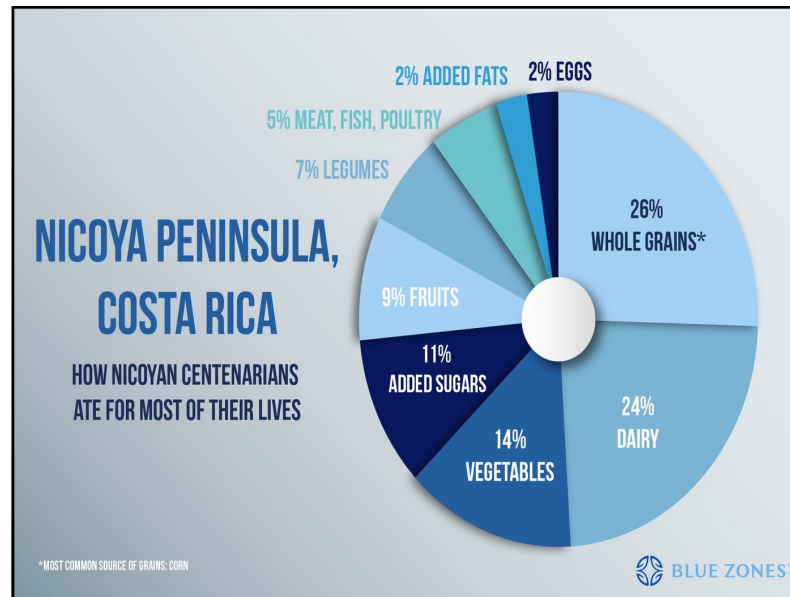
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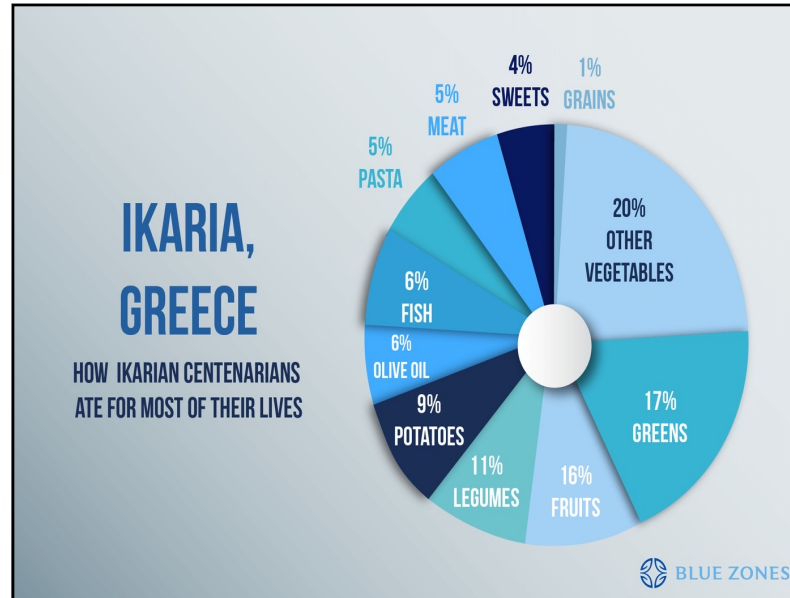
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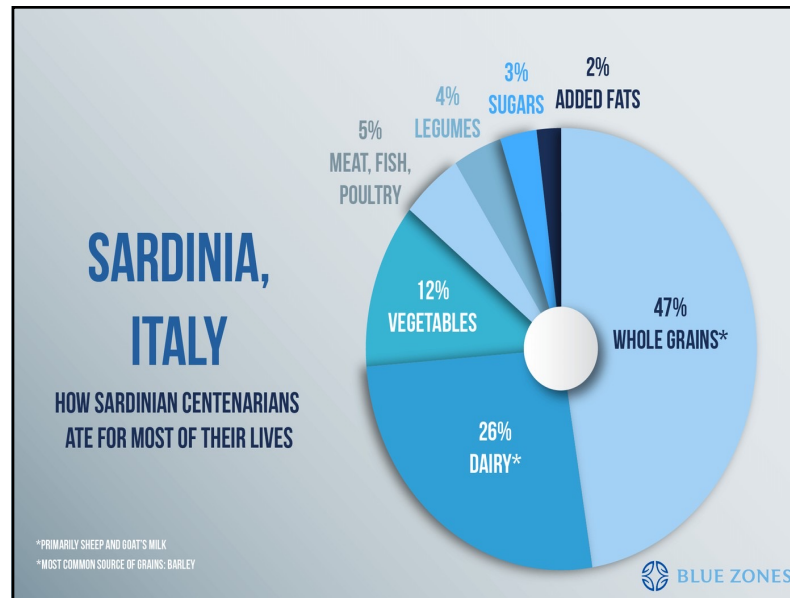
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*Asia Pacific J Clin Nutr 2004;13 (2):217-220*

Original Article

**Legumes: the most important dietary predictor of survival in older people of different ethnicities**

Irene Darmadi-Blackberry MB, PhD<sup>1</sup>, Mark L Wahlqvist AO, MD<sup>2</sup>, Antigone Kouris-Blazos PhD<sup>2</sup>, Bertil Steen MD, PhD<sup>3</sup>, Widjaja Lukito MD, PhD<sup>4</sup>, Yoshimitsu Horie PhD<sup>5</sup> and Kazuyo Horie BS<sup>6</sup>


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<sup>3</sup>Department of Geriatric Medicine, Goteborg University, Goteborg, Sweden  
<sup>4</sup>SEAMEO TROPMED, University of Indonesia, Jakarta, Indonesia  
<sup>5</sup>School of Humanities and Social Sciences, Nagoya City University, Nagoya, Japan  
<sup>6</sup>Faculty of Home Economics, Aichi Gakusen, Okazaki, Japan

To identify protective dietary predictors amongst long-lived elderly people (N=785), the "Food Habits in Later Life" (FHILL) study was undertaken among five cohorts in Japan, Sweden, Greece and Australia. Between 1988 and 1991, baseline data on food intakes were collected. There were 785 participants aged 70 and over that were followed up to seven years. Based on an alternative Cox Proportional Hazard model adjusted to age at enrolment (in 5-year intervals), gender and smoking, the legume food group showed 7.8% reduction in mortality hazard ratio for every 20g increase in daily intake with or without controlling for ethnicity (RR 0.92; 95% CI 0.85-0.99 and RR 0.93; 95% CI 0.87-0.99, respectively). Other food groups were not found to be consistently significant in predicting survival amongst the FHILL cohorts.

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## Fiber makes you a good host

- Your gut microbiome is the ecosystem of micro-organisms living in your digestive tract, from mouth to colon
- 100 TRILLION microbes from 1,000 different species, mostly bacteria
- As unique to you as your fingerprints
- These microbes play an ESSENTIAL role in your health! From digestive health to mood to metabolism to immunity... and SO. MUCH. MORE. When they are well fed, they flourish and include a diverse number of beneficial species in their ranks



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### **\*When\* we eat seems to matter for longevity, too**



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### **What are circadian rhythms?**

**Circadian rhythms are 24 hour biological cycles that govern when certain functions take place**

- Muscles' energy (sugar) uptake from the blood
- Fat storage
- Body temperature
- Manufacturing cholesterol
- Stomach acid production
- Hormone secretion (melatonin, cortisol...)
- Reaction time
- Gut motility (Bowel movements)
- ...and many, many more!

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## The body has “inner clocks” in brain, liver and muscles

### Inner ‘body clocks’ turn genes on and off at different times of the day

- This “up-regulates” certain functions at certain times of day and “down-regulates” others
- These “rhythmic genes” represent 5-20% of all genes expressed in these organs
- The proteins these genes code for include enzymes and hormones that play roles relating to energy use and storage



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## Breakthrough 2013 study: Calories impact us differently depending when they're eaten

Original Article  
CLINICAL TRIALS: BEHAVIOR, PHARMACOTHERAPY, DEVICES, SURGERY

Obesity

### High Caloric Intake at Breakfast vs. Dinner Differentially Influences Weight Loss of Overweight and Obese Women

Daniela Jakubowicz,<sup>1</sup> Maayan Barnea,<sup>2</sup> Julio Wainstein<sup>1</sup> and Oren Froy<sup>2</sup>

**Objective:** Few studies examined the association between time-of-day of nutrient intake and the metabolic syndrome. Our goal was to compare a weight loss diet with high caloric intake during breakfast to an isocaloric diet with high caloric intake at dinner.

**Design and Methods:** Overweight and obese women (BMI  $32.4 \pm 1.8$  kg/m<sup>2</sup>) with metabolic syndrome were randomized into two isocaloric (~1400 kcal) weight loss groups, a breakfast (BF) (700 kcal breakfast, 500 kcal lunch, 200 kcal dinner) or a dinner (D) group (200 kcal breakfast, 500 kcal lunch, 700 kcal dinner) for 12 weeks.

**Results:** The BF group showed greater weight loss and waist circumference reduction. Although fasting glucose, insulin, and ghrelin were reduced in both groups, fasting glucose, insulin, and HOMA-IR decreased significantly to a greater extent in the BF group. Mean triglyceride levels decreased by 33.6% in the BF group, but increased by 14.6% in the D group. Oral glucose tolerance test led to a greater decrease of glucose and insulin in the BF group. In response to meal challenges, the overall daily glucose, insulin, ghrelin, and mean hunger scores were significantly lower, whereas mean satiety scores were significantly higher in the BF group.

**Conclusions:** High-calorie breakfast with reduced intake at dinner is beneficial and might be a useful alternative for the management of obesity and metabolic syndrome.

Obesity (2013) 21, 2504–2512. doi:10.1002/oby.20460


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**Living out of sync with circadian rhythms associated with increased risk of mortality**



**Why Working at Night Boosts the Risk of Early Death**



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## The case for breakfast

**Eating patterns in sync with your metabolism's natural 24 hour rhythms are FRONTLOADED, not BACKLOADED**


**Eating this way is associated with:**

- Increased likelihood of maintaining a healthy weight
- Reduced likelihood of gaining excess weight, lower risk of metabolic (Type 2 diabetes) and heart disease as we age

**Large, long term prospective cohort studies have found that breakfast skipping is associated with increased risk of death compared to breakfast eating when controlled for relevant factors**

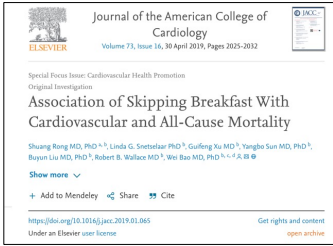
Original Paper | Published: 15 February 2021

The association of skipping breakfast with cancer-related and all-cause mortality in a national cohort of United States adults

[Dena Heo](#), [Linda Apoliah](#), [Kishor M. Bhende](#), [Theresa L. Byrd](#) & [Duke Apoliah](#) 

[Cancer Causes & Control](#) **32**, 505–513 (2021) | [Cite this article](#)


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Journal of the American College of Cardiology  
Volume 73, Issue 16, 30 April 2019, Pages 2025-2032

Special Focus Issue: Cardiovascular Health Promotion  
Original Investigation

**Association of Skipping Breakfast With Cardiovascular and All-Cause Mortality**

Shuang Bing MD, PhD<sup>1,2</sup>, Linda C. Smetana PhD<sup>3</sup>, Guofeng Xu MD<sup>4</sup>, Yanghe Sun MD, PhD<sup>5</sup>, Boyan Liu MD, PhD<sup>6</sup>, Robert B. Wallace MD<sup>7</sup>, Wei Bao MD, PhD<sup>1,2,5,8</sup> 

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## Parting thoughts: A Longevity Manifesto

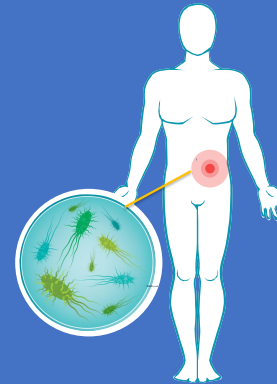
- Consume a high fiber, plant-centric diet, whether or not you choose to eat meat
- Make beans part of your daily diet
- Overall dietary patterns matter more for health than any one individual food
  - Demonizing individual foods/food groups as harmful out of context of overall diet (e.g., gluten, dairy, sugar, soy, carbs) misses the point and is not supported by science
- Don't skip breakfast!
  - If you enjoy Intermittent Fasting/Time Restricted Eating, skip dinner, not breakfast! (Or do a 10-6 window)
- Build physical activity into your daily life
- Get adequate sleep
- Cultivate healthy relationships and community connection



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Questions?



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