

THE BLUE ZONES, by Dan Buettner
A Book Report by David G. Schwartz, M.D.
March 28, 2016

This New York Times best seller gives us a poignant picture of many centenarians who gladly shared their stories, from 4 different areas of the world. Dr. Mehmet Oz says it is “A must-read if you want to stay young.” Published 8 years ago, it bears revisiting today because of the worldwide rise in incidence of chronic illness in the years since then, and the shrinking size of some of the traditional Blue Zones due to the encroachment of modernity.

Dan Buettner, in collaboration with the National Institute of Ageing, traveled with a team of other researchers, gerontologists, demographers, and health experts around the world to interview and study people and societies in 4 zones where an unusual number of people were living well at over 100 years old. These were: the Barbagian region of Sardinia in Italy, Okinawa, Loma Linda, California, and the Nicoya peninsula of Costa Rica.

The term, “Blue Zone,” originated from Dr. Michael Poulan, a Belgian demographer who spent 15 years studying long-lived peoples around the world. When he noticed the extraordinarily high rates of centenarians in Sardinia, he thought it had to be misreported. He made 10 visits to Sardinia visiting 40 municipalities checking birth and death records, and he verified that the statistics were indeed correct. He circled with blue ink the location on the map where these municipalities existed. Demographers then adopted the term “Blue Zone,” to refer to all other localities with high numbers of centenarians.

In all areas the team traveled, they verified the ages of the people that they studied, with birth and death records, cross checking accuracy by corroboration with other statistics. Two of the Blue Zones had some degree of genetic homogeneity, as they were relatively geographically and culturally isolated, but the others had wide genetic diversity, elimination of genetics as a major factor in longevity. In each area the society had many cultural, social, and personal habits, lifestyles, and attitudes that set them apart from those of the surrounding society with similar genetic background. These factors set the focus for Dan Buettner’s team for study.

Sardinia has 30 times the rate of centenarians per unit population than does the United States. The Sardinians consume whole grain bread from durum wheat (not the type of wheat that is common in this country), garden vegetables, fruits, mastic oil or olive oil, pecorino cheese from grass-fed sheep, and goat’s milk, and they drank wine in moderation. Meat is reserved for Sundays and special occasions. They value strong family connections and make sure every member of the family is well cared for. They love and celebrate their elders, and grandparents provide childcare, wisdom, and motivation to perpetuate traditions, and they push children to succeed. The elders perform vital functions in the family, and they have a strong sense of purpose to care for their families. They walk 5 miles a day in the rugged hills. They meet with friends every afternoon, to laugh with each other. The Sardinians are hunter-gatherers and shepherds.

Personalities are strong-willed, stubborn, with high self-esteem, and a “sardonic” sense of humor. One 90 year old, when asked, “Are you Sebastiano Murru?” replied, “I don’t know. I was too young to remember, when they named me.”

Working outdoors in the rocky, hilly terrain makes hardy people, apparently. At age 103, Giovanni Sannai arm wrested the author, who was 60 years younger, who could no way resist Giovanni slamming his arm against the table. Sardinian centenarians have less than ½ the rate of fractures as the average Italian. Tonino, caring for his sheep, every day, looked out over the beautiful terrain with wonder, although he had seen the same view every day for decades.

Okinawa, the Japanese archipelago nearly 1000 miles from Tokyo, has maintained its own unique culture. Of the 32 centenarians the team visited in Okinawa, all but 4 were independent in activities of daily living. Only 15% of centenarians in the U.S or Europe are functionally independent. There is no word for “retirement” in Okinawan language.

Kamada Nakazoto, 102, is the village priestess who communes with gods and ancestors. She serves as spiritual advisor to the townspeople and takes her job very seriously. She is convinced that the health of the people depends on her spirit work. She introduced the team to the concept of “Hara hachi bu,” which means, “Eat until you are 80% full,” discerning the difference between “no longer hungry,” and “full.” One of the health experts on the team pointed out that we can often eat 20% more or 20% less than usual without being aware of it. Kamada’s advice was to not worry so much about your own problems, but take care of yourself best by caring for others. She said, “Eat your vegetables, have a positive outlook, be kind to people, and smile.” She had a small simple house, sparsely decorated, a vegetable garden, and spice garden, with no junk food in sight. There was a lot of mugwort, garlic and turmeric.

For Gozei, 102, late afternoon is her favorite time of day, when neighbors stop by to visit. She had a deep-skinned tan that comes from constant sun exposure, and had no skin cancer. She sat on the floor for the interview and got up and down 9 times. (I remember talking to a waiter in an Indian restaurant who said that his elders back home sit on the floor and have no problem getting up and down. In our country many retired people have trouble even getting up out of a chair). The pictures in the book show the old Okinawan women smiling as if in ecstasy or as if having a lot of fun.

One man, Fumiyasu, gets up at 4:30, cycles to the beach, swims a ½ hour, runs a ½ hour, does Yoga, and then meets with other Okinawan seniors to stand in a circle and laugh. When asked, “Why is that?” he replied, “It’s vitamin S. You smile in the morning and it fortifies you all day long.” Often on many home visits, uproarious laughter could be heard pouring out from inside the houses.

Many of the Okinawan centenarians had endured extreme hardships in their younger years, with war, famine, and great losses. Most of them had a hardship-tempered appreciation for what is, not what could have been. The author described them as having

hard-edged humor, affable smug dispositions, and purpose-driven, tradition-based lifestyles.

In summary, the Okinawan centenarians have purpose-driven lives, with much emphasis on “ikigai” (purpose for life), eat almost entirely a plant-based diet rich in soy foods like miso, tofu, and annatto, with occasional pork, tend vegetable and medicinal gardens, maintain secure social networks and strong financial safety nets, walk a lot, get up and down from the floor a lot, enjoy the sunshine, and have a hardship-tempered pleasant attitude that makes them likeable and attracts young people to want to be around them.

The Blue Zone in Loma Linda, California is home to a large community of Seventh Day Adventists, whose religious tenets place a large emphasis on taking care of the physical body as a temple of God. Adventists have a much lower rate of cancer and heart disease than the general population. Most are non-smokers who have better health outcomes than general non-smokers. Most are lacto-ovo-vegetarians or vegans.

The Adventist Health Study funded by the NIH surveyed 34,000 Adventists. Those who ate meat had 65% increased rate of colon cancer compared to vegetarians. Nonsmoking Adventists who ate 2 or more servings of fruit per day had 70% fewer lung cancers than those who ate fruit only once or twice a week. Meat-eating Adventists had 2x the risk of heart disease as vegetarian Adventists. Those who consumed nuts at least 5x/wk had ½ the risk of heart disease as those who didn't. Overall, Adventists live longer. A 30-year old Adventist male lives 7.3 years longer than an average California white male. For females it was 4.4 years. For vegetarian Adventists, it becomes 9.5 years for males and 7.1 years for females. Why the greater benefit for males? I suspect it is because in the general population women live longer than men (who probable have worse health habits), and the Adventist lifestyle is an equalizer.

A large emphasis is made on drinking water. Adventist men who drank 5-6 glasses of water per day had a 65% reduction in risk of fatal heart attack from those who drank much less. Adventists have more physical activity and less obesity. Adventists who are vegetarian are 16 lbs lighter on average than meat-eating Adventists.

Marge Jetton, 102 years old, starts her day like this: She gets up at 4:30 AM, reads from the hymnal and the Bible, does power-walking 1 mile, drinks 7 glasses of water, then cleans up her room and goes to breakfast in the cafeteria that has an abundance of healthful vegetarian options. After breakfast she does some quiet spiritual reflection, then goes to the exercise room and does 6-8 miles per day on the exercise bike every day except on the Sabbath. She volunteers helping the “old people,” drives around delivering things to low income people, etc.

The Adventists put a high importance on the Sabbath, the time to get out in nature, to move about and relax, to be with friends, family, and God, to shut off the television, and not think about work, business, or studies.

Adventists usually end up dying from the same disease as everyone else when cellular function and metabolism deteriorate, but just later than everyone else.

So the main factors in the Adventist lifestyle are the weekly break from the rigors of daily life, maintaining a healthy BMI, regular moderate exercise, spending time with people who share values, snacking on nuts, volunteering to serve others, eating an early, light, evening meal, eating an abundance of plants, and drinking plenty of water.

The midsection of the Nicoyan Peninsula of Costa Rica is the 4th Blue Zone, a distinct area that is culturally different from the rest of Costa Rica, but not genetically any different. Here the centenarians, (as in Okinawa, with their “ikigai,”) have strong sense of purpose, a “plan de vida,” which includes service to others and care for the family. The main diet is beans, rice, (maize) tortillas, and fruit with vegetables and eggs, occasional milk curd, and meat once in a while. They work in the fields in the early morning until noon, then spend the afternoon and evening, resting and talking with friends until dark. They get up with the sun and go down with the sun. They walk, chop wood, tend garden, etc.

These Costa Ricans have a strong sense of purpose, drink hard water (high mineral content), focus on family, with centenarians living with family, eat a light evening meal, listen, laugh, and visit with neighbors, do hard physical work, get plenty of sunlight, and embrace traditional lifestyle and values.

These geographic zones of Sardinia, Costa Rica, and Okinawa are shrinking with the encroachment of industrial civilization, and we don't know how much longer we will see these phenomenal exemplary lives.

The book presents 9 strategies taken from the Blue Zones to create a “Personal Blue Zone,” to create a lifestyle plan for better health, and the website www.bluezones.com elaborates further on evaluating lifestyle and strategies for better health. I concur with all 9 except for the 4th, drinking red wine.

In these zones, many of the people had experienced great hardships in their lives. Please refer to my article on The Upside of Stress. The effect of difficult circumstances on people's lives depends on how the person approaches the situation. Experiencing fear, anger, helplessness, irritation, the “threat” response, can be harmful. Using the “challenge response,” and the “tend and befriend response” (getting support from others, and extending help to others) can have beneficial results. It appears that the Blue Zone people were determined to take an active role to handle their situations, to engage family and friends, and to rely on a spiritual Source for support.

What can be learned of value from this research? Epidemiological and anecdotal case studies do not prove anything definitively, but nearly all of the lifestyle characteristics of the people in the Blue Zones can be supported with other corroborative research, as mentioned in the statistics about the Adventists. The main thrust of a healthful lifestyle, exercise, diet, social and spiritual connections, a high sense of purpose, and a positive

attitude, all have been researched before and have been found to have validity. What is poignant about this account is that it puts a personal face on the research, and it is fascinating to meet these amazing people through the lens of this book.

Now, it is important to point out that although in the Blue Zones the incidence of people living over 100 is much larger than in other areas in the world, it is still a small number. There are thousands of people living in the Blue Zones who are not over 100, and it may be a small minority who make it that long. Though many may not chronologically last as long as the centenarians, they are undoubtedly in better health and functioning better with happier lives than people living outside these zones, because of the culturally ingrained healthful lifestyles.

In Sardinia, Okinawa, and Costa Rica, the zones are traditionally and geographically established so that the healthful lifestyle comes more naturally. In contrast, for most of us, including for the Adventists, the lifestyle habits and customs have to be deliberately constructed with that purpose in mind, because the industrial civilization in which we live does not necessarily promote good health, either by intention or automatically.

Longevity doesn't tell it all. Remember that in this country some people are kept limping along, demented, pushed and prodded to the finish line with drugs, surgery, and artificial body parts. Some may make it to 100, and how. The point is to live a high quality life. The people in the Blue Zones functioned with high quality living, (even though by civilization's measure, it would not be considered to be a "high standard of living."), an important distinction. Those people in these zones show a spectacular example that draws our attention to examine them further, and we find that they have not just longevity, but a high quality, healthy life that naturally goes hand in hand with their longevity. What we can glean from this may not mean that we necessarily aim for a chronologically long lifespan, but we can aspire to extending our "health-span," and in so doing, we also may more likely make it to 100 and beyond. Dr. Jeffrey Bland (see my article on [The Disease Delusion](#)), speaking on "The People's Pharmacy" recently, said that if we use all the information available to us to manage our health naturally and live a healthful lifestyle, if we start this early in life, most of us could expect to make it to 100.

Life in the Blue Zones may seem austere, considering the amount of physical exertion, the dietary restrictions, and all that has to be given up to allow time for rest and sleep, social connection, and maintaining spiritual practices and traditions. It may seem like a monastic lifestyle (except for celibacy), in comparison to the mainstream profligate modernistic life, but it is living and thriving on a higher plane than struggling on a level intensely focused on the short sighted goals of physical sensuality and material acquisition. Whatever harshness may appear to be in their lives is counterbalanced by the richness of a warm intimacy and connection with friends, family, nature, and a Higher Power, and a lot of laughter.

I didn't notice any mention of depression in the Blue Zones. It seems people are too focused on positive attitudes, uplifting goals, the joys of friends and family, and spiritual source of support, encouragement, and purpose. I also didn't hear anything about drug

addiction, alcohol excess, work addiction, or dysfunctional families. High purpose, emphasis on caring about others, service, a sense of humor, connection to the earth, and multigenerational child rearing, all provide strong protection from family dysfunction, abuse, addictions, depression, and anxiety. Also their lifestyle is anti-inflammatory. Depression is an inflammatory brain condition. Alzheimer's Disease is also driven by inflammation, and it seemed to be absent in the Blue Zones, even among the oldest.

The people in the Blue Zones had access to the earth, land, soil, gardens, and farms. Taking people away from the land by industrialization, unfair trade practices, and "rigged" economies separates people from a great source and resource for healthful living. If we want people to re-create Blue Zones, we need not only the personal individual choices recommended in the 9 strategies, but also a community, national, political, and financial commitment to facilitate people's access to the land. Many of these resources may be available to those of us affluent enough to afford them, but for many, especially the urban poor, the options are much more limited, and we need to have a social commitment to support these developments.

This book is a classic bestseller, worth re-reading. It is inspiring to look through this incredible window, showing us an intimate view into a group of people living lives of amazingly great health and well being.