Paradigm Change Visitor Map

August 2013 – June 2016

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Overview

The Paradigm Change visitor map provides information about locations in the U.S., based on the individuals who have visited the Paradigm Change sites (including the Paradigm Change website, the Paradigm Change blog and the Living Clean in a Dirty World blog).

http://www.zeemaps.com/view?group=1191676&x=-122.404410&y=38.237535&z=9

Data for this map was obtained via Google Analytics for the period of time from August 1, 2013, to June 3, 2016.

Only the "New Users" information provided by Google Analytics was included in the analysis.

A total of 75,948 visitors from the U.S. and 5,571 visitors from Canada visited the Paradigm Change site one or more times during that period of time.

The map presents index scores for each town. These index scores are controlled for population, as is described below (in the "Calculations" section).

Following is the legend with regard to the colors used on the map:

Black = Index 1000+

Pink = Index 600-999

Purple = Index 300-599

Yellow = Index 150-299

Towns with index scores of less than 150 are not marked on the map.

Information for each town is presented on the map in the following format:

NV Incline Village 2276 (48)

The number following the information about state and town is the index score (in this case, 2276).

The number in parentheses is the absolute number of visitors reported by Google Analytics to have visited the Paradigm Change site during the time period in question (in this case, 48 visitors).

Calculations

Information provided by Google Analytics was converted into index numbers for each town, in the following manner.

1. The population of each town in the US was determined based on 2010 census data.

2. The prevalence of visitors to the Paradigm Change site for each town was calculated, by taking the raw number of visitors from the town (provided by Google Analytics) and dividing that by the population number for the town.

As an example, Incline Village, Nevada, had a total 2010 population of 8,777.

Google Analytics reported that 48 different computing devices (used here as a surrogate for number of people) visited the Paradigm Change site at least once during the time period being examined.

Therefore, 48 divided by 8,777 is equal to .005468839 – an approximation of the percentage of people in Incline Village who visited the Paradigm Change site during that period of time.

3. The prevalence of visitors to the Paradigm Change site for the U.S. as a whole was calculated, by taking the total number of U.S. visitors to the Paradigm Change site (75,948) and dividing it by the 2010 population of the U.S. (316,100,000).

The result was .000240266 – that is, the percentage of people in the U.S. who had visited the Paradigm Change site.

4. The prevalence number for each town or state was divided by the prevalence number for the U.S. as a whole, and then multiplied by 100, to arrive at an index number for each town.

For instance, for Incline Village, .005468839 was divided by .000240266, and then multiplied by 100, to arrive at an index score of 2277.

Index scores therefore provide information about how likely people in a particular town were to visit the Paradigm Change site, compared to how likely people in the U.S. as a whole were to visit to the Paradigm Change site.

An index score of 100 suggests that the town had the same prevalence with regard to people visiting the site as was reported in the U.S. as a whole.

An index score of 200 suggests that the town had twice as high of a prevalence as was reported for the U.S. as a whole.

An index score of 1000 suggests that the town had ten times as high of a prevalence as was reported for the U.S. as a whole.

An index score of 50 suggests that the town had half as high of a prevalence as was reported for the U.S. as a whole.

The index score of 2277 for Incline Village suggests that people in that town were about 23x as likely to visit the Paradigm Change site at least once as were people in the U.S. as a whole.

5. The index scores for individual towns were plotted on the linked map according to the color legend listed above.

Google Analytics Data

Google Analytics locations data is based on IP number – that is, the unique identifier that is associated with each computer, tablet or smart phone.

For the "New Users" data used here, Google Analytics lists information for just the first time that the device is recorded as having visited the website in question. Even if someone visited the website with a particular device thousands of times, it only was recorded as one visitor in this measure.

If a single individual visited the site using multiple devices (such as a laptop computer as well as a smart phone), this would be recorded as multiple users having visited the site, however.

Google Analytics locational data for the U.S. is reputed to be usually but not always accurate with regard to information provided about specific towns.

One problem is that in some cases, individuals subscribing to Comcast or similar Internet service providers (ISP's) may be logged as being in a nearby town where the ISP is located, rather than in the town where the person is actually using the computer.

Mobile devices are said to sometimes register inaccurately with regard to the Google Analytics locations reports as well.

Interpreting the Data Map

The map indicates that some towns have much higher index scores than others. Following is a list of possible reasons why that might be.

1. Random Error

One reason that some towns might register as having a high prevalence is simply because of random chance. It could be coincidence that an unexpectedly large number of people from a particular town found their way to the Paradigm Change site during the time period in question, rather than its being indicative of anything in particular about the town.

The large data set (more than 75,000 visitors) decreases the likelihood that random error is responsible for most the results. Still, considering the large number of towns being considered, the likelihood that at least a few of the effects observed are due to solely random error seems fairly high.

One thing to keep in mind when considering whether random error may be driving a particular result is the overall pattern of the data.

For instance, if a cluster of high-prevalence towns occur in close proximity to one another, then that may more indicative that random error is not to blame than if a high-prevalence point is found in isolation.

Also, higher-population towns with many site visitors may be more stable from a statistical point of view than lower-population towns with only a few site visitors.

Another topic to consider is whether the observed effects are consistent with regard to what experienced mold avoiders have said about an area or about what we know about it in general.

The more consistent that points on the map are with other information that we have about particular locations, the more likely those points would seem to be registering actual effects rather than random error effects.

2. Data Recording Inaccuracies

As noted above, Google Analytics is not 100% accurate in terms of its reporting of locational data.

In most cases, the errors seem to result in individuals being misattributed as being present a nearby town.

It therefore may be that looking at patterns of data for larger geographic areas may have the potential of being more accurate than would be using the data to pick out the best or worst towns within a particular area.

Interpretation problems may be especially likely to occur when a single town has a much higher prevalence level than other towns surrounding it, since it may be unclear whether this is due to 1) random error, 2) many users in the area being inaccurately registered as being from that town (e.g. because a large Internet service provider is located there), or 3) people from the town actually being especially inclined to visit the site (e.g. because they are especially likely to be sick with mold illness or related conditions).

3. Demographics and Psychographics

Certain kinds of people are especially likely to use the Internet to seek out health information on mold illness or other similar topics.

Therefore, the types of people that live in a particular town may make a difference in terms of their likelihood to visit the Paradigm Change site.

About 80% of Americans have Internet access at home. Poorer people disproportionately do not have access, and so towns with large numbers of disadvantaged people may be expected to come up lower on the map.

On the other hand, more educated and sophisticated individuals may be especially likely to use their computers to seek out health information and therefore to have been more likely to visit the Paradigm Change site than were average Americans.

In addition, since mold illness is not yet a wholly mainstream topic, it is possible that those who are more attuned to health trends or general trends may have been more likely to have visited the site during the time period in question.

In general, then, towns that have many people who are upscale, highly educated and/or open to trendy information conceivably may be expected to have had more than their fair share of residents visiting the Paradigm Change site and therefore to be represented with higher index numbers.

Towns that have many people who are disadvantaged economically, less educated and/or resistant to newer thinking may be expected to have had lower than their fair share of residents visiting the Paradigm Change site and therefore to be represented with lower index numbers.

4. Illness Mecca Spots

In some cases, people with chronic illness may move to or visit particular locations because they are attracted to benefits that may be obtained there.

For instance, mold illness or MCS sufferers have been known to move to particular spots because they believe that living in those locations will be good for their health.

Other illness sufferers have moved to particular locations because healthcare practitioners who they want to see are located nearby.

Illness sufferers who have moved to these desirable locations may use the Paradigm Change site themselves and also may inform their new neighbors about the site, thus increasing site traffic from those towns.

Any of these factors may result in locations felt to be desirable by at least some illness sufferers coming up as higher-prevalence spots on the visitor map.

5. Environmental Toxicity

Environmental toxicity in certain locations has the potential of increasing the extent to which people in particular towns suffer from illness symptoms and thus seek out information from the Paradigm Change site.

For instance, some areas may have a larger-than-average number of particularly moldy buildings, as a result of factors such as shoddy construction, poor maintenance, or previous flooding.

Outdoor mold toxins or cyanobacteria toxins may be a factor in certain locations.

Other types of environmental toxicity (such as air pollution, agricultural chemicals, toxins related to oil and gas drilling, radiation, EMF's or water contamination) may be a factor in some locations.

In some locations, combinations of these different types of environmental toxicity may work together to create a particularly problematic situation.

Towns rated as high-prevalence on the map should not necessarily be assumed to have environmental problems that are making people sicker and thus driving people to visit the Paradigm Change site. Other factors might be responsible.

However, insofar as points on the map seem to be a part of a general pattern, and insofar as other explanations do not seem to be wholly responsible for the patterns observed, then the idea that environmental issues may be playing a role may be worth considering.

6. Other Illness Drivers

In addition to environmental pollutants, other illness-promoting factors have the potential of being associated with particular locations.

For instance, environmental pathogens such as tickborne illness (e.g. Lyme disease or babesia) or fungal infections (such as Valley Fever or histoplasmosis) may play a role in causing people in some locations to be more likely to be sick with chronic multi-symptom illness and therefore more likely to visit the Paradigm Change site.

In some cases, such as with the Amish, people who share particular genotypes may be more likely to live in particular locations. Insofar as these genotypes make people more susceptible to this type of chronic illness, this could result in those locations having particularly high index scores on the data map.

People in particular locations also may be more likely to share other risk factors that make them more likely to suffer from chronic illness and therefore to be more inclined to visit the Paradigm Change site.

Some of these other factors could include consuming illness-promoting diets; getting less than an optimal amount of exercise; being overweight; getting less-than-optimal healthcare; having been previously treated with particular vaccines or pharmaceuticals; or engaging in particular lifestyle behaviors (such as smoking or recreational drug use).

General Trends

One important thing to note about the Paradigm Change map is that despite the fact that it is controlled for population size, the correlation between high-prevalence spots and areas of high population density is extremely high.

This is consistent with the reports of many mold avoiders that they do better in more pristine areas away from civilization (sometimes termed “civilidevastation”), apparently as a result of the lesser amount of environmental toxicity in those less populated places.

The Paradigm Change visitor map also looks very similar to many other maps that have been developed to depict areas of high environmental toxicity.

Some of these other maps focus on conventional air pollution, mercury pollution, light pollution, noise pollution, cell phone radiation pollution, and (especially) hazardous chemical spills.

The total lack of high-prevalence locations in large sections of less developed states in the Western half of the US - and the systematic clustering of many points in most urban areas throughout the U.S. - also is worth noting.

Perhaps even more intriguing is the frequency with which points marked in black or pink (Index 600+) cluster together in “hot spots” on the map.

These are extremely elevated prevalence numbers that do not seem to be necessarily associated with normal city pollution, humid areas, agricultural regions or other obvious factors associated with environmental toxicity issues.

Some big clusters of hot spots can be found in the countryside of Pennsylvania (just west of Philadelphia); in the semi-rural region just north of Atlanta; in the entire Detroit/Ann Arbor area; and in parts of northern California.

Hot spots account for a high percentage of total visitors to the Paradigm Change site, thus suggesting the possibility that “ME/CFS” has remained in large part a cluster-driven disease.

If that indeed is the case, then determining the underlying factors that are driving the clusters may be an important consideration in moving toward eventual disease prevention and treatment.

For instance, if it were found that spills of solvent chemicals were playing a role in these hot spots, then cleanup of these spills might be designated as an important societal priority.

US States

Following is a list of the index scores and total visitors from each US state.

State	Index	# Visitors
District of Columbia	586	806
Arizona	197	2427
Colorado	191	1977
Oregon	185	1518
New Hampshire	175	519
Washington	160	2260
Nevada	159	761
Montana	155	336
New Mexico	144	633
Massachusetts	141	2152
Maine	137	418
Virginia	132	2250
California	131	10623
Vermont	129	188
Utah	124	666
Georgia	123	2418
Idaho	123	381
Florida	122	4670
North Carolina	121	2337
Rhode Island	120	282

Maryland	111	1414
Texas	110	5501
Michigan	109	2606
Illinois	109	3243
Hawaii	104	303
Wisconsin	103	1325
Minnesota	103	1211
South Carolina	102	985
Connecticut	101	830
Kansas	99	642
New York	97	4419
New Jersey	97	1953
Alaska	91	137
Tennessee	86	1180
Pennsylvania	86	2527
Wyoming	84	100
Delaware	84	158
Missouri	84	1125
North Dakota	81	125
Oklahoma	76	633
Nebraska	76	311
Iowa	75	525
Louisiana	74	795
South Dakota	73	133

Indiana	72	1053
Kentucky	72	695
Ohio	69	1881
West Virginia	63	279
Alabama	59	634
Arkansas	47	302
Mississippi	32	222

Canada

Following are the index numbers (compared to the overall prevalence for the US) and total number of visitors for each province of Canada.

Unfortunately, information at the city level for Canada was not supplied by Google Analytics.

In general, Canada seems to have lower index numbers than would be expected based on the US reports. Whether this is due to Canadians being inherently less likely to visit the Paradigm Change site (which is based in the US)) or to other factors is unclear.

Province	Index	# Visitors
Ontario	123	3807
Yukon	123	10
British Columbia	119	1262
Nova Scotia	106	235
Alberta	74	652
Manitoba	59	171
Saskatchewan	56	139

New Brunswick	100	55
Northwest Territories	50	5
Prince Edward Island	52	14
Newfoundand/Labrador	34	42
Quebec	25	470
Nunavut	0	0

Website Addresses

Following are the site addresses for the Paradigm Change website, the Paradigm Change blog, and the Living Clean in a Dirty World blog.

www.paradigmchange.me

www.paradigmchange.me/wp/

www.paradigmchange.me/lc/

Questions and Comments

Please direct comments and questions about this project to Lisa Petrison at the following address:

info@paradigmchange.me

Discussions of this project also take place on the Mold Avoiders group on Facebook:

https://www.facebook.com/groups/moldavoiders/?fref=ts