



Revero's Ketogenic Diet: **Impact on Health**

Majority of Users Report Vast Improvements
to Myriad Debilitating and Costly Metabolic
and Inflammatory Health Conditions



Executive Summary

The Problem

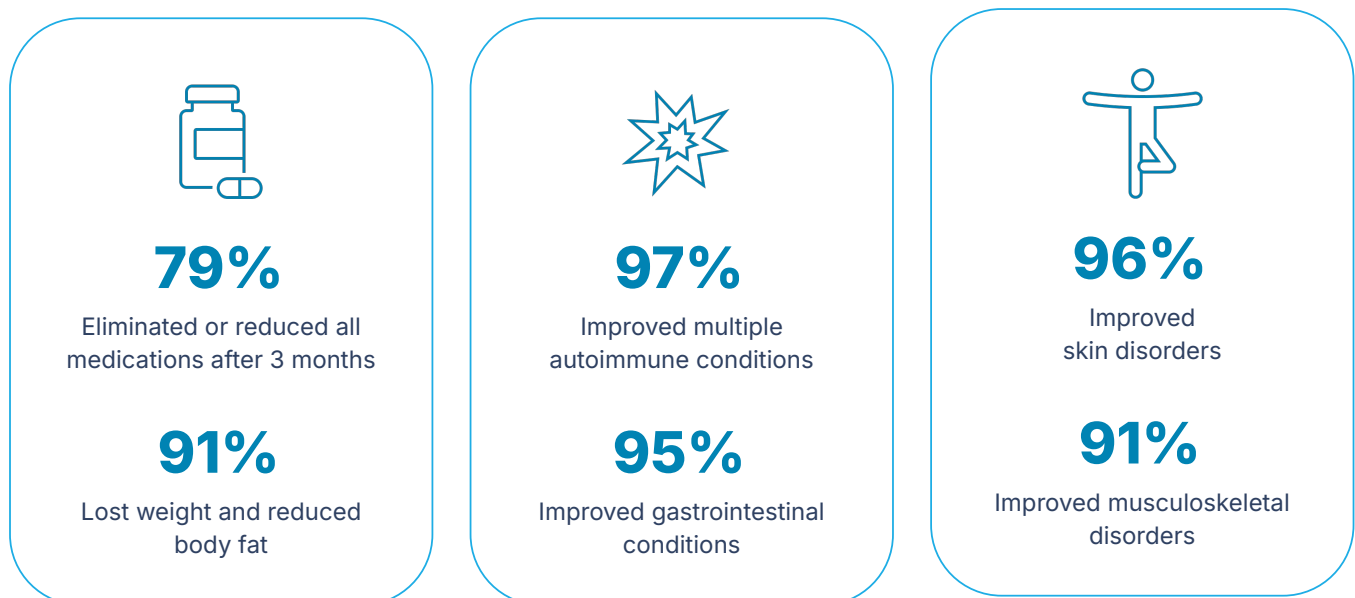
Metabolic and autoimmune conditions affect over one in three Americans each year, contributing to poor quality of life and early mortality for those who suffer and costing healthcare systems billions of dollars each year. The need for accessible and efficacious treatment solutions for these chronic conditions is imminently paramount.

The Revero Solution

Revero is a smartphone-delivered low-carbohydrate ketogenic program. Medical providers and coaches deliver personalized, root-cause treatment consisting of medical nutrition therapy, ongoing remote care, medication adjustment, and on-demand coaching to adults with autoimmune and metabolic conditions.

The Analysis and Findings

A 25-item survey completed by over 12,000 adults who had used Revero's Ketogenic Diet model for at least 3 months revealed the following patient self-reported outcomes:



The Bottom Line

A very large majority of patients reported impactful benefits associated with the use of Revero's Ketogenic diet model such as reduced burden of chronic health conditions and improved overall health.

Report

Burden to the Individual, Health Systems, and Society

About two out of three American adults have a chronic autoimmune or metabolic health condition such as rheumatoid arthritis, lupus, obesity, or diabetes. Specifically, autoimmune (or inflammatory) conditions, also called autoimmune diseases, currently affect over 23.5 million Americans, costing an estimated \$100 billion annually. Likewise, metabolic diseases impact millions of Americans, with diabetes alone costing an estimated \$327 billion annually. Each of these conditions can lead to high healthcare costs, reduced quality of life, and decreased productivity, with ripple effects felt by employers and coworkers, friends and family members, healthcare systems, and society at large. With such widespread implications, the need for more accessible and effective treatments has reached critical levels (Frazzeii et al., 2022; Youn et al., 2021; Jayatilleke, 2021).

A Promising Alternative

Revero is a smartphone-delivered medical solution that provides root-cause treatment for autoimmune and metabolic conditions by targeting insulin resistance, nutritional deficiency, poor gut health, and systemic inflammation. Revero's licensed medical and coaching providers deliver personalized treatments that include a personalized low-carbohydrate/ketogenic nutrition therapy, ongoing remote medical care, medication adjustment, and on-demand coaching. The program also includes biomarker feedback based on smart glucose monitoring devices, blood pressure cuffs, and patient daily symptom tracking to Revero clinicians, enabling them to deliver continuous medical supervision and support. Primary conditions treated include:

- Gastrointestinal Disorders such as Crohn's Disease, Ulcerative Colitis, Celiac Disease, Irritable Bowel Syndrome (IBS), and Gastroesophageal Reflux Disease (GERD),
- Skin Conditions such as Psoriasis, Eczema, Acne, Chronic Urticaria, and Rosacea,
- Musculoskeletal Issues such as Fibromyalgia, Rheumatoid Arthritis, Ankylosing Spondylitis, Chronic Back Pain, Lupus, and Psoriatic Arthritis, and
- Metabolic Conditions such as Type 2 Diabetes, Prediabetes, Primary Hypertension, and Obesity.

The Revero program provides a unique alternative to existing care models by enabling each provider to support about 100 patients at a time through tech-enabled analytics. In light of the shortage of healthcare providers in the U.S., the Revero solution helps overcome the accessibility and scalability challenges faced by traditional teletherapy and face-to-face treatment options. As opposed to the traditional appointment-based care, which often takes 3 or more months to access and lacks medical support between each provider visit, the Revero program provides proactive continuity of care for each patient by being accessible anywhere

at any time. Revero can complement primary care as a preferred solution over traditional treatments offered for these inflammatory and metabolic conditions through their health insurance.

The Science Behind the Magic

The benefits of low carbohydrate or ketogenic diets to autoimmune and metabolic conditions have been shown in numerous studies. For example, studies have indicated associations between following a low-carb diet and health benefits such as weight loss and significantly improved type 2 diabetes, hyperlipidemia, and hypertension, as well as result in substantial cost savings (Brinkworth et al., 2022; Samaha et al., 2003; Saslow et al., 2023; Unwin et al., 2019; 2023; Yancy et al., 2004.) as well as arthritis, psoriasis, IBS and IBD symptoms, and thyroid diseases (Ciaffi et al., 2024; Hollywood et al., 2023; Jactel et al., 2022; Michaelsson et al., 2000; Ostrowska et al., 2021; Pedersen et al., 2017). A peer-reviewed study published in 2021 studied 2,029 adults who identified specifically as having followed a low carbohydrate, meat-based diet (also known as the carnivore diet), for at least 6 months (Lennerz et al., 2021). The authors report that participants reported high levels of overall health as well as various improvements in disease-specific health such as weight loss, total cholesterol, hemoglobin A1C, and medication use, with few side effects.

Survey and Supportive Data

In July 2019, Revero conducted an observational study by anonymously [surveying](#) adults who have implemented the Revero model of ketogenic diet. The survey asked respondents about the degree of commitment to the diet (i.e., following a diet mostly from protein and limiting all or most carbohydrates), lifetime health conditions faced, changes in health and health conditions since beginning the diet, and prescription medications taken before and after using the diet.

Responses were gathered from 11,455 adults who had implemented this elimination diet (data available upon reasonable request). The large majority (92%) of respondents were between 25 and 65 years old, and 59% identified as male, 41% identified as female, and 0.2% identified as "other" gender. Four out of 5 (80%) reported following the diet for 3 months or longer. Respondents reported experiencing various metabolic and inflammatory conditions including obesity, diabetes, hypertension, asthma, as well as digestion, skin, arthritis/musculoskeletal, autoimmune, mental health, thyroid, hormonal, and neurological problems.

Top Conditions improved



Musculoskeletal



Skin Conditions



Type II Diabetes



Gastrointestinal



Mental Health



Obesity



Hormonal



Autoimmune

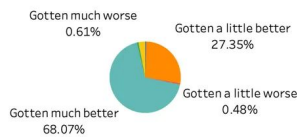


Cardiovascular

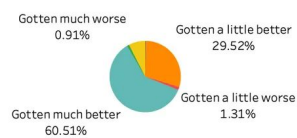


Neurological

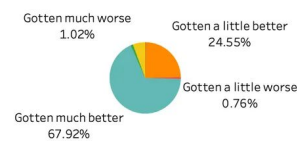
Overall Health



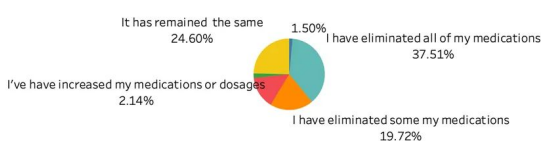
Skin Health



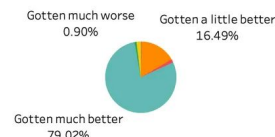
Mental Health



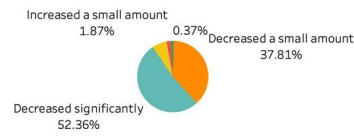
Change in Meds



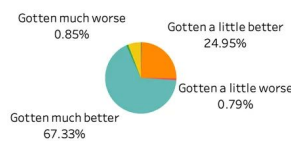
Digestive Health



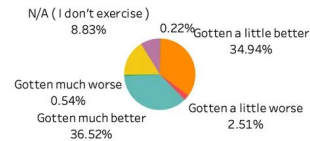
Body Fat



Musculoskeletal Health



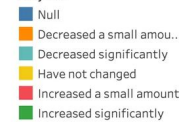
Exercise Capacity



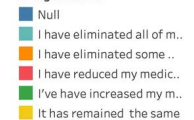
Health Metrics



Body Fat



Change in Meds



40% of respondents were actively taking prescription medications when starting the Revero ketogenic diet model, and 72% of those respondents reported either eliminating some (20%) or all (37%) medications or reducing (15%) them.

This was achieved even without the use of any supplements (88%). In addition, 95% reported that their overall health got a little (27%) or much (68%) better. A majority of respondents reported a little or much improvement to their:

- Digestive health (96%)
- Joint/ Musculoskeletal health (92%)
- Skin health (90%)
- Mental health (93%)
- Sleep health (70%)
- Libido/ Sexual health (60%)
- Body fat (90%)
- Exercise capacity (72%)
- Strength (71%)
- Endurance (64%)
- High-intensity interval training (HIIT) exercise (51%)

Each level of improvement increased with length of time following the Revero's ketogenic diet model (e.g., a greater proportion of those following for 3 months or more saw improvements versus those following the diet for less than 3 months) as well as level of support from their friends/family and their healthcare providers. For example, among those on the diet for at least 3 months:

- 96% reported experiencing full resolution or a significant improvement in all diseases they had when they first joined the program
- 79% reported reducing or eliminating all medications
- 91% reported weight loss and a reduction in body fat

Specifically, among those on the Revero nutrition model for 3 months or more:

- 96% reported a full resolution or significant improvement in skin conditions
- 91% reported a full resolution or significant improvement in musculoskeletal conditions
- 71% improved their sleep
- 62% improved their sexual health
- 74% improved their exercise capacity
- 74% improved their strength
- 67% improved their endurance
- 55% improved their HIIT capacity (see Appendix for figures)

Testimonials

Thousands of Patient Testimonials Who Came Off Medications

Health Condition Improvements



Amanda healed

- Digestive issues
- Obesity
- Chronic pain
- Depression



Josh healed

- Obesity
- Joint pain
- Depression
- Chronic inflammation



Raymond healed

- Type 2 diabetes
- Arthritis, Rosacea
- High blood pressure
- Irritable bowel disease

See more [success stories](#)

Elimination of costly medications



Eliminated all pharmaceuticals in three months



Came off Remicade for ulcerative colitis



Got rid of meds after 30 days



Woman comes off all thyroid meds



Came off gabapentin for neuropathy



Off hydroxychloroquine and steroids, weaning off gabalin



Got off of medication for ulcerative colitis



Got off medications for anxiety after 4-5 weeks



No longer taking medication for colitis

See [here](#) for more testimonials on eliminating medications

Conclusion

Given the very large majority of patients that reported impactful benefits associated with the use of Revero's ketogenic diet model such as reduced burden of chronic health conditions and improved overall health, the program shows promise in helping connect the hundreds of American adults who suffer from metabolic and inflammatory conditions to a timely and efficacious solution with the potential for enormous cost savings to both the end-consumer and health system millions of dollars each year. The shortage of healthcare providers nationwide makes the distribution and implementation of this life-changing treatment even more critical to support those in need.

Contact Information

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- Social media: <https://www.instagram.com/reverohealth/>

References

- Brinkworth, G. D., Wycherley, T. P., Taylor, P. J., & Thompson, C. H. (2022). A Health Care Professional Delivered Low Carbohydrate Diet Program Reduces Body Weight, Haemoglobin A1c, Diabetes Medication Use and Cardiovascular Risk Markers—A Single-Arm Intervention Analysis. *Nutrients*, 14(20), 4406.
- Ciaffi, J., Mitselman, D., Mancarella, L., Brusi, V., Lisi, L., Ruscitti, P., ... & Ursini, F. (2021). The effect of ketogenic diet on inflammatory arthritis and cardiovascular health in rheumatic conditions: a mini review. *Frontiers in medicine*, 8, 792846.
- Frazzei, G., van Vollenhoven, R. F., de Jong, B. A., Siegelaar, S. E., & van Schaardenburg, D. (2022). Preclinical autoimmune disease: a comparison of rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and type 1 diabetes. *Frontiers in immunology*, 13, 899372.
- Hollywood, J. B., Hutchinson, D., Feehery-Alpuerto, N., Whitfield, M., Davis, K., & Johnson, L. M. (2023). The Effects of the paleo diet on autoimmune thyroid disease: a mixed methods review. *Journal of the American Nutrition Association*, 42(8), 727-736.
- Jactel, S. N., Olson, J. M., Wolin, K. Y., Brown, J., Pathipati, M. P., Jagiella, V. J., & Korzenik, J. R. (2023). Efficacy of a digital personalized elimination diet for the self-management of irritable bowel syndrome and comorbid irritable bowel syndrome and inflammatory bowel disease. *Clinical and Translational Gastroenterology*, 14(1), e00545.
- Jayatileke, A. (2021). Immunosuppression in rheumatologic and auto-immune disease. In *Pharmacology of Immunosuppression* (pp. 181-208). Cham: Springer International Publishing.
- Lennerz, B. S., Mey, J. T., Henn, O. H., & Ludwig, D. S. (2021). Behavioral characteristics and self-reported health status among 2029 adults consuming a “carnivore diet”. *Current developments in nutrition*, 5(12), nzab133.
- Michaëlsson, G., Gerdén, B., Hagforsen, E., Nilsson, B., Pihl-Lundin, I., Kraaz, W., ... & Lööf, L. (2000). Psoriasis patients with antibodies to gliadin can be improved by a gluten-free diet. *British Journal of Dermatology*, 142(1), 44-51.
- Ostrowska, L., Gier, D., & Zyśk, B. (2021). The influence of reducing diets on changes in thyroid parameters in women suffering from obesity and Hashimoto's disease. *Nutrients*, 13(3), 862.
- Pedersen, N., Ankersen, D. V., Felding, M., Wachmann, H., Végh, Z., Molzen, L., ... & Munkholm, P. (2017). Low-FODMAP diet reduces irritable bowel symptoms in patients with inflammatory bowel disease. *World journal of gastroenterology*, 23(18), 3356.

Samaha, F. F., Iqbal, N., Seshadri, P., Chicano, K. L., Daily, D. A., McGrory, J., ... & Stern, L. (2003). A low-carbohydrate as compared with a low-fat diet in severe obesity. *New England Journal of Medicine*, 348(21), 2074-2081.

Saslow, L. R., Jones, L. M., Sen, A., Wolfson, J. A., Diez, H. L., O'Brien, A., ... & Richardson, C. (2023). Comparing very low-carbohydrate vs DASH diets for overweight or obese adults with hypertension and prediabetes or type 2 diabetes: a randomized trial. *The Annals of Family Medicine*, 21(3), 256-263.

Unwin, D. J., Tobin, S. D., Murray, S. W., Delon, C., & Brady, A. J. (2019). Substantial and sustained improvements in blood pressure, weight and lipid profiles from a carbohydrate restricted diet: an observational study of insulin resistant patients in primary care. *International Journal of Environmental Research and Public Health*, 16(15), 2680.

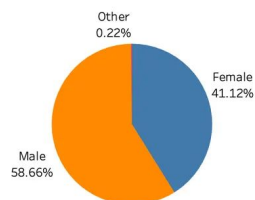
Unwin, D., Delon, C., Unwin, J., Tobin, S., & Taylor, R. (2023). What predicts drug-free type 2 diabetes remission? Insights from an 8-year general practice service evaluation of a lower carbohydrate diet with weight loss. *BMJ Nutrition, Prevention & Health*, 6(1), 46.

Yancy Jr, W. S., Olsen, M. K., Guyton, J. R., Bakst, R. P., & Westman, E. C. (2004). A low-carbohydrate, ketogenic diet versus a low-fat diet to treat obesity and hyperlipidemia: a randomized, controlled trial. *Annals of internal medicine*, 140(10), 769-777.

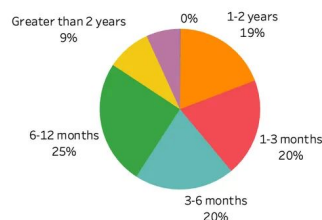
Yoon, N., Jang, A. K., Seo, Y., & Jung, B. H. (2021). Metabolomics in autoimmune diseases: Focus on rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis. *Metabolites*, 11(12), 812.

Appendix

Gender



Duration on the Diet



Gender
 Female
 Male
 Other

Duration

Null
 1-2 years
 1-3 months
 3-6 months
 6-12 months
 Greater than 2 years
 Less than 1 month

Count of Carnivore Surve...
 11,455

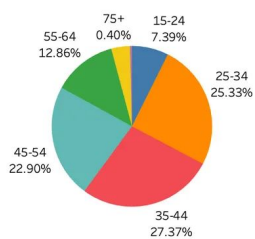
Age

15-24
 25-34
 35-44
 45-54
 55-64
 65-74
 75+

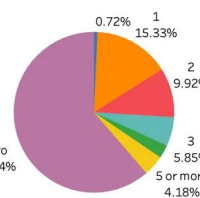
Meds

Null
 1
 2
 3
 4
 5 or more
 Zero

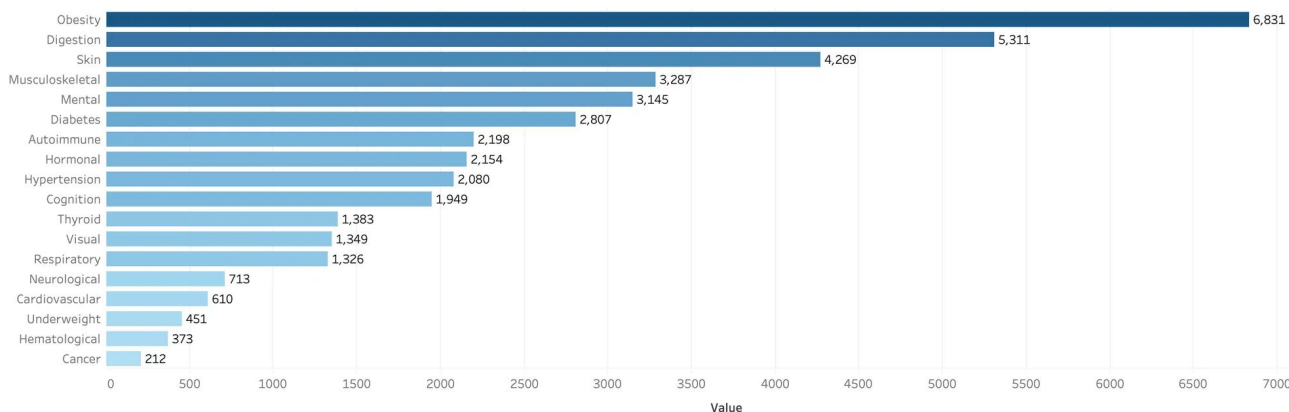
Age



Meds Per Day



Health Issues



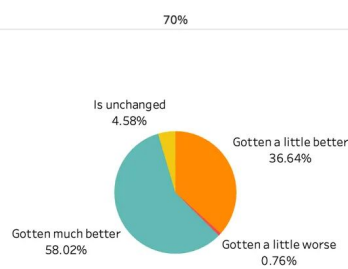
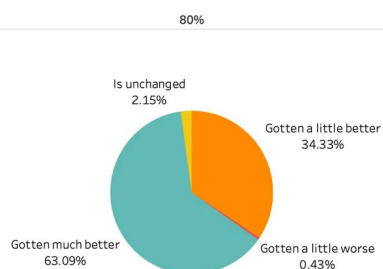
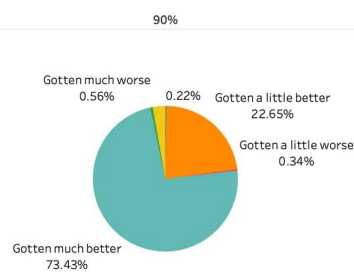
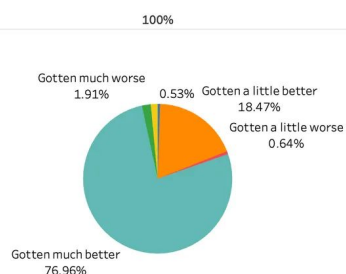
Overall Health for autoimmune cohort by % Animal based Diet

Sc Overall Health

- Null
- Gotten a little better
- Gotten a little worse
- Gotten much better
- Gotten much worse
- Is unchanged

Count of Carnivore Surve..

892
900
910
920
930
942



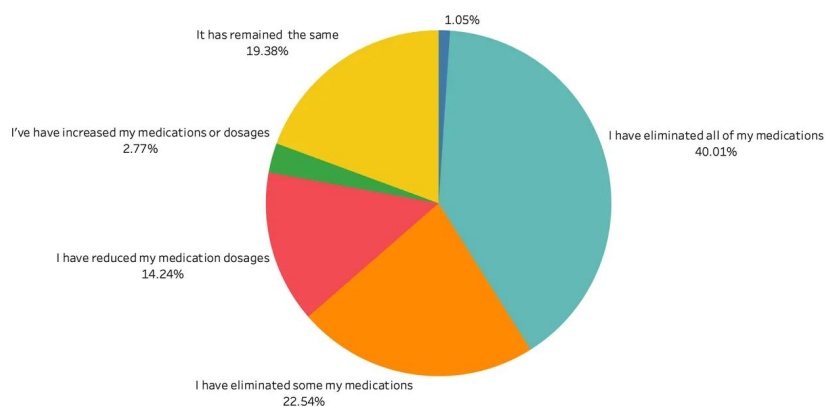
Change in Meds for Diabetic cohort

Meds Change

- Null
- I have eliminated all ..
- I have eliminated so..
- I have reduced my m..
- I've have increased ..
- It has remained the ..

Count of Carnivore Surve..

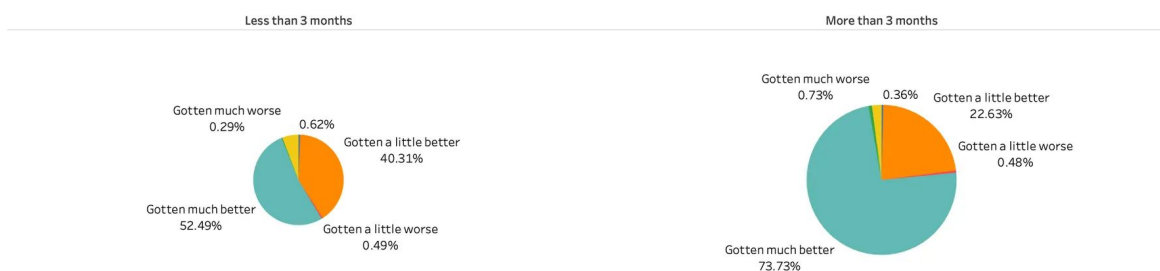
1,517



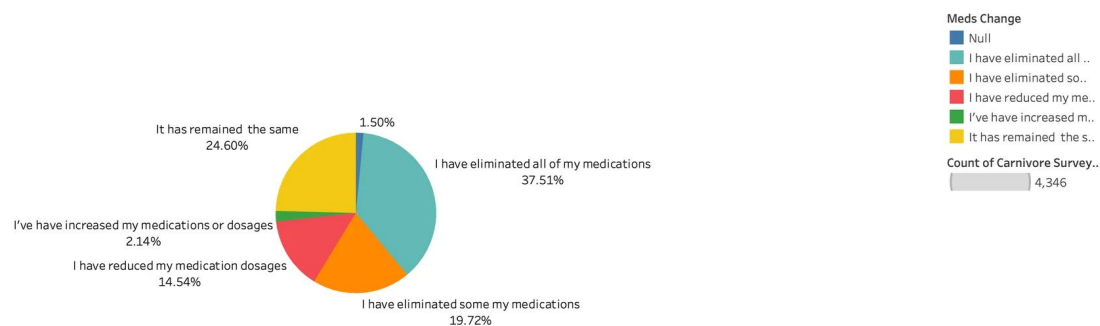
Overall Health



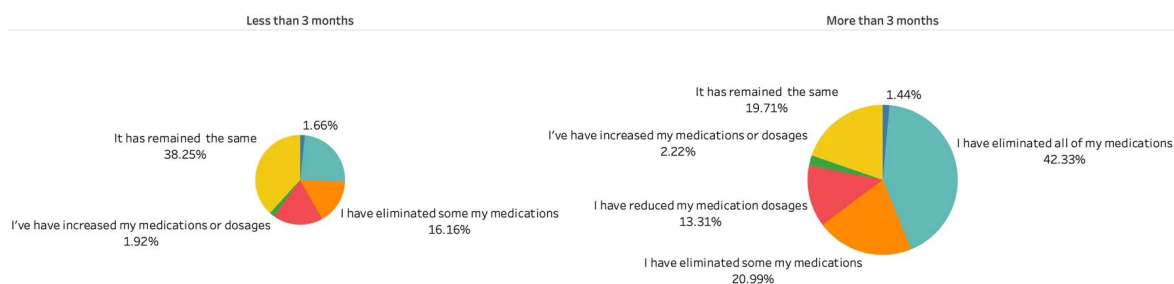
Overall Health by Duration on Diet



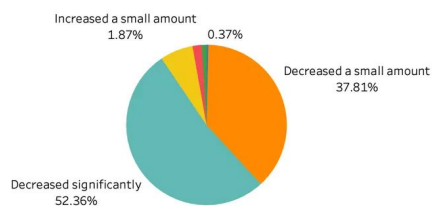
Change in Meds



Change in Meds by Duration on Diet



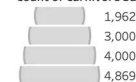
Body Fat



Sc Body Fat



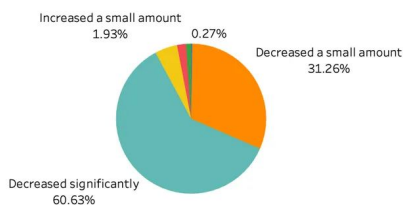
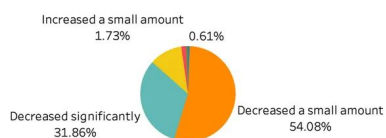
Count of Carnivore Survey _ on..



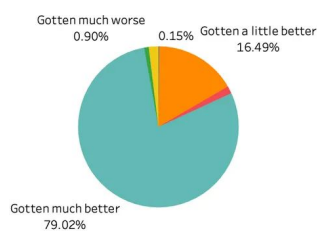
Body Fat by Duration on Diet

Less than 3 months

More than 3 months



Digestive Health



Sc Digestion



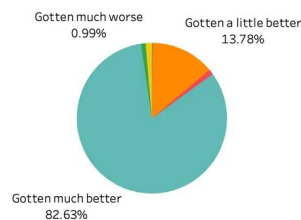
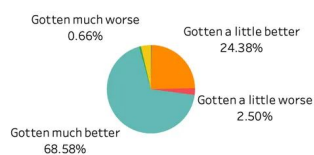
Count of Carnivore Surve..



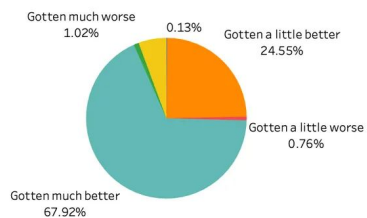
Digestive Health by Duration on Diet

Less than 3 months

More than 3 months



Mental Health



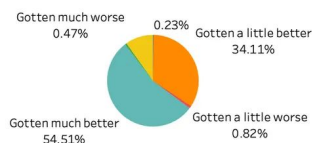
Sc Mental

- Null
- Gotten a little better
- Gotten a little worse
- Gotten much better
- Gotten much worse
- Is unchanged

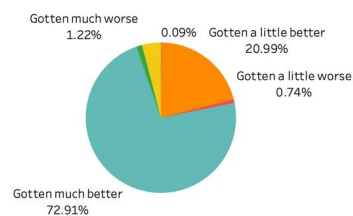
Count of Carnivore Surve... 3,145

Mental Health by Duration on Diet

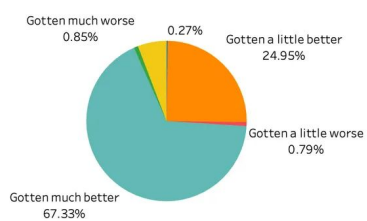
Less than 3 months



More than 3 months



Musculoskeletal Health



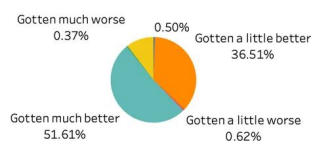
Sc Musculoskeletal

- Null
- Gotten a little better
- Gotten a little worse
- Gotten much better
- Gotten much worse
- Is unchanged

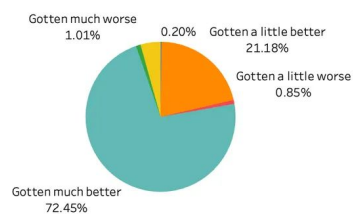
Count of Carnivore Surve... 3,287

Musculoskeletal Health by Duration on Diet

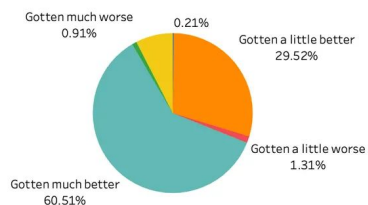
Less than 3 months



More than 3 months



Skin Health



Sc Skin

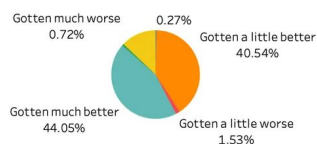
- Null
- Gotten a little better
- Gotten a little worse
- Gotten much better
- Gotten much worse
- Is unchanged

Count of Carnivore Surve..

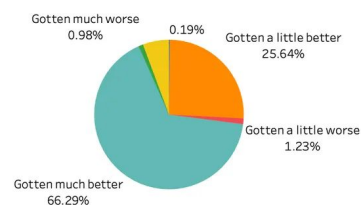
4,269

Skin Health by Duration on Diet

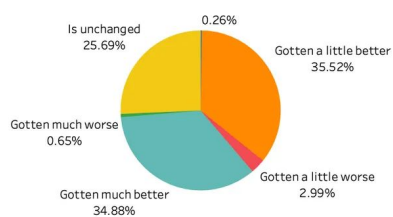
Less than 3 months



More than 3 months



Sleep Quality



Sc Sleep

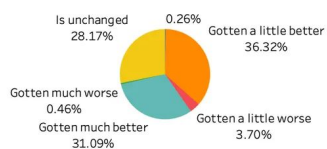
- Null
- Gotten a little better
- Gotten a little worse
- Gotten much better
- Gotten much worse
- Is unchanged

Count of Carnivore Surve..

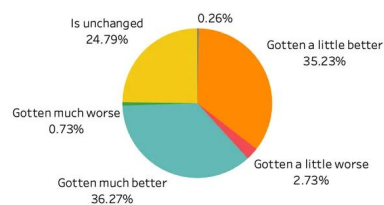
11,455

Sleep Quality by Duration on Diet

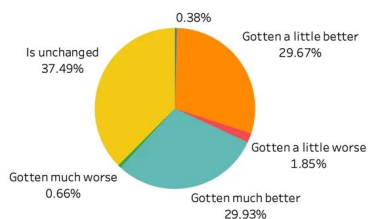
Less than 3 months



More than 3 months



Sexual Health

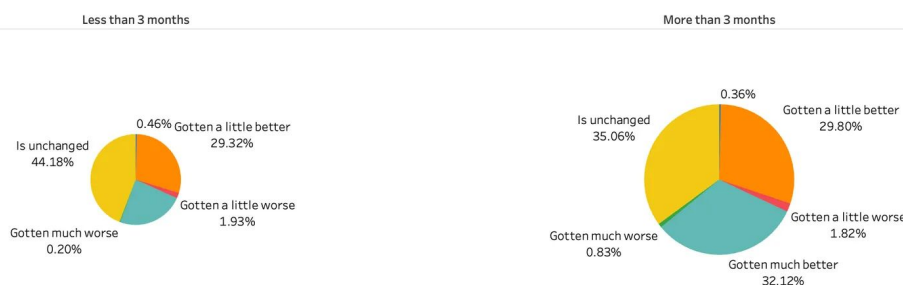


Sc Sexual

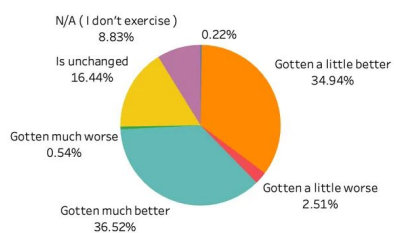
- Null
- Gotten a little better
- Gotten a little worse
- Gotten much better
- Gotten much worse
- Is unchanged

Count of Carnivore Surve... 11,455

Sexual Health by Duration on Diet



Exercise Capacity

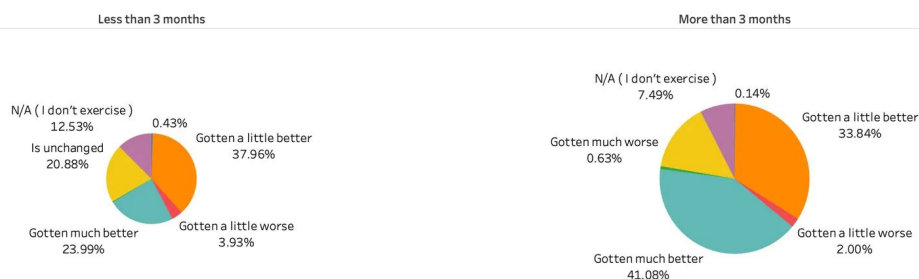


Sc Exercise Cap

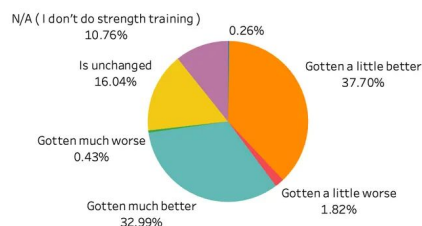
- Null
- Gotten a little better
- Gotten a little worse
- Gotten much better
- Gotten much worse
- Is unchanged
- N/A (I don't exercise)

Count of Carnivore Surve... 11,455

Exercise Capacity by Duration on Diet



Strength



Sc Strength

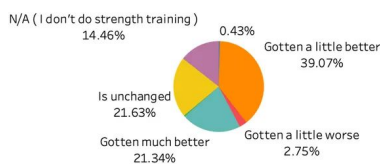
- Null
- Gotten a little better
- Gotten a little worse
- Gotten much better
- Gotten much worse
- Is unchanged
- N/A (I don't do stren..

Count of Carnivore Surve..

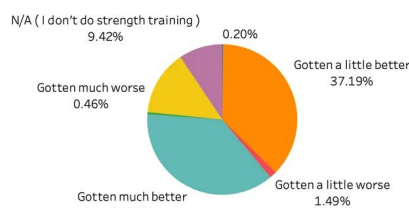
11,455

Strength by Duration on Diet

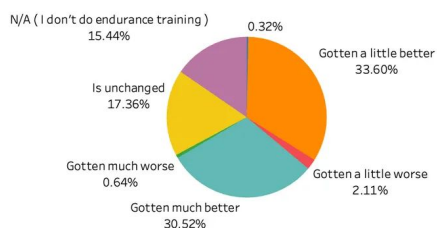
Less than 3 months



More than 3 months



Endurance



Sc Endurance

- Null
- Gotten a little better
- Gotten a little worse
- Gotten much better
- Gotten much worse
- Is unchanged
- N/A (I don't do endu..

Count of Carnivore Surve..

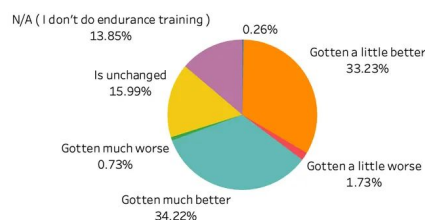
11,455

Endurance by Duration on Diet

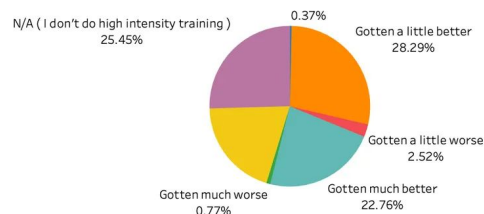
Less than 3 months



More than 3 months



HIIT Capacity



Sc Hiit

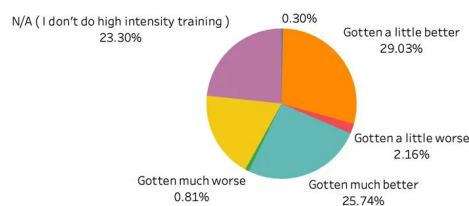
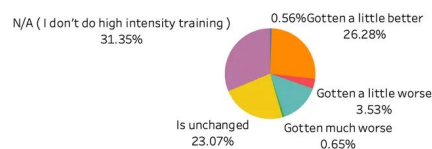
- Null
- Gotten a little better
- Gotten a little worse
- Gotten much better
- Gotten much worse
- Is unchanged
- N/A (I don't do high i..

Count of Carnivore Surve... 11,455

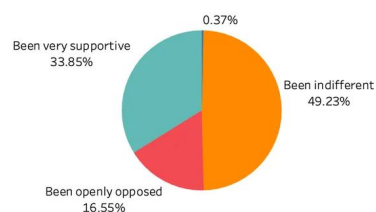
HIIT Capacity by Duration on Diet

Less than 3 months

More than 3 months



Social Support



Social Support

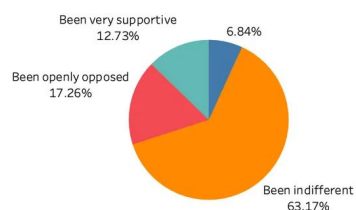
- Null
- Been indifferent
- Been openly opposed
- Been very supportive

Count of Carnivore Surve... 11,455

Doctor Support

- Null
- Been indifferent
- Been openly opposed
- Been very supportive

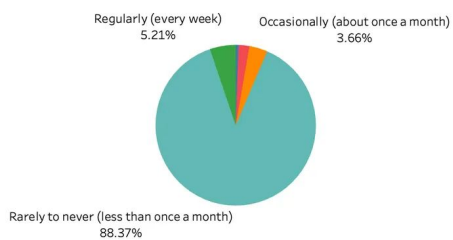
Healthcare Provider's Support



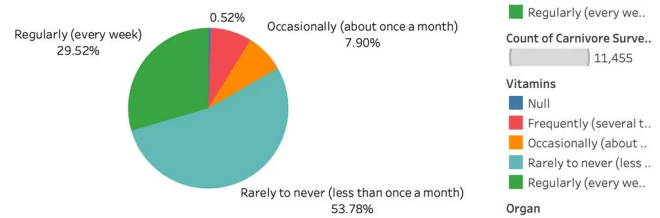
Overall Health by % Animal based Diet



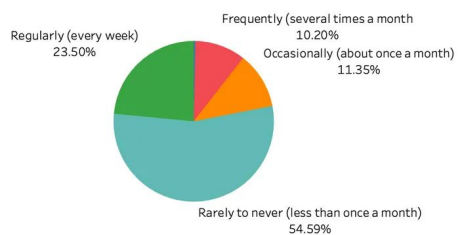
Supplements



Vitamins



Electrolytes



Organ Meats

