

**How to BECOME
THE HEALTHIEST VERSION
OF YOURSELF**

WHITE PAPER

Cabral Sylvester and Daniel Chartock

Table of Contents

Table of Contents.....	2
Introduction.....	3
1 – Glucose.....	6
2 – Blood Pressure.....	7
3 – Blood Count.....	8
4 – BMI.....	9
5 – Cotinine.....	10
6 – Cholesterol.....	11
7 – Iron.....	12
8 – Inflammation.....	13
9 – Liver Function.....	14
10 – Kidney Function.....	15
12 – Waist Circumference.....	17
Conclusion.....	18

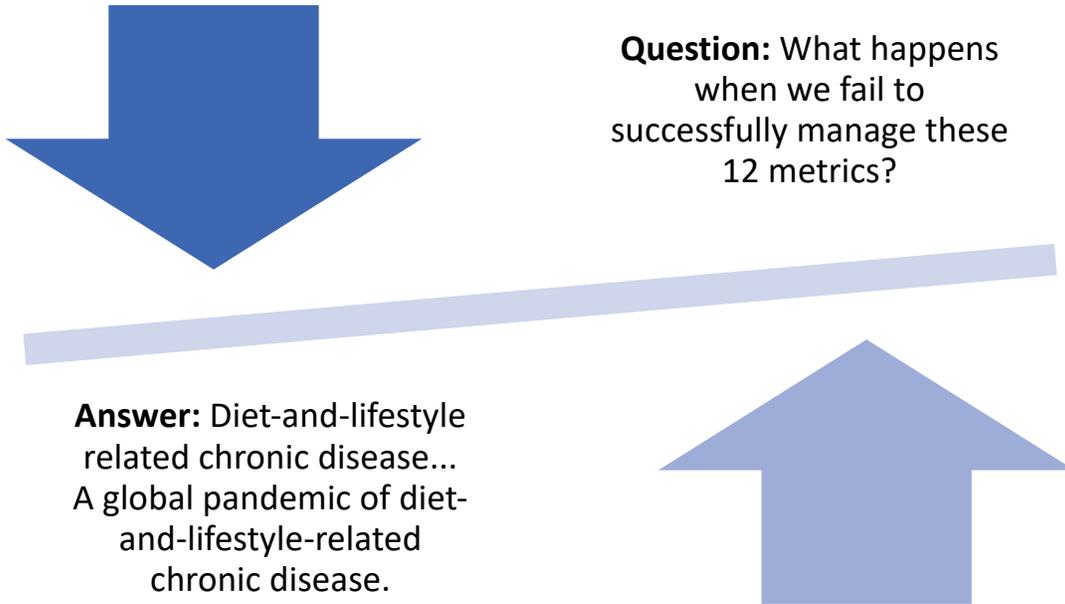


Introduction

Did you know your health is largely a reflection of 12 organ, tissue and cellular biometrics?

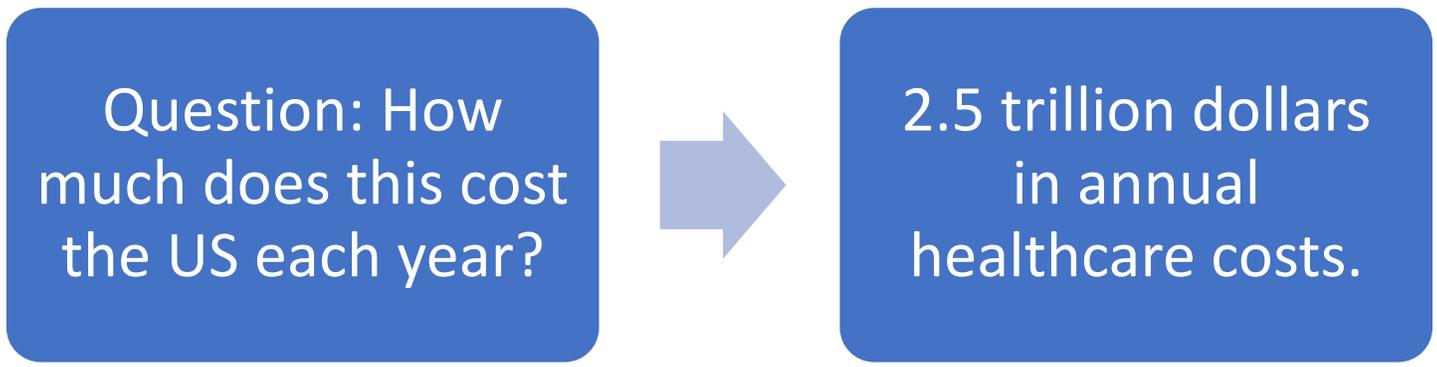
Glucose	Blood Pressure	Blood Counts	BMI
Cotinine	Cholesterol	Iron	Inflammation
Liver Function	Kidney Function	Waist Circumference	Vitamin D

Together, these 12 biometrics provide a “Big Picture” of your health.



In fact, in the United States, diet-and-lifestyle related chronic disease results in:

- 81% of hospital admissions
- 91% of prescriptions filled
- 76% of doctor's visits



Let's take a closer look at why each of the 12 metrics is so vital to your health:

Glucose



Blood Pressure



Blood Count



BMI



Cotinine



Cholesterol



Iron



Inflammation



Liver Function



Kidney Function



Vitamin D



Waist Circumference





1 – Glucose

Glucose is a carbohydrate which serves as the body's primary source of energy, and is especially important in maintaining brain function, digestion, and metabolism.

The normal concentration of glucose in the blood (i.e. "blood glucose") should be about 0.1%.

However, because of diet and other factors, higher levels of blood glucose have become common in our society.

In fact, over 25 million Americans are diabetic. And an astounding 80 million more are pre-diabetic, meaning these people's blood glucose are on a runaway trajectory toward diabetes.

What are the risks associated with high blood sugar?

People with high blood sugar are at elevated risk for hyperglycemia & diabetes. Both of which can result in heart disease, stroke, kidney failure, nerve damage, blindness, coma, and even death.

What's the target glucose reading?

The target glucose reading is < 100 mg/dl.

How much does this cost?

Cost may vary according to your insurance, but typically expect to pay about:

- \$12.00 - \$20.00 *out-of-pocket* for a **glucose** test on its own.
- \$15.00 - \$25.00 *out-of-pocket* for a metabolic panel which includes **glucose** and **kidney function** coupled together.
- \$25.00 – \$30.00 *out-of-pocket* for a metabolic panel which includes **glucose, kidney function, and liver function** bundled together.

Is there anything else about glucose testing I should know?

Yes, when having bloodwork performed, readings for **cholesterol, iron, inflammation, liver & kidney function** can typically be ordered with the same blood sample as **glucose**.



2 – Blood Pressure

Blood pressure measures the pressure of blood in the arteries.

The higher your blood pressure, the greater your risk of coronary artery disease, enlarged heart, aneurysm, headache, confusion, convulsion, kidney disease, diabetes, stroke, & dementia.

High blood pressure (hypertension) can quietly damage your body for years before symptoms develop.

An estimated 1 in 3 Americans are hypertensive. And another 1 in 3 are pre- hypertensive.

What are the risks associated with high blood pressure?

Left uncontrolled, people with high blood pressure often times end up with a disability, or even a fatal heart attack.

What's the target blood pressure reading?

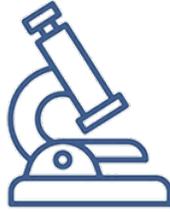
- The target reading for blood pressure is 120/80.

How much does this cost?

Blood pressure readings are typically included with routine primary care check-ups.

Is there anything else about blood pressure testing I should know?

Yes, free blood pressure monitors are routinely available in pharmacies such as CVS, Rite Aid, & Walgreens. Also, often at your local grocery store in the pharmacy department.



3 – Blood Count

Blood count is a measure of the number of blood cells a person has in circulation.

Blood is composed of three basic blood cell types: (1) red blood cells - which contain hemoglobin, (2) white blood cells, and (3) platelets.

Each of us should have billions of blood cells circulating throughout our body. Having fewer cells than is considered normal is called “low blood counts”.

What are the effects of low blood counts?

Blood counts impact everything from the effectiveness of your immune system, to the level of your daily energy supply.

In fact, every day, millions of people strive to enhance their performance, stamina, endurance & productivity by loading up on caffeine and sugary energy-boosting products, when in fact the foremost action they should take is measuring their blood count and iron level.

What's the target blood count reading?

- The target White Blood Cell count is 4,500 - 11,000 thou/mcl.
- The target hemoglobin for women is 10.0 - 15.5 g/dl.
- The target hemoglobin for men is 13.5 - 17.0 g/dl.
- The target platelets count is 1.5 - 4.0 thou/mcl.

How much does this cost?

Cost may vary according to your insurance, but typically expect to pay about \$20.00 *out-of-pocket* for a CBC.

Is there anything else about blood count testing I should know?

Yes, the laboratory test that is conducted to measure your blood cells is called a Complete Blood Count (CBC), and requires its own tube of blood.



4 – BMI

BMI or Body Mass Index, is a calculation of your weight in relation to your height.

Not unlike waist circumference, BMI's chief purpose is to serve as a non-invasive predictor of morbidity (i.e. the state of being diseased) and mortality.

Roughly one-third of adults in America (80 million) are obese. Meaning they register a BMI > 30.

Although BMI does provide an accurate "litmus test" most of the time, it is not without limitation; as some people's natural body composition is less likely to lend itself to a "healthy" BMI score.

And for that reason, it is always useful to cross-reference BMI score with waist circumference reading.

What's the target BMI reading?

- The target BMI range is 18.5 – 24.9.

Why is obesity so dangerous?

The reason obesity is so dangerous is because obesity suggests there are likely excess internal fat deposits coating the heart, liver, kidneys and pancreas.

These excess internal fat deposits put you at a higher risk for heart disease, kidney disease, diabetes, hypertension, stroke, high cholesterol, and inflammation; as well as gallstones, osteoarthritis, sleep apnea, female infertility, and certain cancers.



5 – Cotinine

Cotinine is a chemical compound found in tobacco and nicotine. It is used as a biomarker for exposure to tobacco smoke.

What are the risks associated with smoking?

The risks associated with smoking are well documented, including: lung cancer, stroke, heart disease, Chronic Obstructive Pulmonary Disease (COPD) - which includes chronic bronchitis & emphysema.

COPD alone is estimated to affect some 330 million people worldwide. And these are just some of the health risks associated with smoking.

All told, smoke related deaths account for about 1 in 5 mortalities in the US annually. That's approximately 1,300 deaths per day.

On average, a smoker's life expectancy is a full decade shorter than a non-smoker.

What about second hand smoke?

Smoking is so harmful that even in the form of secondhand inhalation, it can be deadly, as an estimated 40,000 people in the US die of secondhand smoke each year.

In fact, all non-smokers who are regularly exposed to secondhand smoke should seriously consider having a blood, urine, or saliva cotinine test administered to determine how much potentially lethal tobacco smoke they are retaining in their bodies.

Is there any good news?

Yes. The good news is that if you are a smoker, you can take action to quit smoking today.



6 – Cholesterol

Cholesterol has 3 main components: HDL, LDL, and Triglycerides.

HDL (Good) cholesterol helps remove cholesterol from the arteries, protecting against dangerous blockages.

LDL (Bad) cholesterol carries the majority of cholesterol through your bloodstream. While doing so, it deposits plaque on artery walls, clogging arteries.

Triglycerides are a type of fat found in blood. When we eat, our body converts any calories it doesn't need to use right away into triglycerides, then stores them in our cells. So when we eat more calories than we burn, we store additional fat in the form of triglycerides.

Despite the seriousness of high cholesterol, 1 in 3 Americans have not had their levels checked in the past 5 years.

What are the risks associated with high cholesterol?

2 of the high-profile risks of high cholesterol are heart disease & stroke - America's 1st & 4th leading causes of death respectively.

What's the target cholesterol reading?

- For HDL the target reading is > 55 mg/dl.
- For LDL the target reading is < 130 mg/dl.
- For triglycerides the target reading is < 150 mg/dl.

How much does this cost?

Cost may vary according to your insurance, but typically expect to pay about \$20.00 out-of-pocket for cholesterol (lipids) bloodwork.

Is there anything else about cholesterol testing I should know?

Yes, when having bloodwork performed, readings for **glucose, iron, inflammation, liver & kidney function** can typically be ordered with the same blood sample as cholesterol.



7 – Iron

Iron is essential to the production of healthy, oxygen-carrying red blood cells.

The process of making enough healthy oxygen-carrying red blood cells produces what we commonly call “energy”.

Every day, millions of people strive to enhance their performance, stamina, endurance, & productivity by loading up on caffeine and sugary energy-boosting products, when in fact the foremost action they should take is measuring their iron level & blood count.

Iron deficiency, known as “anemia” is the most common nutritional disorder in the world, affecting an estimated 30% of the world's population.

Women (as a result of menstrual bleeding), children, & vegetarians are especially susceptible to this disorder.

Other leading candidates include those suffering from internal bleeding resulting from ulcer, hemorrhoids, & certain cancers.

What are the effects associated with anemia?

Dizziness, fatigue, lightheadedness, weakness, heart palpitations, brittle nails, headache, & shortness of breath to name a few.

What's the target Iron reading?

For women, the target iron level is 40 - 150 mcg/dl.

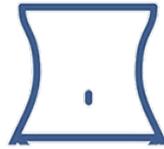
For men, the target iron level is 50 - 175 mcg/dl.

How much does this cost?

Cost may vary according to your insurance, but typically expect to pay about \$25.00 – \$30.00 out-of-pocket when ordering bloodwork for iron.

Is there anything else about iron testing I should know?

Yes, when having bloodwork performed, readings for **cholesterol, glucose, inflammation, liver & kidney function** can typically be ordered with the same blood sample as **iron**.



8 – Inflammation

Inflammation is commonly marked by C - reactive protein (CRP), a substance produced by the liver which indicates inflammation in the body.

What are the risks associated with inflammation?

Inflammation precedes a myriad of illnesses, including heart disease, lupus, cancer, diabetes, arthritis, psoriasis, pancreatitis, Crohn's disease, allergies, gastrointestinal issues, and neurodegenerative conditions such as Alzheimer's and Parkinson's.

Regarding cancer, not only has inflammation been shown to trigger oncogenes (i.e. genes that transform cells into tumors), inflammation has also been linked to the mutation & metastasis (spread) of cancer cells, and to the bolstering of chemotherapy resistance.

What's the target inflammation reading?

The target reading for inflammation is < 1.0 mg/dl.

How much does this cost?

Cost may vary according to your insurance, but typically expect to pay about \$30.00 – \$35.00 *out-of-pocket* for inflammation bloodwork.

Is there anything else about inflammation testing I should know?

Yes, when having bloodwork performed, readings for **cholesterol, iron, glucose, liver & kidney function** can typically be ordered with the same blood sample as **inflammation**.



9 – Liver Function

Liver function is a measurement of how effectively the liver is functioning.

The liver is the heaviest organ in the body, and is essential to vital life functions such as processing nutrients from food, making bile, removing toxins from the body, and building proteins.

Liver testing helps screen the body for damage caused by over-the-counter medications, hepatitis, and - if you drink - how effectively your organs are managing the accumulated “wear & tear” associated with alcohol consumption.

What are the risks associated with poor liver function?

Liver failure (cirrhosis) is a life-threatening condition, as the human body can only survive for one or two days should the liver shut down completely.

What's the target liver function reading?

Liver function readings have 2 components: Alanine aminotransaminase (ALT) and Alkaline Phosphatase (ALP).

- The target reading for ALT is 0 - 45 u/L.
- The target reading for ALP is 30 - 120 u/L.

How much does this cost?

Cost may vary according to insurance, but typically expect to pay about \$20.00 - \$25.00 *out-of-pocket* when ordering liver function bloodwork individually.

Or about \$25.00 - \$30.00 *out-of-pocket* for a metabolic panel which includes **liver function**, **kidney function** and **glucose** bundled together.

Is there anything else about liver function testing I should know?

Yes, when having bloodwork performed, readings for **cholesterol**, **iron**, **inflammation**, **glucose**, & **kidney function** can typically be ordered with the same blood sample as **liver function**.



10 – Kidney Function

Kidney function is a measure of how effectively the kidneys are functioning... Kidneys are essential in maintaining homeostasis, the preservation of the body's internal environment.

Whatever you eat gets absorbed in the body, and ultimately released in the urine. Depending on the quality of your diet, the kidneys can get damaged in the process, paving the way to kidney disease.

Consistent effort over time to manage blood pressure & blood glucose may be the most effective way to stave off kidney disease.

What are the risks associated with poor kidney function?

Kidney disease is the most common risk associated with poor kidney function.

Unfortunately, symptoms typically don't arise until kidney function has fallen to less than 25% of functioning capacity, and irreversible damage has occurred. At which point, dialysis and kidney transplant become the only survival options.

What's the target kidney function reading?

Kidney function readings have 3 main components: Serum Creatinine, Glomerular Filtration Rate (GFR), and Blood Urea Nitrogen (BUN).

- The target reading for serum creatinine is 0.8 - 1.4 mg/dl.
- The target reading for GFR > 60 mg/dl.
- The target reading for BUN is 7 - 20 mg/dl.

How much does this cost?

Cost may vary according to insurance, but typically expect to pay about \$15.00 – \$20.00 *out-of-pocket* for kidney function bloodwork on its own.

Or about \$25.00 - \$30.00 *out-of-pocket* for a metabolic panel which includes **kidney function**, **liver function**, and **glucose** bundled together.

Anything else I should know about kidney function testing?

Yes, when having bloodwork performed, readings for **cholesterol**, **iron**, **inflammation**, **liver function**, and **glucose** can typically be ordered with the same blood sample as **kidney function**.



11 – Vitamin D

Vitamin D differs from other essential vitamins because unlike other vitamins, our bodies can manufacture Vitamin D when ultraviolet sunlight rays strike the skin. This process is known as Vitamin D synthesis.

Many people associate Vitamin D with skincare. And they're right. As low Vitamin D can damage the health, beauty, and longevity of your largest organ, your skin... But Vitamin D's significance doesn't end there.

What are the risks associated with low vitamin D?

Many experts tout Vitamin D deficiency as an under-the-radar "global epidemic" because low levels of Vitamin D have been linked to an increased risk of asthma, gum disease, depression, diabetes, high blood pressure, heart attack, rheumatoid arthritis, multiple sclerosis, and cancers of the breast, colon, prostate, ovaries, esophagus, skin, and lymphatic system.

Vitamin D has even been linked to brain function, fetal development, & obesity.

It's no wonder Vitamin D is said to be the world's deadliest vitamin deficiency.

In fact, a staggering 85% of people in the US are estimated to be Vitamin D deficient.

What's the target Vitamin D reading?

- The target reading for Vitamin D > 30 ng/dl.

How much does this cost?

Lab testing cost for Vitamin D varies more so than any other metric, so check with your physician's office and/or health insurer.

Anything else I should know about Vitamin D testing?

Yes. Vitamin D home-test-kits are available for online purchase from organizations such as vitamindcouncil.org and vendors on amazon.com.

The laboratory test measuring Vitamin D requires its own blood sample.



12 – Waist Circumference

Waist Circumference, like BMI, is a useful non-invasive predictor of morbidity (the state of being diseased) and mortality.

Because some people's natural body composition is less likely to lend itself to a "healthy" BMI score, waist circumference serves as a trustworthy tool with which to cross reference BMI reading.

Registering both high waist circumference & BMI is a strong indication that weight loss is recommended.

What are the risks associated with obesity?

Obesity indicates there are likely excess internal fat deposits coating the heart, liver, kidneys and pancreas.

These excess internal fat deposits put you at a higher risk for obesity-related conditions such as high blood pressure, high cholesterol, inflammation, kidney disease, heart disease, and diabetes.

How do I measure my waist circumference?

To measure your waist, place a tape measure around your naked abdomen just below your ribs, & just above your hip bone.

Be sure the tape measure is snug, but does not compress your skin. Relax, exhale, and measure your waist.

Conclusion

If you'd like, you can think about these 12 metrics like the assembly-line of ingredients at Chipotle.

At Chipotle, each of us begin with the same set of base ingredients.

You may formulate these ingredients to create a chicken bowl, while I may blend the ingredients to build a bean burrito.

But by the time we arrive to the counter, each of us has utilized the base ingredients to produce a favorable Chipotle outcome.

Well the same can be said for your health. You may need to boost your iron level and Vitamin D, while I may need to lower my cholesterol and blood pressure.

But each of us can use these 12 "base ingredients" to produce our most favorable health outcome.

And the residual effect of the mainstream adoption of this assembly-line method would be the widespread reduction of diet-and-lifestyle related chronic disease.

***This white paper was compiled by the founders of TheBigPicture health app,
Cabral Sylvester & Daniel Chartock.***