# This Is For Roberto: A Nutritional Depression Work-Up

It’s Called Nutritional Psychiatry, and To My Mind, It’s the Future (Although It s/b the Present)

February 20, 2025 By Mike Barr

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TL;DR: Mike Barr still can’t think about running into Roberto on Seventh Avenue without getting sad. Roberto — diagnosed “bipolar” at a seventeen-minute Callen Lorde clinic visit (C-L certainly not alone in this) and put immediately on dual antidepressant-antipsychotic therapy — almost certainly had correctable nutritional deficiencies that nobody measured. This post is for him: a real-world case study of integrative psychiatry in action, showing how low B12, elevated homocysteine, low vitamin D, and omega-3 deficiency — identified and treated in a 60-year-old man with treatment-resistant depression — produced dramatic improvements in mood, sleep, energy, and family life. Without changing a single external stressor.

- The clinical question: Before prescribing antidepressants (let alone antipsychotics), did anyone check B12, homocysteine, vitamin D, or omega-3 levels? Almost certainly not.
- The case: “Adam,” 60, on Wellbutrin XL for years, increasingly overwhelmed. Labs: B12 low-normal (239), homocysteine elevated (16.2), vitamin D low (21). Treated with B12 injections, vitamin D, fish oil, and inositol. Two-month follow-up: dramatic improvements across the board.
- The resources: Dr. James Greenblatt’s Integrative Psychiatry Fellowship; Dr. Robert Hedaya’s whole-person psychiatry approach.
- The bottom line: Suppressing symptoms as a long-term plan is not only lazy and myopic — it’s negligent.

[IMAGE: Something warm and human — a hand, a letter, a street corner in the West Village — evoking the Roberto encounter and the personal stakes here]

## This Is For Roberto

I still get super sad when I think back to the day I ran into Roberto on Seventh Avenue — somewhere between where St. Vincent’s used to be and where Barney’s used to be. (Oh god, we’ve lived so long.) I’ve written about this encounter before, in "City of Zombies," but it still

haunts me. Thinking about a full-length book treatment.

Did the Callen Lorde functionaries — however well-intentioned — measure any of these nutritional markers before putting Roberto on dual antidepressant-antipsychotic therapy? Almost certainly not.

Today in my inbox I received a “most excellent” case report from Dr. James Greenblatt — alongside Dr. Robert Hedaya, one of the two thinkers who have most profoundly influenced the way I think about depression, ADHD, bipolar disorder, psycho-affective disorders, anxiety, insomnia, and even neurodegenerative illness.

If you are a clinician — especially a young clinician, but also a mid-career clinician burnt out by the “cut it out, drug it out” approach of conventional medicine — I urge you to look into Dr. Greenblatt’s fellowship. Or even his à la carte online courses.

A nutritional biochemistry approach isn’t competing with a medication-based one — that’s a false comparison. If nutritional deficiencies are playing a role in mental health, they are also affecting cardiovascular, immune, antioxidant, and endocrine pathways. Suppressing symptoms is not only lazy and myopic. It’s negligent.

This vignette might prove inspiring enough to push you to take the plunge. Here goes.

## The Case: “Adam,” 60, Treatment-Resistant Depression

### Initial Presentation

Adam was a 60-year-old businessman with a long history of severe depression who had managed for years on bupropion XL (Wellbutrin XL). More recently he had been feeling increasingly overwhelmed. Sleep was poor and fitful. In the mornings he struggled to get out of bed, delaying his workday by hours. He felt bad about his performance at work and struggled with significant fatigue. A feeling of hopelessness was overtaking him. In desperation he came to the Walden, MA clinic for help — his current medication no longer providing adequate relief.

### Initial Relevant Labs

- Vitamin B12: Low-normal at 239 pg/mL (target: 500–1,500; methylmalonic acid may be a better measure for some)
- Homocysteine: Elevated at 16.2 µmol/L (target: 7 or below)

- Vitamin D: Low at 21 ng/mL (target: 50–80)

## Note that many of these markers — B12, homocysteine, omega-3, vitamin D — are not even considered in a routine psychiatric work-up.

### Working Diagnosis

Major depressive disorder; elevated homocysteine (likely due to low B12); low vitamin D.

### Initial Treatment

- Methylcobalamin (B12) injections, 1 mg three times weekly
- Vitamin D, 5,000 IU daily
- Fish oil, 2,000 mg daily
- Inositol, 1–4 grams at bedtime

### Why Each Intervention

B12: Low vitamin B12 is known to contribute to depression, with supplementation delaying onset and improving medication efficacy. Elevated homocysteine is most often caused by low B12 and/or folate (some add B6, B2, and TMG/betaine) and can contribute directly to depressive symptoms. B12 injections restore levels faster than oral supplementation and often produce a more dramatic clinical response — typically with improvements in both mood and energy.

Vitamin D: Low vitamin D has been associated with multiple mental health conditions including depression. Supplementation has been shown to improve depressive symptoms. I like to use OmegaQuant's vitamin D calculator to help select dose, though note that in the Bredesen brain health world, 50 ng/mL is the lower end of the target range (50–80).

Omega-3s: Not included in Adam's initial work-up, low omega-3 fatty acids are a risk factor not only for depression but various mental health conditions. Supplementation has been shown to improve depression outcomes, potentially increasing remission rates by nearly 20%.

Inositol: Often considered part of the B-vitamin family (though not officially a vitamin), inositol functions as a "secondary messenger" — relaying signals from the cell surface to the interior — for several neurotransmitters including serotonin. Clinical trials for panic disorder show efficacy. When stress or anxiety interfere with sleep, inositol at bedtime may be a useful addition; a study in pregnant women confirms it improves both sleep quality and duration.

### Two-Month Follow-Up

Adam's improvements were dramatic. Inositol led to significant improvements in sleep. His mood lifted and he felt hope again for his future. He was able to re-engage with work, his energy returned, and he reconnected with his husband and children — significantly improving family dynamics. Notably, all these benefits occurred without any change to his external stressors.

## Summary

This case illustrates two important principles.

First: optimizing biochemistry may allow a person to better handle difficult situations they are unable or unwilling to change. Adam's work stress remained unchanged — and yet his outlook improved significantly once his nutrient deficiencies were identified and addressed.

Second: this case demonstrates the importance of investigating underlying biochemical factors in treatment-resistant depression, particularly when conventional medication alone is insufficient. Identifying and treating suboptimal B12, vitamin D, and elevated homocysteine — combined with targeted omega-3 and inositol supplementation — led to meaningful improvements in quality of life, family relationships, and occupational functioning.

# Suppressing symptoms as a long-term plan is not only lazy and myopic — it's negligent.

Find out more about Dr. James Greenblatt's Integrative Psychiatry Fellowship: here

Find out more about Dr. Robert Hedaya and his Chevy Chase, MD practice: here

## Background: The Deficiencies Explained

Elevated homocysteine is a risk factor for non-coronary atherosclerosis and coronary artery disease. Contributing factors include B-vitamin deficiencies, impaired renal excretion, aging, male sex, smoking, alcohol, and genetic enzyme deficiencies.

B12 deficiency can cause anemia, fatigue, neurological symptoms (numbness, tingling, memory loss, depression, even dementia), methylation defects, and chromosomal breaks. Common causes: alcoholism, malabsorption, low stomach acid (from H. pylori, acid-blocking meds, or simple aging), vegan diets, diabetes medications, cholestyramine, neomycin, chloramphenicol. Food sources: shellfish, red meat, poultry, fish, eggs, milk, cheese.

Folate deficiency can cause anemia, fatigue, low methionine, increased homocysteine, impaired immunity, heart disease, birth defects, and elevated cancer risk. Common causes: alcoholism, high-dose NSAIDs, diabetes meds, H2 blockers, some diuretics and anticonvulsants, SSRIs, methotrexate, trimethoprim, sulfasalazine, cholestyramine.

Omega-3 deficiency is associated with impaired growth and development, dry skin, poor wound

healing, increased infection risk, and elevated cardiovascular and inflammatory disease risk. Imbalances have been implicated in autoimmune disease, cardiovascular disease, mood disorders, neurological disease, cognitive decline, COPD, PCOS, asthma, psoriasis, and eczema.

DIY testing note: If you can't get these from your GP, you can order your own B12, vitamin D, homocysteine, and omega-3 tests at MyMedLab, Request A Test, Direct Labs, Any Lab Test Now, Walk-In Lab, or Rupa Health. Note: NY, NJ, sometimes MD and RI restrict DIY testing. (I once took Metro-North to Stamford, CT for mine.)

## References


1. Akpınar Ş, Karadağ MG. Is Vitamin D Important in Anxiety or Depression? Curr Nutr Rep. 2022;11(4):675-681. doi:10.1007/s13668-022-00441-0
2. Antao HS, et al. Omega-3 index as risk factor in psychiatric diseases. Front Psychiatry. 2023;14:1200403. doi:10.3389/fpsyt.2023.1200403
3. Laird EJ, et al. Low vitamin B12 but not folate is associated with incident depressive symptoms in older adults. Br J Nutr. 2023;130(2):268-275. doi:10.1017/S0007114521004748
4. Mashayekh-Amiri S, et al. Impact of myo-inositol supplementation on sleep quality in pregnant women. J Matern Fetal Neonatal Med. 2022;35(18):3415-3423. doi:10.1080/14767058.2020.1818225
5. Moradi F, et al. Association between serum homocysteine and depression. Eur J Clin Invest. 2021;51(5):e13486. doi:10.1111/eci.13486
6. Musazadeh V, et al. Vitamin D protects against depression: umbrella meta-analysis. Pharmacol Res. 2023;187:106605. doi:10.1016/j.phrs.2022.106605
7. Norouziasl R, et al. Efficacy and safety of n-3 fatty acids on depression. Br J Nutr. 2024;131(4):658-671. doi:10.1017/S0007114523002052
8. Palatnik A, et al. Inositol versus fluvoxamine for panic disorder. J Clin Psychopharmacol. 2001;21(3):335-339. doi:10.1097/00004714-200106000-00014
9. Sangle P, et al. Vitamin B12 Supplementation: Preventing Onset and Improving Prognosis of Depression. Cureus. 2020;12(10):e11169. doi:10.7759/cureus.11169
10. Vadnal R, et al. Role of Inositol in the Treatment of Psychiatric Disorders. CNS Drugs. 1997;7:6–16. doi:10.2165/00023210-199707010-00002


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