

Beyond Patient Education: Integrating a Functional Medicine Approach in Primary Care to Optimize Health and Reduce Prevalence of Disease.

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Background and Clinical Question

Health care expenditure account for 17% of the United States gross domestic product, totally 4.5 trillion dollars annually. (CMS,2024). Despite high cost, the United States has the worst health care outcomes amongst other high-income countries. Chronic disease and preventable death continues to plague the United States Healthcare System despite having the highest healthcare expenditure cost globally. Obesity has been linked to mental illness, premature death, cancer and cardiovascular disease. (Dettoni et al., 2023) Presently, cardiovascular disease is the most prevalent preventable disease in the United States and contributes to over 700,000 deaths annually. Equating to one death every 33 seconds or one in every five deaths. (Cdc, 2024). Contributing factors for the development of cardiovascular disease include non modifiable and modifiable risk factors such as diet, lifestyle, alcohol intake, smoking, hypertension and obesity. As society norms favor an increased sedentary lifestyle, obesity rates in the United States are predicted to increase which contribute to increased prevalence of disease. By the year 2030, it is estimated that 50% of the United States population will be classified as obese. Prompt proactive interventions are essential to curtail preventable death and improve health outcomes. Functional medicine is an alternative to conventional health care delivery and may lead to improved health outcomes. It is time health practitioners extend beyond current practices to provide an enhanced patient experience. Integrating a functional medicine approach to primary care may offer a different clinical perspective to improve health outcomes.

What is Functional Medicine?

Functional medicine is a systems biology-based approach that focuses on identifying and addressing the root cause of disease.

Seven defining characteristics of function medicine:

- Patient centered versus disease centered
- Systems biology approach, web-like interconnection of physiological factors
- Dynamic balance of gene-environment interactions.
- Personalized based on biochemical individuality.
- Promotion of organ reserve and sustained health span.

Purpose Statement

Enrollees in the functional medicine pilot program will demonstrate improved clinical outcomes as evidenced by improvement in Patient-Reported Outcome Measurement Information System (PROMIS) global health score, predictive biomarkers and physiological parameters after one year.

Current Evidence

- A Retrospective 10 week cohort study conducted at Cleveland Clinic - Functional Medicine revealed that patients reported improved outcomes at 3 months after a pilot study of 2455 patients via a Patient-Reported Outcome Measurement Information System (PROMIS) Global Physical Health (GPH) score - components of study included a 10-week function medical program that focused on five condition-specific cohorts: weight management, autoimmune, digestive disorders, women's health, and diabetes. Teams included a provider, health coach and registered dietician. (Beidelschies et al., 2019).
- Cohort study of 7252 eligible patients (functional medicine center, family health center functional medicine patients exhibited significantly larger improvements in Patient-Reported Outcome Measurement Information System Global Physical Health at 6 months than propensity-matched patients at a family health center. (Beidelschies et al., 2021).

Methodology

Population: voluntary enrollment of 1500 Medicaid Recipients

Practice setting: Primary care

Ethical considerations: Social determinants of health such as housing insecurity, financial, transportation, education level, health literacy.

Cost Analysis

Average medicaid enrollee cost per year in Idaho: \$7500

Proposed increase of annual cost to \$9000 per year.

\$75 Out of pocket enrollment fee

Labs: negotiated flat rate \$900

Use of prolonged visit codes ie., 99215
Current Medicaid reimbursement rate:103.25
Increase reimbursement to \$200 flat rate

Stipend for vitamin supplementation

Design

Voluntary one year pilot program for medicaid recipients in Idaho in conjunction with the Idaho Department of Health and Welfare. Pilot program will integrate a functional medicine approach for primary care patients.

Components of study to include:

Extended patient encounters with appropriate reimbursement which allows for more robust history and physical, enhances patient-provider relationship as a means to influence treatment adherence. Provider visits every three months.

Additional wellness labs to include:

Nutreval (blood and urine profile that evaluates over 125 biomarkers- assess presence of amino acid deficiencies, micro/macro nutrient deficiencies

Homocysteine; to evaluate risk factor for development of CVD and indications for B vitamin supplementation (Kumar et al., 2017).

High sensitivity CRP: Inflammatory marker. Inflammation correlates to development of chronic disease. (Wolska et al., 2022).

Fasting insulin: Assess insulin resistance, metabolic derangement. (Madan et al., 2024).

Waist to hip ratio: Central adiposity vs peripheral more specific for risk assessment. (Cabral et al., 2019).

Nutrition consult: Initial and 6 month consult discussing dietary modifications in accordance with nutrient deficiencies

Nurse health coach: Patient advocate, track progress and encourage lifestyle and diet modifications and address concerns via bimonthly phone calls.

Supplement recommendations based on clinical presentation, Initiate supplement interventions to pharmacotherapy if can do so safely.

Anticipated Results

- Increase in PROMIS score
- Reduction of high sensitivity CRP, homocysteine, fasting insulin, waist to hip ratio
- Enhanced patient health literacy
- Enhanced patient-provider relations
- Improvement in work satisfaction
- Decreased primary care turnover

Relevant processes of project implementation:

- State funded subsidy
- Active patient involvement
- Digital patient health information platform

Evaluation

- Patient- Reported Outcome Measurement Information System
- Predictive biomarkers
- Physiological parameters

Conclusion

Functional medicine shows promise for improvements in patient reported quality of life and patient outcomes. The field of functional medicine is gaining substantial popularity as current conventional health care delivery model fails to produce favorable health outcomes despite high associated cost. As health trends tip toward increased occurrence of chronic disease and preventable death, a more robust proactive approach is warranted. current health trends As the nation tips towards increased prevalence of chronic disease, the time is now to implement change to our current health care delivery model. As medical technology advances, we are able to cater our treatment plans to fit the health needs of the individual promoting better and greater health literacy. As nurses, a holistic approach to health is a core belief system in the nurse care model. Advanced practice registered nurses are in a unique position to pursue deeper methods of primary care management to improve patient-provider relations, improve health literacy and reduce prevalence of disease.

Future Recommendations

Data collected from pilot study may influence future implementation strategies for an expanded functional medicine integration in primary care for Medicaid recipients.

Clinical Implications

Integration of a functional medicine approach in primary care for medicaid recipients may improve clinical outcomes, health literacy, reduce prevalence of disease and facilitate enhanced management of chronic disease. Conversely, may lead to a decrease in provider burnout and reduce turn over in primary care.

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