



INCLINE INSIGHTS

Food is Medicine and Total Cost of Care

A Medicaid lens, and a blueprint for commercial, self-funded and Medicare Advantage payers

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Food is Medicine: Lower Total Cost of Care, on the Right Terms

Food is Medicine (FIM) can lower total cost of care (TCOC), but it must be tailored to the right members, at the right intensity, and measured over the right horizon. Emerging 2026 evidence is the strongest yet: medically tailored meals in Massachusetts Medicaid cut hospitalizations 31% and offset 98% of program cost within about six months¹, and North Carolina's Healthy Opportunities Pilots lowered spending \$164 per member per month (PMPM), net of administration².

The risk is execution, not concept. Incline modeled what happens when a successful pilot grows. Taking the first three years of outcomes from the FreshRx produce-prescription pilot in Tulsa, we scaled the program to about 5,900 members, roughly 5% of Oklahoma's Type 2 diabetic Medicaid population³. Results swing from a \$6.5M annual loss if only a quarter of the pilot's effect holds at scale to a \$28.5M annual gain if 90% of it holds. Breakeven sits between 50% and 75%.

Three principles for plans and states:

- **Target high-acuity members.** Near-term savings concentrate where inpatient and emergency department (ED) spend is high. Broad, low-intensity food benefits rarely pay back on their own.
- **Price the savings curve, not Year 1.** Costs land on day one. Acute-care offsets build over 6–18 months; savings from slowing chronic disease take years. A single-year rate snapshot will understate value.
- **Build the financing case actuarially.** New 1115 budget neutrality rules (effective January 1, 2027) require prospective, actuary-certified savings. FIM programs without credible TCOC modeling will not get approved.

This paper's central finding: Food is Medicine pays back when it is targeted to high-acuity members, priced on a multi-year savings curve, and documented to an actuarial standard. Near-term savings in hospital and ED use can arrive within months; savings from slowing chronic disease take years. Whether a program saves money at scale depends most on how much of its pilot effect holds as it grows.

This report was authored by Colby Schaeffer, ASA, MAAA at Incline Actuarial Group. The purpose is to help readers understand the total cost of care implications of Food is Medicine programs for Medicaid and other payers. This information may not be appropriate, and should not be used, for other purposes, including as legal advice. The author was not engaged nor compensated by any organization to prepare this paper. Incline Actuarial Group does not endorse any specific policy, regulatory, or operational action on matters discussed in this report.

The author is a credentialed actuary, an Associate of the Society of Actuaries and Member of the American Academy of Actuaries, with professional experience in Medicaid managed care capitation rate development and certification. This paper has been prepared in accordance with the applicable Actuarial Standards of Practice ("ASOPs") promulgated by the Actuarial Standards Board, including ASOP No. 41, Actuarial Communications.

The analysis draws on publicly available sources cited throughout the report and on Incline's internal Food is Medicine scale-up model, which applies first-three-year outcomes from the FreshRx produce-prescription pilot in Tulsa, Oklahoma to a larger Medicaid population. Scenario results are illustrative and sensitive to the share of pilot effect assumed to hold at scale. The paper reflects these sources as of its date, and the author undertakes no obligation to update it for subsequent developments.

EVIDENCE REVIEW

What the Evidence Says

The evidence splits by intensity and acuity. High-touch interventions for sick, high-cost members show TCOC savings; broad, lower-intensity programs often do not. Exhibit 1 summarizes the four most relevant recent studies.

EXHIBIT 1

Recent Food is Medicine Evidence: Intensity and Acuity Drive TCOC Results

STUDY	INTERVENTION	POPULATION AND TARGETING	DESIGN	TCOC FINDING
Massachusetts Medicaid MTM¹ Hager, Mozaffarian; <i>Nature Medicine</i> , June 2026	Medically tailored meals, 10/week, plus dietitian	1,866 MassHealth (Medicaid/CHIP) members, 11 health systems, 2020–23. Narrow: a diet-related condition plus food insecurity	Observational, propensity-weighted pre/post vs. 1,372 comparators	Hospitalizations –31%, ED –20%; cost down \$3,433 per person over ~6 months, offsetting 98% of program cost; net savings for CHF, CKD, diabetes, depression
NC Healthy Opportunities Pilots^{2,4} NCDHHS, June 2026; Berkowitz et al., <i>JAMA</i>	Food, housing, transportation and interpersonal-safety services, with care-manager screening and referral	31,000+ managed care enrollees, 2022–24 (<i>JAMA</i> : 13,227 Medicaid enrollees vs. 73,469 comparators). Broad: any health risk plus any social risk	Comparison vs. non-pilot counties	–\$164 PMPM including admin; fewer ED and inpatient stays, more primary care. <i>JAMA</i> : –\$85 PMPM trend; spend up in month 1, breakeven by ~month 8, lower thereafter
Feeding America Food as Medicine 3.0⁵ July 2026	Screen, refer and provide food through food banks; nutrition education and SNAP enrollment at some sites	1.46M screened, 162,000 received food; 21 food banks, 13 states. Broad: screening-based	Pre/post survey; claims sub-study, 213 vs. 6,015 comparators	Food security +7 points; self-reported ED visits 36.7% to 32.7%, hospitalizations 19.2% to 16.5%; HbA1c down 0.8–1.0 at two sites; no significant claims-based change
Intensive FIM RCT⁶ Doyle et al.; <i>JAMA IM</i> , Dec 2023	Food for 10 meals/week plus clinical support	500 Type 2 diabetics, HbA1c >8%, food insecure	Randomized	No HbA1c difference vs. control at six months; more health system engagement

Source: studies as cited. MTM = medically tailored meals; RCT = randomized controlled trial.

Reading the Evidence as an Actuary

- **Intensity and acuity drive near-term savings.** The two programs with TCOC savings, Massachusetts and North Carolina, were intensive or care-managed and reached members with real acute-care risk. FAM3's broad, lower-intensity model improved food security and, at some sites, HbA1c, but showed no claims-based change in its small insured sample.
- **Broad targeting can work with a strong operating model.** Massachusetts targeted narrowly with one intensive meal program. North Carolina was broader, but its savings came with care managers screening, referring and reviewing services every three months, and with members shifting toward primary care.
- **Clinical markers and costs move on different clocks.** The RCT found no HbA1c difference at six months; FAM3 found improvement at two sites. HbA1c is the leading indicator for chronic-disease progression, and its cost return takes years. A flat six-month HbA1c result is not proof of no value, and a short-run drop in admissions is not the full return.
- **Observational designs dominate.** Matched comparisons are directionally strong but carry selection risk. The one large RCT on clinical markers was null, which is the counterargument CMS and skeptical state budget offices will raise.

FRAMEWORK

Why Total Cost of Care Is the Right Lens

FIM should be judged on net PMPM across a longitudinal view of multiple years of premium, not on the cost of a meal benefit in isolation. A \$10 meal is expensive if it buys nothing and “cheap” if it avoids a \$15,000 admission.

An alternative way to evaluate the impact of FIM and other benefits is to group spending not by typical service categories (hospital, professional, pharmacy) but by the diagnoses and rationale behind the spend. Exhibit 2 is our view of those categories: where the investment lands and how it offsets other categories over time. Each runs on its own clock, which is why FIM can show savings within months and still need years to pay off in full.

EXHIBIT 2

Where FIM Spend Lands, Where It Pays Back, and When

SPENDING CATEGORY	WHAT IT COVERS	FIM ROLE	WHEN IT SHOWS UP
Acute care	Inpatient, ED, high-cost episodes	OFFSET Avoided admissions, readmissions and ED visits	Near term: months, for high-acuity members
Chronic disease	Diabetes, CHF, CKD, pharmacy	OFFSET Slowed disease progression; most impactful, slowest to measure	Long term: years
Preventive and primary care	Screening, primary care, care management	COST Adds referral and navigation; use may rise as members engage	Ongoing
Food and social supports	Meals, produce, nutrition counseling, HRSN and 1115 services	SPEND Where FIM cost lands	Day one
Long-term care	Nursing facility, HCBS	OFFSET Delayed or avoided institutional placement	Longest horizon: years to decades

Source: Incline Actuarial Group framework. HRSN = health-related social needs; HCBS = home and community-based services.

Chronic disease is the most impactful category and the hardest to measure. The return is cost avoidance: keeping members from progressing into more, and costlier, chronic conditions. People with diagnosed diabetes average about \$19,736 a year in medical spending, roughly 2.6 times what would be expected without diabetes⁷. Diagnosed in midlife, that is hundreds of thousands of dollars over a lifetime, before dialysis.

The Horizon Problem

Health coverage is typically a one-year contract against a decades-long disease process. Acute-care savings for high-cost members can show up within a contract year. Chronic-disease and long-term care savings often arrive after the member has moved to another plan or payer, so the payer that funds prevention may never book the gain.

Who captures the return depends on the payer's horizon:

- **Self-funded employers with stable workforces** capture chronic-disease avoidance the way they capture any wellness investment: as lower trend over several years, not a Year 1 return.
- **State Medicaid agencies** keep the liability, including long-term care, as members cycle among managed care organizations (MCOs). Under an 1115 waiver, budget neutrality is measured over the demonstration period, which fits a multi-year savings curve.
- **Medicaid MCOs** on one-year rates, with members churning, have the shortest horizon, which is why rate treatment matters.

In Medicaid, that makes the state the natural long-horizon sponsor of FIM. In practice, as the policy section shows, most financing today runs through MCOs, and state-funded programs are exposed to annual budgets: North Carolina's pilots were paused for lack of state funding, not results. Whoever funds the benefit, the case calls for multi-year financing and multi-year evaluation.

ACTUARIAL ANALYSIS

The Actuarial Reality: Do Pilot Results Hold at Scale?

The starting point is an observed result. Since 2021, FreshRx Oklahoma has provided twelve months of biweekly local produce, plus cooking and nutrition classes, to patients with uncontrolled diabetes in north Tulsa. Participants' HbA1c fell an average of 2.2 points, with blood pressure down an average of 13 points and weight down 9 pounds⁸.

The actuarial question is what that result is worth as the program grows. Pilot results come from small, closely supported cohorts, and effects often dilute at scale. Incline applied the pilot's first-three-year outcomes to about 5,900 members, roughly 5% of Oklahoma's 118,000 Type 2 diabetic Medicaid members (baseline medical cost about \$1,290 PMPM)³, and tested how much of the pilot effect must hold for the program to pay back.

EXHIBIT 3

FreshRx Scale-Up Stress Test: About 5,900 Oklahoma Type 2 Diabetic Medicaid Members

SHARE OF PILOT EFFECT REALIZED AT SCALE	ANNUAL NET SAVINGS	NET PMPM	MEDICAL COST CHANGE
25%	-\$6.5M	-\$91	+5.8%
50%	-\$2.3M	-\$33	+2.1%
75%	+\$9.8M	+\$138	-8.8%
90%	+\$28.5M	+\$403	-25.6%

Source: Incline Actuarial Group Food is Medicine scale-up model, applied to FreshRx first-three-year pilot outcomes.

Read Exhibit 3 as a stress test of a smaller observed result, not a forecast. Breakeven sits between 50% and 75%: the program pays back only if most of the pilot effect survives scale-up. That is the assumption a sponsor, an MCO or a budget office should test before committing. Note that this modeling is conservative and shows the totality of short-term results rather than a month-by-month analysis. Incline is enhancing the model to show greater detail on downstream cost prevention and when TCOC decreases relative to the upfront investment.

ACTUARIAL NOTE

Program cost at scale runs about \$150–160 PMPM. Food is roughly \$50 PMPM and does not scale down; fixed administration (about \$56–57K) spreads as enrollment grows. Current small-cohort PMPM is roughly double the at-scale figure, which is why pilot economics alone mislead.

Four Issues That Drive the Rate-Setting Answer

They are framed for Medicaid, but each has a direct parallel in commercial, self-funded and Medicare Advantage pricing:

1. **Timing.** Costs are immediate. Acute-care offsets emerge over 6–18 months; North Carolina hit breakeven around month eight. Chronic-disease offsets keep accruing for years. A one-year base period captures the cost and misses most of the benefit.

2. **Attribution.** Savings must be separated from regression to the mean, selection and concurrent care management. This is where comparison-group design, run-out and risk adjustment earn their keep.
3. **Rate treatment.** In Medicaid managed care, FIM can sit in capitation as an in-lieu-of service (ILOS, subject to the cost cap and a documented cost-effectiveness basis), be funded as a value-added benefit from plan margin, or run as a separate 1115 expenditure. Each lands differently in the rate certification and the MLR. The parallels: supplemental benefits (SSBCI) priced into a Medicare Advantage bid, and wellness or care-management benefits priced into commercial and self-funded premiums.
4. **Durability.** Offsets erode when members churn, disenroll or lose eligibility. Work-requirement disenrollment beginning in 2027 shortens the window in which a Medicaid plan captures its return. Fully insured commercial plans face a similar problem through job and plan turnover; self-funded employers with stable workforces are the exception.

POLICY LANDSCAPE

Policy Landscape: Rising Interest, Narrowing Financing

Federal interest in FIM is rising while the financing path is narrowing. The burden of proof has shifted to actuarial savings.

DATE	DEVELOPMENT	TCOC IMPLICATION
March 2025	CMS rescinds 2023–24 HRSN bulletins and framework; existing waivers stand	No new "hypothetical" HRSN expenditure authority; renewals face scrutiny
July 2025	NC Healthy Opportunities Pilots suspended for lack of state funding (CMS authority runs to 2029)	Best-evidence program paused on budget, not results
April 2026	Accountable Produce is Medicine Act (H.R. 8355), Reps. Smucker and Davids ⁹	Directs CMMI to test a bundled payment model with produce prescriptions for chronic disease, with accountability tied to spending

DATE	DEVELOPMENT	TCOC IMPLICATION
June 2026	CMS 1115 budget neutrality guidance implementing H.R. 1 §71118 ¹⁰	Budget neutrality codified; Chief Actuary certifies prospective savings; "hypothetical" replaced by narrower MAPS; HRSN services judged individually and must be offset
Jan. 1, 2027	New budget neutrality rules effective for applications, amendments and renewals	Comprehensive waivers in AZ, MA, NY, OR, UT and VT expire in 2027 and must re-qualify

Two pathways remain open regardless of 1115 direction: managed care ILOS and plan-funded value-added benefits. This is why financing has shifted toward MCOs, even though the state remains the natural long-horizon sponsor. On the Medicare side, Medicare Advantage plans can offer food and produce under SSBCI, and payer-funded C-SNPs designed around FIM are emerging.

State legislatures are moving faster than agencies. Oklahoma's SB 806 directs its Medicaid agency to seek federal approval for nutrition supports and to prioritize local growers, but implementation has stalled on budget and federal-authority questions. That gap between statute and financing is where actuarial work decides outcomes.

Local Sourcing Is a Separate Decision

Some states want Medicaid to anchor demand for local farms: Hawai'i's 1115 waiver explicitly supports local food procurement¹¹, and SB 806 prioritizes local growers in statute. The actuarial question is the difference between *prioritizing* local food and *requiring* it. A local-sourcing requirement can raise the food line (roughly \$50 PMPM in Incline's model) and add supply risk if smaller producers cannot meet demand. The regional economic return is real, but it sits outside TCOC and outside 1115 budget neutrality. States that want both should price the local premium explicitly and fund it as an economic development choice, not bury it in the savings case.

What Plans, States, and Providers Should Do Now

STAKEHOLDER	WHAT TO DO NOW	RISK IF IGNORED
Medicaid MCOs	Target FIM to high-utilizer CHF, CKD, diabetes and BH members; build ILOS cost-effectiveness documentation; track TCOC with a comparison group from day one	Value-added spend that never earns rate recognition; margin drag
State Medicaid agencies	Model FIM on a multi-year savings curve; decide ILOS vs. 1115 vs. state plan early; prepare prospective budget neutrality math before January 2027	Waiver amendments that fail certification; legislative mandates with no financing path
CBOs and FIM providers	Price PMPM at scale, not pilot cost; define outcome measures payers recognize (admits, ED, TCOC); move from grants to contracts	Indefinite pilots funded by philanthropy
MA plans and C-SNPs	Use SSBCI and FIM-designed C-SNPs; tie benefit design to bid-pricing assumptions	Benefit cost without documented offset in the bid

Operational Readiness Decides Who Can Scale

A useful test, adapted from a recent practitioner scan of state FIM markets, asks six questions: Is the service defined? Who qualifies? How is it paid for? What data is required? How is it reported? Would it survive an audit? Few states answer all six today. They are the same questions a rate certification or a Chief Actuary budget neutrality review will ask, so actuarial documentation is what moves a state from pilot to product.

Data is often the binding constraint: FAM3 cited data use agreements and limited funding for clinical data sharing as core barriers⁵. Large plans can absorb uneven rules across states. Smaller CBOs and food banks cannot, which is why they stall in grant-funded pilots.

CONCLUSION

A Priced, Measured Medical Intervention

FIM also cannot be treated as one-time assistance. A benefit that ends when the funding does risks a fiscal cliff, much like the concern with GLP-1s: when the intervention stops, clinical gains erode and the costs it was holding back return. Durable savings depend on behavior change, with members who keep eating differently after the meals or produce stop. That means building nutrition education, care management and a step-down path into the program design, and pricing the program over the period that change takes to stick.

The common thread: FIM succeeds financially when it is treated as a priced, measured medical intervention, not a goodwill benefit.

WORK WITH INCLINE

Incline Actuarial Group has built FIM cost-benefit models from state Medicaid claims, presented FIM TCOC findings at the 2026 SOA Health Meeting, and supports state budget neutrality and 1115 work. We can assist with TCOC and ROI modeling, rate-setting support, 1115 budget neutrality analysis, program evaluation, and benefit design for government agencies, MCOs, and risk-bearing providers and vendors.

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This paper was prepared by Incline Actuarial Group. All views represent the professional judgment of Incline's actuarial team based on publicly available sources and Incline's internal Food is Medicine scale-up model as of October 21, 2026.

This does not constitute legal advice. For questions, contact Incline Actuarial Group.

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