



**African Health
Policy Alliance**

PREVENTIVE HEALTHCARE AS INVESTMENT IN HUMAN CAPITAL AND FISCAL SUSTAINABILITY

**Harnessing the Economic Benefits of Prevention –
Recommendations for Policy Reform**

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Contents

Executive Summary	4
1. Introduction: Reframing Preventive Healthcare as Economic Investment	5
2. Why Prevention Is Underfinanced	6
2.1 <i>The Intertemporal Problem</i>	<i>6</i>
2.2 <i>Misclassification as Consumption.....</i>	<i>6</i>
2.3 <i>Dispersed Benefits, Concentrated Costs.....</i>	<i>6</i>
2.4 <i>Narrow Measurement Scope</i>	<i>7</i>
3. Health as Human Capital.....	7
3.1 <i>Labour Supply Channel</i>	<i>8</i>
3.2 <i>Productivity Channel</i>	<i>8</i>
3.3 <i>Public Finance Channel.....</i>	<i>8</i>
3.4 <i>Life-Course and Intergenerational Channel.....</i>	<i>8</i>
4. Empirical Evidence: The Economic Benefits of Prevention	10
4.1 <i>NCD Prevention: Macroeconomic Projections and Cost-Effectiveness</i>	<i>10</i>
4.2 <i>Infectious Disease Prevention and Restored Labour Capacity</i>	<i>12</i>
4.3 <i>Early-Life Health and Intergenerational Returns</i>	<i>12</i>
4.4 <i>Population-Wide Risk Reduction: The North Karelia Evidence.....</i>	<i>12</i>
4.5 <i>Health Taxes as Prevention Revenue Instruments</i>	<i>13</i>
4.7 <i>Mental Health Prevention: The Neglected Productivity Crisis</i>	<i>14</i>
5. Southern Africa: Prevention as a Human Capital Strategy	15
6. Policy Framework for Finance and Health Ministries	17
6.1 <i>Adopt a Dual Evaluation Framework</i>	<i>17</i>
6.2 <i>Protect Prevention in Medium-Term Expenditure Frameworks</i>	<i>17</i>
6.3 <i>Build Prevention Through Primary Care Infrastructure</i>	<i>17</i>
6.4 <i>Strengthen Cross-Ministerial Coordination</i>	<i>18</i>
6.5 <i>Integrate Economic Evaluation with Epidemiological Monitoring</i>	<i>18</i>
6.6 <i>Use Health Taxes and Regulatory Policy Strategically</i>	<i>18</i>
6.7 <i>Prioritise Early-Life and Working-Age Prevention</i>	<i>18</i>
6.8 <i>Avoid False Dichotomies Between Prevention and Treatment</i>	<i>18</i>
7. Reclassifying Prevention: The Case for Fiscal Accounting Reform	19
7.1 <i>The Classification Problem: Prevention as Recurrent Spending</i>	<i>19</i>

7.2 Medium-Term Expenditure Frameworks as a Partial Solution	20
7.3 Cross-Ministerial Fiscal Crediting	20
7.4 Measurement Standards: Bridging Epidemiology and Economics	21
Conclusion.....	22
References	24



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Executive Summary

The importance of preventive healthcare for fiscal sustainability has been chronically overlooked. It ought to be treated as a strategic investment in human capital, not as a discretionary line item within health expenditure. When governments invest upstream to reduce avoidable disease, they strengthen the productive capacity of the labour force, expand the future tax base, and reduce long-run pressure on public budgets. Prevention belongs near the core of any credible growth and fiscal strategy.

There is an abundance of evidence to support this thesis. The WHO estimates that every \$1 invested in the "Best Buys"¹ to tackle non-communicable diseases (NCDs) [1] in low- and lower-middle-income countries yields a return of at least \$7 by 2030 [1]. A landmark 2022 Lancet analysis found that a package of 21 cost-effective NCD interventions—requiring approximately \$18 billion per year over 2023–2030—could save 39 million lives and generate a net economic benefit of \$2.7 trillion, representing a return on investment of 19:1 [2]. A 2025 OECD report quantifies that reducing NCD risk factors to the level of the best-performing OECD countries would increase annual GDP across the OECD by 1.3%—equivalent to nearly \$1 trillion USD PPP per year [3].

The fiscal logic operates through three principal channels: labour supply (prevention extends healthy working lives and reduces premature exit from the workforce); productivity (healthier workers produce more output per hour worked, with lower absenteeism and presenteeism); and public finance (larger tax bases and lower downstream treatment expenditure). The WEF/Harvard Commission estimated that NCDs will cost the global economy more than \$30 trillion over 2011–2030 [4], while the OECD projects that OECD economies will be 3.3% smaller [3] than they would otherwise be due to overweight alone.

These dynamics are especially salient in economies with a dual communicable and non-communicable disease burden, constrained fiscal space, and high structural unemployment—conditions that characterise much of Southern Africa. Preventive investment in these settings is not a luxury for later; it is itself part of the growth strategy.

This paper argues for a dual-lens policy framework through which governments evaluate prevention through both societal-return and budget-return lenses, protecting core preventive programmes within medium-term expenditure frameworks, building primary care infrastructure as a platform for human capital protection, and integrating health and fiscal ministries as co-owners of prevention strategy.

¹ The WHO NCD "Best Buys" are a set of highly cost-effective, evidence-based policy interventions, costing \$100\$ International Dollars or less per Healthy Life Year gained, focused on reducing tobacco, alcohol, unhealthy diets, and physical inactivity alongside scaling critical clinical management.

1. Introduction: Reframing Preventive Healthcare as Economic Investment

Preventive healthcare is most often framed in public-health terms: it saves lives, reduces suffering, and improves quality of life. That framing is accurate, but it can obscure another dimension that is equally important to the well-being of individuals and societies. For governments facing low growth, labour-market fragility, and rising health-system costs, prevention is also an economic instrument. It shapes the effective supply of labour, household income growth, and the long-term stability of public finances.

Historically, the economic value of preventive healthcare has been greatly misunderstood. In most public-finance systems, preventive services compete each year with more visible curative demands. Acute care is politically immediate, while prevention is diffuse, cross-sectoral, and slower to show results. This creates a structural bias: governments are rewarded more for treating illness now than for preventing later onset. The effects are well known. Health systems spend heavily on conditions that earlier intervention could have delayed, reduced, or partly avoided. Public finances then bear the cost twice—through higher treatment spending and through weaker labour-market performance and lower revenues. A treatment-centred model is therefore not only reactive; it can also suppress growth.

That cost is substantial. The OECD's 2025 report on the health and economic benefits of tackling NCDs projects that, on average, NCDs will reduce annual GDP across OECD countries by approximately 3.3% due to overweight alone [3], while the four major NCDs—cardiovascular disease, cancer, chronic respiratory illness, and diabetes—will account for an estimated 44% of premature mortality across the OECD between 2026 and 2050 [3]. These are not abstract projections. They represent a foreseeable, and significantly avoidable, destruction of human and fiscal capital.

The objective of this paper is to formalise a different way of thinking about prevention: drawing on human capital theory and a strengthened body of comparative empirical evidence, it argues that preventive health investment increases the stock of productive capacity embedded in the population, affecting growth and fiscal outcomes through labour supply, productivity, and public finance channels. The paper then develops a practical policy agenda for ministries of finance and health.

Reframing prevention in this way does not require abandoning conventional public-health goals; rather, it requires making explicit the economic mechanisms through which those goals are achieved. A reduction in avoidable disease is simultaneously a welfare gain, a labour-market intervention, and a fiscal stabiliser. The same immunisation programme that lowers morbidity can also reduce household income volatility, prevent school interruption, and protect future tax receipts. Likewise, the same community-level hypertension programme that reduces strokes and heart attacks can preserve years of productive work, reduce disability

dependency, and lower pressure on tertiary hospitals. Once these channels are made visible, prevention becomes legible not only to clinicians and epidemiologists but also to treasuries, planning ministries, and growth-oriented policymakers. The practical significance of this paper, therefore, lies not only in arguing that prevention matters, but in providing a framework for describing its value in the language through which modern states allocate scarce resources.

2. Why Prevention Is Underfinanced

Underinvestment in prevention is not primarily a technical failure. It reflects the incentive structures within which political and budgetary institutions operate. Four structural biases are particularly important.

2.1 The Intertemporal Problem

Prevention requires spending today while benefits emerge over a longer horizon. Tobacco control, salt reduction, early detection, maternal nutrition, vaccination, or community hypertension management may not transform expenditure on a one-year budget horizon, even when they produce large returns over a decade or more. Wang and Wang (2021), analysing OECD country experiences, find that the optimal share of preventive health expenditure in GDP is approximately 1.175% [5]—yet the actual OECD average stands at just 0.237% [5], a fraction of the economically optimal level. That gap reflects not evidence of prevention's ineffectiveness but a systematic underweighting of long-horizon benefits in political decision-making.

2.2 Misclassification as Consumption

Public budgeting frameworks typically classify prevention as current spending rather than as investment in future productive capacity. That label matters: capital expenditures are more likely to be defended as growth-enhancing, whereas preventive health spending is treated as an optional add-on. From an economic standpoint, this classification is misleading. A vaccination programme, a maternal nutrition programme, or an integrated NCD-risk reduction package may be no less investment-like than school infrastructure or workforce training, because the purpose is identical: to raise future productive capacity.

2.3 Dispersed Benefits, Concentrated Costs

The ministry of health typically pays for prevention, but the gains are distributed across the economy. Ministries of labour benefit from improved workforce participation; education systems benefit when healthier children learn more effectively; finance ministries benefit from larger tax bases and lower medium-term expenditure growth; employers benefit from lower absenteeism; households benefit from more stable income. Because benefits are dispersed while budget costs are concentrated, prevention can be underprovided even when its aggregate return is high—a classic public-goods undersupply problem.

2.4 Narrow Measurement Scope

Prevention is frequently assessed only through epidemiological metrics: incidence, mortality, years of life lost. This narrows the basis for decision-making. When the broader economic returns—labour-force participation, productivity, earnings, fiscal exposure, distributional resilience—are excluded from evaluation, ministries of finance have no formal basis for treating prevention as relevant to their core calculus. Broadening the measurement framework is not merely an accounting preference; it is a precondition for correcting chronic underinvestment.

A 2025 OECD study demonstrates this measurement gap empirically. Linking NCD risk factors to labour-market outcomes through a Cobb-Douglas production framework, it estimates that if OECD countries reduced key risk factors to the level of the top-performing quarter, annual GDP would be 1.3% higher, health expenditure 6.2% lower, and premature mortality 11.4% reduced by 2050 (OECD, 2025) [3].

This measurement problem also helps explain why prevention is repeatedly crowded out during periods of fiscal consolidation. When governments focus on near-term cash costs while omitting wider economic effects, preventive programmes appear easier to defer than curative services whose beneficiaries are immediately visible. Yet this is a distortion created by the accounting lens rather than by the underlying economics. A government that cuts vaccination outreach, screening capacity, tobacco-control enforcement, or school nutrition may record a short-run budget saving, but it is also increasing the probability of future expenditure spikes, weaker labour-force performance, and lower household resilience. In this sense, narrow metrics do not merely fail to capture prevention's benefits; they can actively generate policy choices that worsen long-run fiscal sustainability. A more complete evaluative framework is therefore not simply a better way to describe prevention. It is a necessary condition for budgeting rationally under demographic and epidemiological transition.

3. Health as Human Capital

The human capital framework provides the theoretical foundation for understanding why preventive health investment yields long-run economic returns. The central insight, formalised by Grossman (1972), is that health is not only a consumption good; it is a productive asset [6]. Individuals with better health supply more labour, perform more effectively, invest more in education and skills over the life course, and remain economically active for longer. At the aggregate level, these effects raise output and improve the resilience of public finance. Mushkin (1962) identified health and education as the two principal dimensions of human capital investment, noting that improvements in either dimension raise the productivity of the labour force [7]. This paper identifies three principal transmission channels from prevention to economic and fiscal outcomes.

3.1 Labour Supply Channel

Better health increases the probability that individuals participate in the labour market and remain there. It reduces the likelihood of premature mortality, work-limiting illness, and early exit from employment. The Lancet Healthy Longevity Commission (2021) estimates that a one-year extension of healthy working life increases GDP by approximately 1% in the UK [8], while calculating the economic value of a slowdown in biological ageing yielding a one-year increase in life expectancy at \$37 trillion [8]. These are not speculative figures; they reflect the direct productive contribution of maintaining individuals in the workforce longer. Prevention also reduces the informal-care burden that falls on household members when illness strikes—particularly important in economies where women disproportionately bear caregiving responsibilities, suppressing their own labour force participation.

3.2 Productivity Channel

Health affects not only whether people work, but how effectively they work. The economic literature distinguishes between absenteeism (missing work due to illness) and presenteeism (remaining at work but performing below capacity). Both impose substantial costs. The WEF/Harvard analysis estimated that NCDs impose \$30 trillion in economic losses over 2011–2030 [4], with productivity losses via premature mortality, early labour force exits, absenteeism, and reduced work capacity among the primary mechanisms. The OECD SPHeP NCD model—using relative risks linking disease status to labour-market outcomes and then translating employment and productivity changes into GDP via a Cobb-Douglas production function—demonstrates that prevention-driven health improvements generate measurable output gains at the macroeconomic level [3].

3.3 Public Finance Channel

When prevention raises earnings and employment, it enlarges the tax base. Income taxes, payroll taxes, and consumption taxes all benefit when households are healthier and more economically active. At the same time, prevention reduces long-run public expenditure by lowering the future burden of expensive treatment, disability support, and social costs associated with illness. McKinsey estimates that each dollar invested in health can yield up to four dollars in economic returns [9]. The OECD projects that if OECD countries moved NCD risk factors to top-quartile performance, health expenditure would be 6.2% lower [3] over 2026–2050. For governments, that is a structural improvement in the fiscal balance through a supply-side channel, not a demand compression.

3.4 Life-Course and Intergenerational Channel

A fourth mechanism operates across the life course. Preventive interventions in pregnancy, infancy, childhood, and adolescence can influence educational attainment, cognitive development, and adult earnings. Healthier children attend school more consistently, learn more effectively, and progress further through the education system. In adulthood, that

translates into higher productivity and wages. Hoddinott et al. (2013) estimate substantial long-run economic returns to early-life nutrition through higher adult earnings and improved human development outcomes [10]. The World Bank Human Capital Index operationalises this logic formally, estimating that countries with deficits in nutrition and health have future workers who will be meaningfully less productive than their potential, with direct implications for long-long GDP growth [11].

A key theoretical mechanism linking health to human capital formation is the Ben-Porath (1967) horizon effect [27]: the decision to invest in education depends critically on the period over which returns can be earned. Because the costs of schooling are borne upfront while the economic benefits accrue over a working lifetime, a shorter life expectancy systematically depresses the incentive to invest in education. Prevention—by extending healthy life expectancy—lengthens that horizon and thereby raises the expected return on every year of schooling, increasing both the demand for education and the quality of skills accumulated across the population. Kalemli-Ozcan, Ryder, and Weil (2000) formalise this mechanism in an overlapping-generations model, showing that mortality decline produces economically significant increases in schooling and consumption [28], with effects substantially larger when schooling investment is allowed to respond endogenously to changes in survival prospects.

Seen in life-course terms, prevention raises productivity not only by avoiding discrete disease episodes but by improving the continuity of capability accumulation over time. Human capital develops cumulatively: healthier pregnancies improve birth outcomes; healthier children learn more effectively; healthier adolescents are less likely to lose formative years to illness; healthier adults remain economically active longer and are better positioned to invest in the next generation. This cumulative logic is important for policy because it means that fragmented, episodic prevention efforts are likely to underperform relative to sustained systems that support individuals across multiple stages of life. The economic return to prevention is therefore not reducible to the immediate effect of any single intervention. It emerges from preserving the sequence through which health, education, employment, and earnings reinforce one another over decades.

The strongest causal evidence for this mechanism comes from Jayachandran and Lleras-Muney (2009), who exploit a sudden, sharp decline in maternal mortality in Sri Lanka between 1946 and 1953—a public-health driven increase in life expectancy that was independent of contemporaneous changes in living standards or educational supply. Using a difference-in-differences-in-differences strategy across districts, time periods, and gender, they find that the 70% reduction in maternal mortality risk increased female life expectancy at age 15 by approximately 1.5 years, female literacy by 2.5%, and years of female education by 4.0% [29]. Translating this into a marginal return, each additional year of life expectancy increased literacy by 0.7 percentage points and years of schooling by 0.11 years [29]. This study is particularly important for policy because it isolates the life-expectancy channel specifically—

ruling out competing explanations—and because its setting, a lower-income country with a large preventable-mortality burden, is directly relevant to contexts such as Southern Africa. The implication is stark: preventive health interventions that reduce premature mortality do not merely protect today's workers; they raise the human capital investment incentives of the next generation.

4. Empirical Evidence: The Economic Benefits of Prevention

The empirical case for prevention has strengthened considerably across the last decade. Evidence from different settings—chronic disease prevention, communicable disease control, early-life health, and historical disease eradication—points consistently in the same direction: preventing illness raises the quantity and quality of productive labour, and those gains generate meaningful macroeconomic effects.

4.1 NCD Prevention: Macroeconomic Projections and Cost-Effectiveness

The most comprehensive recent quantification comes from the OECD's 2025 analysis of the health and economic benefits of tackling NCDs across member countries. Using a modelling framework that links NCD risk factors (tobacco, overweight, physical inactivity, and harmful alcohol use) to absenteeism, presenteeism, early retirement, and employment via relative risks, and then translates labour-market changes into GDP via a Cobb-Douglas production function, the analysis finds that reducing risk factors to top-quartile OECD levels would increase annual GDP by 1.3%, reduce premature mortality by 11.4%, and lower health expenditure by 6.2% [3]. That 1.3% GDP gain, equivalent to nearly \$1 trillion USD PPP per year, represents a structural productivity dividend from public health investment—not a one-time windfall but a permanent improvement in the economy's productive base.

The NCD Countdown 2030 collaboration, published in *The Lancet* (2022), provides a complementary global-level assessment. An investment of approximately \$18 billion per year over 2023–2030 in a package of 21 highly cost-effective NCD interventions—including tobacco control, hypertension management, salt reduction, and cancer screening—could save 39 million lives and generate a net economic benefit of \$2.7 trillion, a return on investment of 19:1 [2]. The investment package is primarily composed of interventions that are both clinically proven and implementable at scale, even in lower-income settings.

Wang and Wang (2021), drawing on OECD panel data, demonstrate a statistically significant non-linear relationship [5] between preventive health expenditure and economic performance: the optimal share of prevention in GDP is 1.175%, compared to an actual OECD average of 0.237%. Current underinvestment is not a marginal gap; it is a factor of nearly five. The implication is that most OECD—and by extension most middle-income—governments are operating well to the left of the welfare-maximising point on the prevention expenditure curve.

Table 1: Selected Empirical Estimates of Prevention's Economic Returns

STUDY / SOURCE	FINDING	MECHANISM	ROI / MAGNITUDE
OECD (2025)	NCD risk reduction to top-quartile level raises annual OECD GDP by 1.3%, reduces health spending by 6.2%	Absenteeism, presenteeism, early retirement → labour productivity → GDP	~\$1tn/yr GDP gain
Lancet / NCD Countdown (2022)	\$18bn/yr NCD intervention package saves 39m lives; \$2.7tn net economic benefit	Avoided mortality, morbidity, treatment cost	19:1 ROI
WHO Best Buys (2023)	Every \$1 invested in WHO Best Buys yields at least \$7 in LMICs	Labour market, productivity, healthcare savings	\$7 per \$1
WEF/Harvard (2011)	NCDs will cost \$30tn over 2011–2030; mental health alone adds \$16.1tn in losses	Premature mortality, absenteeism, presenteeism	\$30tn loss
Wang & Wang (2021)	Optimal preventive expenditure share = 1.175% of GDP; actual OECD share = 0.237%	NCD prevalence reduction → economic growth	5x underinvestment gap
Thirumurthy et al. (2008)	HIV ART in Kenya significantly increased adult labour supply and reduced sick days	Restored labour capacity among working-age adults	Significant employment ↑
Bleakley (2007)	Hookworm eradication in US South raised school attendance and adult earnings	Early-life health → education → productivity	Multi-decade earnings gain
Lancet Healthy Longevity (2021)	1-year extension of working life increases UK GDP by ~1%; 1-yr life expectancy gain worth \$37tn	Extended labour force participation	1% GDP per year of working life

Taken together, the estimates in Table 1 point to a consistent pattern rather than a collection of isolated positive findings. Across very different methodologies—macro-simulation, historical natural experiments, cost-effectiveness analysis, and programme evaluation—the direction of effect is the same: prevention preserves productive life, raises labour efficiency, and lowers future spending commitments. The specific magnitudes vary by country context and intervention design, but the qualitative conclusion is robust. For decision-makers, this matters because it reduces the risk that the case for prevention rests on a single modelling assumption or institutional setting. The convergence of evidence from OECD economies, lower-income countries, and long-horizon historical studies strengthens the conclusion that the underfinancing of prevention is not due to uncertain returns, but to the institutional difficulty of recognising and acting on returns that accrue across sectors and over time.

4.2 Infectious Disease Prevention and Restored Labour Capacity

The economic returns to infectious disease prevention are especially visible when disease burdens fall on working-age adults. HIV remains the clearest example from Southern Africa's context. Thirumurthy, Zivin, and Goldstein (2008), studying the expansion of antiretroviral therapy in Western Kenya, found that treatment significantly increased labour supply among adult patients [12], with meaningful reductions in sick days. The mechanism is straightforward: disease that removes working-age adults from economic activity is also, in effect, a tax on productive labour. Effective prevention and treatment function as a subsidy to labour supply.

The relevance extends to tuberculosis. TB remains one of the primary causes of the life expectancy gap between sub-Saharan Africa and high-income countries; the Lancet Commission on Global Health 2050 (2024) identifies lower respiratory infections and TB each as contributing approximately two years to the life expectancy gap [13] between sub-Saharan Africa and the North Atlantic. Closing that gap through prevention and earlier treatment would represent a substantial productivity gain for affected economies.

4.3 Early-Life Health and Intergenerational Returns

A robust body of evidence links early-life health investments to long-run productivity and earnings. Bleakley's (2007) landmark natural experiment on hookworm eradication in the American South found that eliminating endemic childhood disease improved school attendance and substantially raised adult earnings [14]—demonstrating that the economic returns to health investment can operate across decades, through the education-to-productivity pathway. The magnitude of these intergenerational returns means that failing to invest in early-life health locks in lower productivity at scale.

Hoddinott et al. (2013) demonstrate that early-life nutrition investments generate returns through higher adult earnings, stronger productivity, and improved human development outcomes [10]. These findings are consistent with the World Bank Human Capital Project, which uses survival rates, healthy growth, and cognitive development indicators to estimate that children born in countries with poor health outcomes will be substantially less productive as future workers [11]—a loss that compounds across every generation of workers unless reversed through upstream preventive investment. The World Bank's 2025 HCI+ update confirms that deficits in nutrition, health, and education in low- and middle-income countries are currently costing them more than half their potential lifetime earnings [11].

4.4 Population-Wide Risk Reduction: The North Karelia Evidence

Finland's North Karelia project—launched in the 1970s in response to the world's highest cardiovascular mortality rates—remains one of the most cited demonstrations of sustained population-level prevention. Over several decades, the programme combined smoking cessation support, dietary modification, and hypertension management across the entire regional population. The public-health significance is well-established (Puska, 2002, 2010)

[15][16]; the economic significance is equally important but less often emphasised. Lower cardiovascular mortality among working-age adults implies fewer years of productive life lost, fewer early exits from the labour market, and lower long-run treatment and disability costs. North Karelia illustrates that primary prevention of chronic disease can alter not only health trajectories but labour-market and fiscal trajectories as well.

4.5 Health Taxes as Prevention Revenue Instruments

Behavioural risk factors are shaped by prices and market incentives. The WHO estimates that tobacco-attributable diseases alone cost 2.4% of annual global GDP [17] in health expenditure and productivity losses. Well-designed health taxes on tobacco, alcohol, and sugar-sweetened beverages can therefore serve a dual function: reducing future disease burden while generating revenue that can be recycled into prevention programmes. PAHO estimates that every \$1 invested in WHO Best Buys—including fiscal measures—yields a return of at least \$7 [1] through avoided healthcare costs and productivity gains. The policy implication is that health taxes should be embedded in a broader prevention strategy rather than treated purely as revenue measures—and their economic returns should be reflected in fiscal accounts.

4.6 Clinical Evidence: Preventive Care and Human Capital Outcomes

Alongside the macroeconomic and historical evidence, a growing body of clinical and epidemiological research demonstrates that preventive care directly preserves the functional health that underpins economic participation. Palapar et al. (2024), in a systematic review and meta-analysis of preventive primary care interventions published in the British Journal of General Practice, found that such interventions significantly improved functional ability and self-rated health, and—critically—reduced hospital admissions by 23–26% [30] in studies that changed the care setting or provided structured patient education. Since hospitalisation is both a marker of lost functional capacity and a direct driver of absenteeism and early labour-force exit, these reductions translate directly into preserved human capital. The review underscores that the mechanism of effect is continuity of care: coordinated, preventive primary care addresses individual health needs before they escalate into acute events that remove people from economic life.

The fiscal and human-capital stakes of delayed prevention are further illustrated by the American Heart Association's 2024 projection of cardiovascular disease burden through 2050. Using the human capital approach to value productivity losses from cardiovascular morbidity and premature mortality, the study projects that annual healthcare costs attributable to cardiovascular risk factors will triple between 2020 and 2050 [31] in the United States alone, reaching an estimated \$1.8 trillion per year in 2022 dollars, with productivity losses from morbidity and premature mortality adding a further and separately estimated burden. Since cardiovascular risk factors—hypertension, diabetes, hypercholesterolaemia—are among the most amenable to preventive management through primary care screening and lifestyle

intervention, this trajectory is substantially avoidable. The study's use of the human capital framework is methodologically significant for this paper's argument: it treats the working years lost to cardiovascular disease as a destruction of productive assets, not merely as a health outcome—precisely the framing this paper advocates for prevention policy more broadly.

4.7 Mental Health Prevention: The Neglected Productivity Crisis

Of all the preventable health conditions that suppress human capital, mental illness is the most consistently underweighted in public investment decisions. Yet the economic evidence is unambiguous in its scale. The WHO estimates that depression and anxiety alone—the most prevalent mental disorders—cost the global economy \$1 trillion per year in lost productivity [32], driven primarily by presenteeism rather than absenteeism: workers with untreated mental health conditions are present but performing substantially below capacity. Globally, an estimated 15% of working-age adults live with a mental disorder at any given time [32], and depression and anxiety together account for 12 billion lost workdays annually [32] across the global workforce. These are not marginal productivity losses; they represent a structural drag on labour-force effectiveness in every economy.

The OECD's 2025 analysis—The Economic Case for Preventing Mental Ill Health—provides the most detailed quantification to date. Across OECD and EU27 countries, poor mental health affects more than one in five people [33] and is estimated to reduce healthy life expectancy by 2.5 years [33]. The aggregate societal cost of mental disorders across the EU alone is estimated at 4.1% of GDP, broken down as approximately 1.3% of GDP in healthcare spending, 1.2% in social security programmes, and a further 1.6% of GDP in lost employment and reduced productivity [33]. Extending these proportions globally, Arias, Saxena, and Verguet (2022), as cited by the OECD, estimate global losses from mental disorders at \$4.7 trillion in 2019 [33]—equivalent to 6.5% of GDP in Western Europe and 8% of GDP in high-income North America.

For the United States alone, the societal cost of major depressive disorder was estimated at \$334 billion in 2019, of which 34% was attributable to reduced employment and productivity through absenteeism and presenteeism. The productivity losses from mental ill health are especially significant because they are disproportionately concentrated in prime working-age cohorts, among those whose output, earnings, and tax contributions are most economically consequential. Unlike many physical NCDs, which typically impose their heaviest burdens later in the life course, depression and anxiety affect individuals across the full working-age spectrum—and they interact with other health conditions. Mental health comorbidity worsens functional outcomes and treatment adherence across cardiovascular disease, diabetes, and chronic respiratory illness, creating a multiplier effect that amplifies the economic burden of all other preventable disease.

Despite this scale, mental health prevention remains systematically under-resourced. The OECD reports that only a minority of those living with depression or anxiety receive evidence-based treatment, and that preventive interventions—school-based programmes, workplace mental health support, and primary care psychological therapies—remain poorly scaled. Yet the OECD's modelling demonstrates that these interventions are not only clinically effective but cost-effective or cost-saving [33]: evidence-based interventions in primary care fall well below the threshold of €50,000 per disability-adjusted life year gained [33], while workplace mental health programmes and school-based interventions generate measurable improvements in productivity and labour-market participation. Scaling these interventions across the EU between 2023 and 2050 is projected to generate significant health and economic gains—gains that remain unrealised primarily because prevention budgets, measurement frameworks, and political incentives have not caught up with the evidence.

For governments, the fiscal case for mental health prevention is compounded by the social security dimension. Mental disorders are the leading cause of disability claims in many OECD countries, meaning that the public costs of underinvestment in prevention are distributed across health budgets, disability insurance, and unemployment systems simultaneously. A whole-of-government accounting of the costs of untreated mental illness—spanning healthcare, social protection, and lost tax revenues—would reveal returns to prevention investment that dwarf what appears in health ministry budgets alone. This is a direct parallel to the broader argument of this paper: the fiscal case for prevention only becomes visible when benefits are measured across the full range of public accounts that bear the consequences of avoidable disease.

5. Southern Africa: Prevention as a Human Capital Strategy

The Southern Africa region presents a particularly compelling case for applying the human-capital argument for prevention. The region combines several features that make preventive investment both urgent and economically significant: a heavy burden of communicable disease, a rapidly rising burden of NCDs, persistent labour-market weakness, and constrained fiscal space.

South Africa illustrates the challenge. The country continues to carry a substantial burden of HIV and tuberculosis while simultaneously facing sharp growth in NCDs. Xholo et al. (2025), examining the relationship between public health expenditure and human capital development in South Africa using an autoregressive distributed lag model, find that government health spending significantly enhances human development in both the short and long run [18], with unemployment and population growth exerting adverse offsetting effects. Their VECM analysis confirms that the influence of public health expenditure on human capital outcomes is persistent over time [18]—meaning that the returns to prevention investment are not one-time but compound across years.

The dual or quadruple disease burden in Southern Africa creates a fiscal pressure that is self-reinforcing if unaddressed. Chronic illness, disability, and caregiving burdens remove people from work or reduce their productivity while employed, dragging on output and expanding expenditure pressure at precisely the moment when growth is weak and public resources are scarce. Prevention intervenes on both sides of the fiscal equation: moderating expenditure growth while supporting revenue through improved labour-force participation and household earning capacity.

The distributional argument is particularly acute in Southern Africa. Preventable disease burdens are concentrated among lower-income households, informal workers, and communities with weaker access to care. These households are least able to smooth health shocks and most likely to experience catastrophic expenditure or permanent income loss when illness strikes. Preventive investment therefore has pre-distributive value: it protects household productive capacity before crisis occurs—often more efficiently, and more equitably, than relying on ex post safety nets.

A prevention agenda for South Africa and neighbouring countries would plausibly centre on five pillars: (1) communicable disease prevention and earlier diagnosis for HIV and TB; (2) systematic management of NCD risks through primary care; (3) maternal, neonatal, and child health, including nutrition and immunisation; (4) population-level prevention through tobacco, alcohol, and nutrition policy; and (5) mental health promotion, the labour-productivity implications of which are widely under-recognised—and yet mental health conditions alone are projected to account for \$16.1 trillion in global productivity losses over 2011–2030 [4].

This is precisely why prevention should be understood as part of economic restructuring rather than as a peripheral social policy. In environments of weak employment absorption and low productivity growth, preserving the health and functionality of the existing workforce is one of the few levers available that can improve output without requiring large-scale capital deepening in the short term. Moreover, when household savings are shallow and informal employment is widespread, preventable illness has especially damaging multiplier effects: a health shock can remove earners from work, force children out of school, liquidate small business assets, and deepen long-run poverty. Prevention reduces the frequency of those shocks. Its value in Southern Africa is therefore not confined to reducing pressure on clinics and hospitals; it lies also in protecting the economic viability of households and communities that cannot easily absorb repeated losses of health and income.

The international experience of middle-income economies that have successfully scaled prevention-oriented primary care is instructive for Southern Africa. Thailand's Universal Coverage Scheme, introduced in 2002 under the '30-Baht for All Diseases' policy, rapidly extended comprehensive healthcare—including preventive services, routine health checks, and essential immunisations—to approximately 76% of the population in the informal employment sector at a nominal copayment equivalent to less than one US dollar [35]. Within

a decade, out-of-pocket health spending had fallen from 45% of total health spending to below 15% [35], and the incidence of catastrophic health expenditure—defined as out-of-pocket payments exceeding 10% of total household spending—fell from 6% to below 3–4% [35]. For households in the informal economy, this reduction in catastrophic expenditure directly preserved productive capacity: families that previously faced financial ruin from a single illness episode were instead able to sustain labour-force participation and intergenerational human capital investment. Thailand's experience demonstrates that a prevention-oriented, primary-care-based coverage model is fiscally achievable in middle-income settings and generates returns that extend well beyond health outcomes into household economic resilience. For South Africa, where the informal sector is large, financial barriers to care are significant, and catastrophic health spending undermines household productive capacity, this model carries direct policy relevance.

6. Policy Framework for Finance and Health Ministries

If preventive health is to be treated as an investment in human capital, governments need institutions and budget practices capable of recognising its returns. That requires changes not only in health policy but in fiscal governance. The following eight recommendations provide a practical agenda, grounded in the empirical evidence reviewed above.

6.1 Adopt a Dual Evaluation Framework

Ministries should evaluate prevention through both a societal-return lens (does this intervention improve welfare, labour productivity, educational attainment, and future growth?) and a budget-return lens (which part of the state pays, which part benefits, and over what time frame do returns materialise?). This avoids two common errors: dismissing prevention because savings are not immediate, and overselling prevention as instantly self-financing. The OECD's finding that prevention delivers greater social and economic benefits than treating illness later [3] should anchor the societal-return assessment, while detailed cost-effectiveness modelling informs the budget-return calculation.

6.2 Protect Prevention in Medium-Term Expenditure Frameworks

Annual budgets are poorly suited to interventions whose returns compound over time. Governments should place core preventive programmes within medium-term expenditure frameworks and define them as strategic investments linked to labour productivity and fiscal resilience. Wang and Wang's (2021) finding that the optimal prevention share is nearly five times the current OECD average [5] provides a benchmark for guiding upward adjustments in prevention allocations over a credible multi-year trajectory.

6.3 Build Prevention Through Primary Care Infrastructure

The economic case for prevention will fail if delivery systems are too weak to translate policy into sustained coverage. Strong primary care matters because many high-return preventive

interventions are not hospital-based. The OECD notes that only 57% of eligible women were screened for breast or cervical cancer in 2023 [3], and only 46% for colon cancer [3]—illustrating the scale of implementation gaps that prevent even existing preventive programmes from achieving their potential returns.

6.4 Strengthen Cross-Ministerial Coordination

Because the benefits of prevention are distributed across the economy, governance should be cross-ministerial. Finance ministries should be co-owners of prevention strategy, not passive approvers of health proposals. The OECD model linking NCD risk factors to GDP via labour-market channels [3] provides finance ministries with the analytical tools to internalise prevention's fiscal consequences. Cabinet-level prevention compacts or standing inter-ministerial mechanisms linking health, finance, labour, education, and social development are particularly important for early-life and behavioural prevention.

6.5 Integrate Economic Evaluation with Epidemiological Monitoring

Prevention programmes should be evaluated against labour-force participation, absenteeism, school attendance, productivity measures, household financial protection, and expenditure trends—not only against epidemiological outcomes. This broader evaluation framework is a precondition for making a credible fiscal case to ministries of finance. The experience of OECD countries analysed by the 2025 report demonstrates that the analytical tools for this kind of integrated evaluation now exist and are operational [3].

6.6 Use Health Taxes and Regulatory Policy Strategically

Well-designed health taxes on tobacco, alcohol, and sugar-sweetened beverages can reduce future disease burden while generating revenue. The WHO estimates that tobacco-attributable diseases currently cost 2.4% of annual global GDP [17]. Health taxes should be embedded in a broader prevention strategy that includes cessation support, health promotion, and accessible healthier alternatives—and the fiscal accounts should record the estimated avoided future expenditure as part of the policy return.

6.7 Prioritise Early-Life and Working-Age Prevention

In resource-constrained settings, prioritisation matters. Interventions with strong links to future labour productivity and household earning capacity deserve particular attention. The Lancet NCD Countdown (2022) identifies 21 cost-effective interventions that represent the highest-return global portfolio [2]. For Southern African contexts, the priority cluster should span maternal and child health, vaccination, communicable disease control among working-age adults, TB prevention, basic NCD risk management, and mental health promotion.

6.8 Avoid False Dichotomies Between Prevention and Treatment

Prevention and treatment should not be seen as mutually exclusive. Effective prevention often relies on treatment platforms, especially in primary care. The objective is not to oppose

curative to preventive care, but to correct the structural imbalance that has led treatment to dominate prevention. The OECD's evidence that preventing illness delivers far greater social and economic benefits than treating it later [3] should reframe this as not a choice between prevention and treatment, but between an optimally balanced health system and a structurally expensive, growth-suppressing one.

7. Reclassifying Prevention: The Case for Fiscal Accounting Reform

The institutional and analytical barriers to preventive investment are not only a problem of political will. They are also a problem of fiscal architecture. The way governments measure, classify, and account for health spending systematically obscures the investment character of prevention—and that obscuration has material budgetary consequences. Correcting it requires deliberate reforms to how health expenditure is categorised, evaluated, and governed across the public accounts.

7.1 The Classification Problem: Prevention as Recurrent Spending

Under prevailing public finance conventions, preventive health programmes are classified as current or recurrent expenditure—the same category as administrative salaries, utility payments, and consumables. Capital expenditure, by contrast, is the category reserved for assets expected to generate productive returns over multiple years: roads, bridges, schools, and water infrastructure. The economic logic for this distinction is sound. But the application of it to health spending reflects an incomplete understanding of what prevention actually does. A vaccination programme, a maternal nutrition scheme, or a community hypertension management programme produces multi-year returns on productive capacity—precisely the defining feature of a capital investment. It reduces the probability of future costs (treatment, disability, mortality) and increases the expected productivity of the population over the medium to long term. The fact that the immediate output is a health service, rather than a physical asset, should not disqualify it from capital-like treatment.

As Mushkin (1962) argued in establishing the foundations of health economics [7], human capital investment—whether in education or health—is analytically indistinguishable from physical capital investment in its fundamental character: it raises the productive capacity of the future labour force. Yet national accounting conventions have not kept pace with this insight. Prevention remains treated as consumption. This misclassification has three practical consequences. First, preventive programmes are among the first candidates for cuts when fiscal constraints tighten, because they lack the protected status of capital expenditure. Second, the benefits of prevention are invisible in year-one budget returns, meaning that the implicit foregone productivity of underinvestment is never counted as a cost. Third, finance ministers have no formal analytical basis—within standard budgetary frameworks—for crediting prevention with the economic returns it generates for other parts of the public

accounts: labour ministry employment statistics, education ministry attainment indicators, treasury revenue projections.

7.2 Medium-Term Expenditure Frameworks as a Partial Solution

The most tractable near-term institutional fix lies in the medium-term expenditure framework (MTEF)—the multi-year budget planning instrument now in use in the majority of OECD and middle-income countries. MTEFs, which typically cover a three-to-five year horizon, were designed precisely to introduce longer-term thinking into fiscal planning and to protect strategically important spending lines from annual budget volatility [36]. The IMF's 2024 guidance on implementing MTEFs confirms that they enhance compliance with fiscal rules and support more orderly, performance-oriented budgeting—but only when they are genuinely integrated into cabinet-level strategic decisions rather than operating as technical annexes to annual budgets.

Prevention programmes are a natural fit for MTEF protection because their return profiles—lower future treatment costs, stronger labour participation, broader tax bases—operate over precisely the three-to-five year medium-term horizon that MTEFs are designed to capture. A government that commits to sustained funding of community hypertension management, school-based nutrition, or structured HIV prevention within a credible MTEF is, in effect, locking in a multi-year investment whose benefits are measurable and predictable. Crucially, the OECD modelling approach described earlier in this paper—linking risk-factor reductions to labour-market outcomes and GDP via a Cobb-Douglas production function [3]—provides the analytical template for estimating those returns in terms that finance ministries already use.

However, MTEFs alone are insufficient if the prevention programmes they protect are still classified as recurrent spending. The classification problem must be addressed alongside the time-horizon problem. Governments should consider adopting dual-classification budget lines—recording them as current expenditure for cash-accounting purposes while also maintaining a parallel investment account that tracks the expected multi-year return in human capital terms. This need not require a formal change to national accounting standards immediately; it can begin as supplementary reporting in budget documentation, building the evidence base for a wider reclassification over time.

7.3 Cross-Ministerial Fiscal Crediting

A more fundamental reform concerns how the returns to prevention are distributed across the public accounts. As this paper has argued throughout, the benefits of prevention accrue to ministries of labour (improved participation), education (better attainment), finance (stronger revenues, lower social transfers), and health (lower treatment costs)—but the costs are borne almost entirely by the health ministry. This asymmetry creates a structural under-incentive for

health ministries to invest in prevention and a structural indifference on the part of other ministries.

Several institutional designs can address this. The most ambitious is a prevention compact—a formal inter-ministerial agreement under which co-benefits are projected, monitored, and attributed across ministries, with corresponding budget contributions from beneficiary ministries to fund the health ministry's prevention programmes. A lighter alternative is joint programme budgeting for prevention initiatives with clear multi-sectoral returns, in which the treasury explicitly allocates funding to prevention as a productivity and growth investment rather than a health outlay alone. A third option is the use of fiscal impact notes in budget documentation—requiring each preventive health spending decision to be accompanied by a projection of its effects on future treatment expenditure, labour-force participation, and tax revenues, across a five-year horizon.

None of these reforms is technically complex. They require political agreement, analytical capacity, and cross-departmental data-sharing—challenges that are significant, but well within the reach of governments that have already invested in MTEF infrastructure and performance-based budgeting. The foundational analytical work has, in large part, already been done: the OECD's SPHeP NCD model [3], the Lancet's intervention costings [2], the WHO's Best Buy return estimates [1], and the World Bank's Human Capital Index [11] all provide building blocks for the kind of cross-ministerial fiscal accounting that prevention investment requires.

7.4 Measurement Standards: Bridging Epidemiology and Economics

A final institutional gap is the absence of shared measurement standards that allow prevention programmes to be evaluated simultaneously in epidemiological and economic terms. Health ministries typically report prevention outputs in clinical terms: vaccination coverage rates, screening uptake, blood pressure control proportions. Finance ministries and treasuries evaluate spending in fiscal terms: expenditure relative to GDP, return on investment, effects on revenue and balance. The two languages rarely meet.

Closing this gap requires that prevention programmes routinely collect and report labour-market outcome data alongside clinical outcomes: employment rates, days of sick leave, disability incidence, household income trajectories. Where administrative data are insufficient, well-designed surveys can approximate these effects. The objective is to generate a prevention dashboard that speaks the language of both ministries—one that a minister of health can use to make the clinical case and that a minister of finance can use to make the fiscal case for the same investment. The OECD's Health at a Glance series [23] and the World Bank's Human Capital Index [11] already provide partial models for this kind of integrated measurement. What is missing is their systematic application at the programme level within national budgeting processes. Governments that invest in building this measurement infrastructure will find that it changes not only what they know about prevention, but what they

are able to justify funding—and, critically, what they are able to defend against cuts in the next round of fiscal adjustment.

Over time, the adoption of such reporting practices could change the political economy of budgeting itself. Once prevention is routinely presented alongside estimates of its expected effects on employment, earnings, disability incidence, and downstream treatment costs, it becomes harder to characterise it as discretionary spending with uncertain payoff. The discipline imposed by this approach would benefit both advocates and sceptics: programmes with weak evidence would be more clearly distinguished from those with strong returns, while high-performing preventive investments would acquire a firmer basis for protection during fiscal stress. Fiscal accounting reform is therefore not a technical add-on to prevention strategy. It is one of the institutional mechanisms through which prevention becomes governable as investment rather than merely defensible as aspiration.

Conclusion

Preventive healthcare should be recognised as part of the productive foundation of the economy. The empirical case for this claim has grown substantially. The OECD's 2025 quantification of NCD impacts—1.3% of GDP forgone, 11.4% excess premature mortality, 6.2% excess health expenditure [3] relative to what the best-performing countries achieve—translates prevention's benefits into the language of macroeconomic and fiscal management. The Lancet NCD Countdown's demonstration of a 19:1 economic return [2] on a globally applicable intervention package shows that high-return prevention is not a theoretical ideal; it is an implementable policy choice.

The dominant treatment of prevention as discretionary health spending no longer fits either the evidence or the policy challenge. In countries facing rising chronic disease, persistent infectious disease burdens, weak labour-market performance, and constrained budgets, underinvestment in prevention is not prudent restraint. Grossman's (1972) foundational insight—that health is a productive asset [6]—combined with the accumulation of empirical evidence reviewed in this paper, makes the economic case for prevention essentially resolved. The question is no longer whether prevention generates economic returns. It is how governments operationalise that insight within fiscal and institutional frameworks still calibrated for treatment-centred systems.

The paper's analysis reveals five reinforcing layers to the economic case. First, the direct labour-supply and productivity returns documented across NCDs, infectious disease, early-life health, and mental illness. Second, the intergenerational human capital channel formalised by Ben-Porath (1967) [27] and empirically confirmed by Jayachandran and Lleras-Muney (2009) [29]: longer life expectancy raises the return on education, compounding prevention's benefits across generations. Third, the fiscal returns from a broader tax base, lower treatment expenditure, and reduced disability transfers. Fourth, the distributional returns from protecting

household productive capacity in lower-income groups before crisis strikes. Fifth, the institutional returns from embedding prevention in fiscal governance frameworks that make its value legible to finance ministries.

For Southern Africa, and especially for South Africa, this shift is particularly urgent. The region's combined communicable and NCD disease burden—layered with rising mental health pressures, weak employment absorption, and constrained fiscal space—is suppressing workforce potential and increasing long-run fiscal vulnerability. Prevention cannot solve every structural problem, but it can make a meaningful contribution to a healthier, more productive, and more fiscally resilient development path. Thailand's experience demonstrates that this is achievable in a middle-income setting without requiring fiscal largesse: the returns come from redirecting existing health system resources toward earlier, more cost-effective points of intervention.

What follows from this synthesis is a change in governmental posture toward risk. A fiscally mature state does not wait for avoidable disease burdens to crystallise into higher hospital costs, weaker employment, and slower growth before acting. It invests earlier, when the cost of preserving human capability is lower than the cost of rebuilding it after deterioration. That logic is familiar in infrastructure maintenance, education, and macro-prudential policy; it should be equally familiar in health. Prevention is the mechanism through which governments reduce the future volatility of both household welfare and public expenditure, while strengthening the stock of productive capacity on which long-run growth depends.

The practical agenda is clear: reclassify core prevention programmes as productivity-enhancing investment in medium-term expenditure frameworks; build inter-ministerial accounting mechanisms that credit prevention's returns across the full range of public accounts; evaluate programmes against labour-market and fiscal metrics alongside clinical outcomes; use health taxes strategically as dual prevention and revenue instruments; and prioritise the interventions—early-life health, communicable disease control, NCD risk management, and mental health—that preserve human capital over the full life course. Once those steps are taken, the debate changes. Prevention stops appearing as a discretionary social cost and begins to appear for what it is: an investment in national productive capacity, with documented, quantified, and increasingly mainstream economic returns.

The strategic imperative: The question is no longer whether governments can afford to invest in prevention. The question—backed by a 19:1 ROI (Lancet, 2022), a \$1 trillion annual GDP dividend from NCD risk-factor reduction (OECD, 2025), \$1 trillion/year in lost productivity from mental ill health (WHO, 2022), and evidence of five-fold underinvestment relative to the economically optimal level (Wang & Wang, 2021)—is whether governments can afford not to.

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