Individuals, Children, Aged 55+, Risk-Equalization, and Equity (ICARE): A Feasible Transition to a Better U.S. Health Insurance System

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Major health reforms in the United States are long overdue. For decades, the U.S. health care system has incurred much higher costs than other high-income countries with worse outcomes. In addition, the patchwork system of existing coverage has large, inequitable gaps that leave tens of millions of people without adequate coverage and many more with crippling health expenses and debt. Recent health reforms—including the 2010 Affordable Care Act (ACA)—have significantly improved health care delivery and financing, but serious problems remain. Although debates about the structure of healthcare reform debates have largely been sidelined during the COVID-19 pandemic, they are due for a resurgence as problems persist.

A variety of approaches have been suggested that replace or augment private, employer-sponsored insurance (ESI) in order to extend coverage through publicly-funded options. These options are often presented with taglines such as "Medicare for All", "Medicare public option", and "Medicaid buy in" (Levitt, 2021). These proposals walk a tightrope of advancing multiple aims: lowering costs, increasing affordability of insurance and health services, and promoting greater equity across the population. However, many employees want to reserve the right to choose their health plans, and Medicare enrollees prefer their program to remain largely unchanged (Kaiser Family Foundation, 2020). Hence, most proposals fail to adequately "fold in" existing coverage options or are missing key discussions on how the provision of services should evolve over a critical transition path. Finally, these plans typically fall well short of political viability by proposing sweeping changes to the healthcare system (Oberlander, 2019).

We propose a politically moderate approach to reform that broadens existing insurance coverage while solving fundamental distortions and inequities. Our approach uses a managed competition framework, relying on multiple, competing private insurance companies and federal subsidies to expand access to coverage while simultaneously preserving existing coverage for adults with ESI or Medicare. The proposal—which we term ICARE—has five key components: individual health contracts; universal, subsidized insurance for children; early opt-in to public coverage for individuals aged 55-64; risk equalization to ensure plan portability across employers and labor markets; and equitable financing options for all individuals. These components represent incremental shifts that, while more moderated than a leap to a single-payer system, still have potential for large social welfare gains through increased access to coverage, reduced cost-sharing, and lower overhead costs. Hence, ICARE constitutes a "constrained optimal reform," subject to the constraint of political attractiveness.

ICARE addresses three critical problems with U.S. health insurance. First,

we focus on transitioning all insurance coverage to portable, individual-level contracts in order to resolve the segmented, patchwork system of coverage currently in place. This transition serves to both minimize individual interruptions in coverage (e.g., from job loss, employer bankruptcy, retirement, or adverse life events including divorce and death) and to encourage broader competition across insurers. Second, we propose reforms to the financing of health plans so as to make payments more equitable for all individuals. Finally, we pay special attention to children and individuals approaching retirement, as these populations have significant insurance access problems (Pollack and Kronebusch, 2004; Duarte et al., 2021).

Our baseline proposal to solve these problems includes several normative decisions, by necessity; these include a discussion of the optimal level of consumer cost-sharing and physician reimbursement, for example. To accommodate flexibility in these decisions for policy-makers, we propose a general simulation framework, which can be used to evaluate the transition between the current status quo and proposed reforms. Hence, the economic contribution of this paper is to parameterize, simulate, and evaluate alternatives to the existing U.S. health insurance system while focusing on behavioral responses and frictions that may alter the associated costs of these reforms. These include both demand- and supply-side responses to reforms, such as the movement of individuals across types of insurance coverage and changes in provider reimbursement rates. Finally, our analysis highlights the importance of considering heterogeneity in how employers and other subgroups of the individual population respond to health reforms, underscoring the importance of aggregated risk pooling and other mechanisms to ensure equity during the transition period of a reform's implementation.

Our simulation results suggest that ICARE will require an additional $513 billion in annual public spending, with an average of $318 billion over the 11-year phase-in period. This is considerably more politically attractive than other, more ambitious proposals. Indeed, the most recent cost estimate of Medicare For All required an increase in federal spending of between $2.8 and $3.2 trillion annually (Congressional Budget Office, 2020). Similar to Medicare For All, new federal spending for ICARE is a transfer from private to public spending, and does not reflect actual differences in overall health expenditure. In fact, even a gradual increase in the reliance on public coverage is expected to generate large savings in national health spending by reducing administrative costs.[1] In this paper, we focus on the benefits of streamlining a

[1]Most recent estimates on the order of of about 4% of national health spending for transition to public coverage (Nyman, 2021)—this would constitute about $164 billion,

fragmented insurance system rather than highlighting the value of additional cost-containment mechanisms; such mechanisms (e.g., quality controls or coverage mandates) could easily be incorporated into our proposal.

We provide further details on ICARE and compare it to other health reform proposals in Section 1. We then perform spending simulations to assess the feasibility of our proposal; Section 2 describes the setup of these simulations, and Section 3 assesses the results—we estimate that ICARE will cost about $513 billion annually in additional revenue when fully implemented. Section 4 proposes two ways that ICARE can be financed: a value-added tax on consumption of about 4.4%, or a proportional income tax of 5.4%. In Section 5, we conduct a sensitivity analysis, followed by a discussion of how heterogeneity across employers and enrollees affects our results in Section 6. We add concluding thoughts in Section 7.

1 Proposal Details

ICARE proposes to move U.S. health insurance towards a "managed competition" framework similar to the German and Dutch systems, rather than the single-payer system favored in current Medicare for All proposals and currently implemented in countries like Canada (Kaiser Family Foundation, 2019). Under ICARE, private care delivery is funded by many competing private health insurance plans—all offering a generous, largely standardized benefit plan—and financed via income or consumption taxes, as initially proposed by Enthoven (1993) and Diamond (1992).

Recent expansions of managed competition in the U.S. healthcare system include the expansion of the Medicare Advantage program and the ACA (Curto et al., 2021). In particular, the ACA created the Marketplaces as a unified option for portable, non-employment based insurance with income-based government sponsorship. These reforms were key in reducing the number of uninsured Americans by 40% (roughly 14 million) in the first 3 years following its enactment (Berchick, Barnett and Upton, 2018). ICARE expands on these fundamental reforms by changing financing to reflect ability to pay rather than fixed premiums; using government rather than uneven employer subsidies to ensure access; and guaranteeing affordability, renewability and portability of insurance for all, not just those purchasing coverage through the Marketplace.

Our proposal attempts to increase access to coverage and care while pre-

roughtly 1/3 of the proposed increase in federal spending necessary for ICARE.

serving individual choice. The ICARE proposal is made up of five key components:

I : Individual—rather than family—contracts for all insured

C: Children receive fully subsidized care

A: (Near)-aged individuals may opt into public care, but retain choice

R: Risk-equalization across employers ensures plan portability

E: Equitable financing linked to ability-to-pay

Currently, ESI contracts leave individuals vulnerable to coverage disruptions, whether from job mobility (including unemployment and retirement) or employer decisions to change or discontinue a contract.[2] These problems are exacerbated for self-employed individuals, who bear the full weight of premium costs; and spouses and dependents, who are especially vulnerable to coverage disruptions due to a policy-holder's job loss, divorce, or death. To correct these challenges—which all arise from linking insurance coverage to an employed individual, and only subsequently their dependents—we propose that every person be insured as an individual, through a portable contract negotiated and purchased directly from an insurer.

Furthermore, individuals are currently subjected to a wide degree of variation in both their choice set of plans and the levels of coverage available through their employers. This variation is inequitable and possibly welfare-reducing (Marone and Sabety, 2022). ICARE proposes to reduce or eliminate this variation by subsidizing the coverage of plans with average cost-sharing level at or above 80% (typically referred to as "gold" plans). These subsidies can be provided directly to insurers—resulting in reduced premiums at a consumer's point-of-purchase—or to employers continuing to contribute to employee premiums (see Section 1.1 for details).

In addition to coverage disruptions, current insurance plans typically fail to reach vulnerable populations. Our insurance structure is failing many U.S. children: 35.3 million children (48%) receive coverage through either the Children's Health Insurance Program (CHIP) or Medicaid, and another 6% are uninsured altogether (Zewde, 2019). These programs have substantial vari-

[2]In fact, employers typically have strong incentives to adjust wages and health benefits to employees in response to many life events. Our current system expects (and attempts to enforce legally) that employers are indifferent to health insurance premium differences due to family size, marital status, and other health spending shocks to their employees. However, in practice this is rarely the case.

ation in coverage across states, often have restrictively narrow provider networks, and pay providers lower fees, all resulting in reduced access to high-quality care (Holgash and Heberlein, 2019). Another critical and vulnerable population is comprised of individuals approaching age 65, who do not yet qualify for Medicare coverage (McWilliams et al., 2004). As the U.S. population ages, it is projected that 39 million individuals will be aged 55–64 by the year 2035, constituting roughly 10.7% of U.S. population.

ICARE pays specific attention to these two groups. We propose phasing in universal, mandatory coverage for all children in the United States and a public option for adults aged 55–64. Allowing partially subsidized choice to the near-elderly will both reduce the rate at which this vulnerable population loses coverage and lower premium costs for other employees on ESI plans (e.g., as more expensive individuals opt into Medicare).

Each of these transitions—to individual contracts, full subsidization of children, and expanded coverage for adults—will disrupt the current system of coverage. In particular, changes may affect employers and their employees differently based on factors such as firm size and industry. In order to even this playing field, ICARE proposes a risk-equalization program across employers *and* public coverage, paralleling the structure used by the ACA Marketplace. Such risk pooling will ensure that individual contracts are truly portable across employers and labor markets, as well as smoothing any financial burdens during these transitions.

Finally, ICARE calls for a reform of payment mechanisms for health insurance. Currently each employer directly or implicitly (e.g., via self-insurance) pays a fixed premium per individual or family enrollee, regardless of their income. Individuals covered by ESI can even claim tax deductions for coverage that are unavailable to those covered by other forms of insurance (Furman, 2008). Both employer contributions and tax deductions are regressive policies, as these fixed contributions constitute a higher share of income among lower compensated workers and only higher-earning workers benefit from tax deductibility (Jeske and Kitao, 2009). A fixed premium approach also gives employers strong incentives to move employees to alternative coverage sources, such as through a spouse's employer or a government sponsored program. As the share of dual-earning households increases and additional coverage options are more readily available (e.g., through the Marketplace), these problems only intensify. ICARE, on the other hand, will ensure equitable financing through a proportional tax on either income or consumption; additionally, we propose that employers sponsoring individual contracts transition to making contributions to health insurance costs that are proportional to their employees' incomes.

1.1 Individual Contracts & ICARE Subsidies

One of the principal problems with the U.S. healthcare system is its patchwork coverage, with the majority of health plans purchased through private employers and therefore contingent on both continued employment and consistent insurance offerings by employers. These problems are exacerbated by a high degree of market fragmentation in the U.S., resulting in diminished competition among insurers (Dickstein et al., 2015). ICARE will mitigate this by allowing individuals to purchase insurance directly from private insurers, modeled after the German and Dutch insurance systems (Wasem et al., 2018; van Kleef et al., 2018).[3] These insurance contracts are not contingent on employment, meaning that all citizens will choose from effectively the same set of health plan offerings—in fact, ICARE subsidies for gold plans will further reduce variation across plan generosity, leaving insurers to compete along other dimensions.[4] This structure enables plan portability as individuals change jobs or family structures evolve, and removes employers from the decision of what coverage options to offer.

Although contracts will be purchased individually, employers might still wish to contribute to premiums in order to compete for employees along non-wage dimensions. As we discuss in Section 6, ICARE will reduce the overall cost to employers of health insurance by carving out children and some near-elderly; hence, employers may be able to continue contributing to some employee premiums while still reducing overall costs.[5] ICARE proposes lever-

[3]A transition to individual contracts may impose some implicit household costs associated with risk pooling (Sinaiko et al., 2017). However, ICARE allows households to continue enrolling in the same health plan (as is true today in Germany); additionally, the use of risk equalization at the individual contract level will continue to compensate health plans that enroll sicker-than-average enrollees, providing an alternative source of risk pooling.

[4]Coverage options that are more generous than the gold tier are currently available through employers, unions, Medigap plans, and the Marketplace. There is room for ICARE to allow different "metal levels" of generosity, including the possibility for purchasing supplemental coverage. Allowing these supplemental plans is not without costs; recent work has shown that they suffer from small adverse selection effects and much larger moral hazard effects, potentially leading to the crowding out of services due to moral hazard increases (Keane and Stavrunova, 2016). Furthermore, Glazer and McGuire (2011) discusses important issues surrounding the trade-off between efficiency and fairness when incorporating two tiers of health plans in a managed care framework. In our initial proposal, we abstract away from the details of this transition and note only that in the event variety is offered, ICARE's risk-adjustment program can accommodate this using a scheme calibrated to a standard gold plan. This should mean that supplemental, more generous levels of coverage will not charge break-even premiums but instead maintain the same risk transfers from those enrolled on standard coverage.

[5]Note that dependent premium contributions will be rare under ICARE, including for

aging any remaining employer contributions to encourage standardization of plan generosity across insurers; the proposal includes subsidizing a portion of employer contributions for only plans that reach at least a "gold" level of coverage (e.g., an average plan cost sharing rate of at least 80%). With a standardized minimum plan generosity, insurance plans will be left to compete on other dimensions, including network, brand, and premium costs.[6] In addition to the welfare gains from standardization, such uniformity may provide additional gains from improved health care shopping and encouraging more equitable coverage levels among all insured Americans (Ericson and Starc, 2016).

An indirect effect of increasing (and standardizing) the average level of plan generosity is that some individuals who are currently uninsured will opt into purchasing health insurance. Reducing the overall rate of uninsured individuals (who are on average relatively low cost) will help to reduce average premiums by decreasing the average risk of the insured. As discussed in Finkelstein, Hendren and Shephard (2019), although premium subsidies will reduce the number of consumers choosing to be uninsured, ICARE's proposed subsidies may not be enough to achieve universal coverage without more explicit insurance mandates, as originally specified in the ACA.

1.2 Expanded Private Coverage and a New Public Option

ICARE will fully bear the health care costs of children—including costs that were previously paid out-of-pocket (OOP) by children and their families. This coverage will ultimately be available to all children aged 18 years and younger, for whom coverage will be automatic. All costs of this program will be borne at the federal level, eliminating state variation in access and quality.

In addition, ICARE introduces a public option competing directly against private insurers for the near-aged population, specifically those between 55 and 64 years old. Those choosing to enrol in the public option will pay a partially-subsidized premium for a gold-tier insurance option. Hence, this public coverage will be a bridge between private insurance and Medicare coverage, should eligible individuals choose to enroll.

non-employed spouses or adult children.

[6]Note that minimum generosity can—and probably ought to—be regulated explicitly, as in the ACA. This minimum generosity will probably be at a level lower than 80%.

Expanding coverage options to the near-aged population is an important step in ensuring equitable access to insurance coverage. The near-elderly typically fall into the "uncovered middle" of the income distribution, facing problems of un- and under-insurance while failing to qualify for current publicly-funded health coverage options (Huesch and Ong, 2016). The ACA was instrumental in reducing the fraction of adults over aged 45 to 64 from 15.6% in 2010 to 9.6% in 2020. This had key benefits for the near-aged population, including increased cancer screening and detection and access to hospitals Duggan, Gupta and Jackson (2022); Duarte et al. (2021). However, the ACA was insufficient to achieve the much lower uninsurance rates achieved for children (5.6%) or those over age 65 (1.0%) (Keisler-Starkey and Bunch, 2021). Hence, expanding publicly-funded coverage for this population may have strong positive impacts on individual health as well as insurance costs for younger workers.

One commonly cited risk of implementing a mixture of public and private coverage options is that the public option may struggle to stay viable due to the "cream skimming" tactics of private insurers, who attempt to entice the least risky enrollees into their plans. Research using German health care data finds little evidence of such behavior (Polyakova, 2016). The risks of cream-skimming may be mitigated by heterogeneous preferences among consumers for health insurance, who may be more willing to bear risk (through higher cost-sharing) in order to maintain private coverage. This variation in preferences for health insurance lends itself to a rise in private insurance contracts that are *horizontally* differentiated from the public insurance, allowing for competition on dimensions other than price and cost sharing rates. The ICARE proposal offers additional protections against cream-skimming, including employer subsidies for individual contracts, designed to increase the take-up of non-ICARE coverage for even risky enrollees; a standardization of important plan characteristics, reducing the choice variables insurers can use to cream-skim; and a risk equalization program, discussed below.

1.3 Fairness and Financing Features

Finally, ICARE proposes a risk equalization scheme across both the new, privately-insured individual contracts and the public programs. Such risk adjustment—a public scheme that pays providers according to enrollees' expected costs—greatly reduces the incentive for insurance plans to dispropor-

tionately attract lowest risk enrollees.[7] Hence, the proposal to add a risk adjustment scheme to both public and private plans means incorporating two methods of payment for health care coverage: individual premiums and risk-adjusted regulator payments. These dual sources of revenue have been utilized together with increasing popularity, including in Medicare Advantage programs and the ACA Marketplaces.[8]

Our ICARE proposal does not specify an optimal risk adjustment scheme, as we call for the development of both novel private insurance contracts and a new federal system for providing care to children. Both of these will fundamentally change the framework for optimal risk adjustment from earlier results (Glazer and McGuire, 2000; McGuire et al., 2013). Instead, in the simulations that follow, we use the 2018 HHS-HCC risk adjustment model implemented for the ACA Marketplaces as the starting point for developing such an equalization scheme. As this model is already in use in the ACA Marketplace, its expansion will have strong political and economic viability. Additionally, the choice of risk-adjustment algorithm will influence premiums in a reciprocal fashion: more aggressive payments from a regulator can help to control rising premium costs (McGuire et al., 2013). This gives policy-makers implementing ICARE an important tool for cost containment.

In addition to reducing cream-skimming, risk adjustment across private and public plans may increase average household welfare while reducing overall government expenditures and lowering the overall uninsurance rate (Aizawa and Fu, 2020). Aizawa and Fu estimate these effects to be even more pronounced in states that expand Medicaid, lending support to the claim that incorporating this style of risk adjustment across insurance types in tandem with an expansion of public insurance will have strong household benefits.[9]

In comparison to almost every other developed country, the U.S. is an outlier in its persistent under- and uninsurance; unequal coverage across income, geography, and race; and ineffective insurance market competition leading to

[7]There is discussion on the extent to which risk adjustment models simply reallocate private screening of potential enrollees away from the dimensions included in a risk adjustment algorithm, further exacerbating health care inefficiencies. For further discussion on this, see Brown et al. (2014).

[8]McGuire et al. (2013) argues that the optimal balance between the two revenue sources involves matching total plan payments per person (premiums plus risk-adjusted payments) to the plan's average health costs per person.

[9]McGuire, Schillo and van Kleef (2020) discuss a number of risk equalization schemes that can be considered beyond risk adjustment, including reinsurance approaches. We approximate a high cost outlier reinsurance program by top-coding annual spending in our simulations, however we do not provide an in-depth discussion of these additions in this study.

inflated costs (Keisler-Starkey and Bunch, 2021; Chin et al., 2018; Frank and McGuire, 2019). Examples from other countries implementing careful managed competition with standardized coverage—including Germany and the Netherlands—demonstrate that these problems can be overcome.

2 Simulation Methods

To estimate the costs of our proposal, we simulate the phasing in of our ICARE program over the next decade. In this section, we discuss important parameters and assumptions that go into these simulations.

2.1 The ICARE Timeline

Following the approach taken by the ACA, we model ICARE to be phased in over an eleven-year period. This timeline prioritizes taking important steps early—such as covering children through age 5 in the first year of implementation—while postponing others—such as employer subsidies—until new institutions can be created. Stipulating the length of the phase-in is also important as it dictates the rate at which prices and premiums evolve and allows time for the insurance industry to develop.

Table 1 provides details on our assumed timeline. The transition plan is distributed over 11 years, starting in 2024 with young children and gradually incorporating other individuals until 2035, at which point the program will be open to all eligible ages. In addition to the public coverage available to children and the near-aged, ICARE involves a transition to individual contracts, the integration of a risk adjustment program across private insurers and the public option, and the commencement of subsidies to employers. In our baseline simulation, we designate the phasing in of individual contracts and our risk adjustment plan within the first three years, and the implementation of employer subsidies gradually over the first five years. The timing of these changes does not meaningfully change our results.

2.2 Data

To simulate the costs of ICARE, we use the IBM MarketScan Research Data from 2007 to 2019, which contains detailed information on all medical spending

Table 1: Proposed Timeline for the ICARE Transition

		ICARE Eligibility		Private Coverage Features		
Year	Transition year	Children	Near-aged	Individual Plans	Risk Adjustment	Employer Subsidies
2024	0	–	65+			
2025	1	0–5	65+			
2026	2	0–6	64+			
2027	3	0–7	63+	X	X	
2028	4	0–8	62+	X	X	
2029	5	0–9	61+	X	X	X
2030	6	0–10	60+	X	X	X
2031	7	0–11	59+	X	X	X
2032	8	0–12	58+	X	X	X
2033	9	0–13	57+	X	X	X
2034	10	0–14	56+	X	X	X
2035	11	0–18	55+	X	X	X

Table Notes: Table shows a feasible transition path from the current U.S. health insurance system to full implementation of the ICARE program. Each row represents one of the eleven years of the implementation, starting in 2024. In each year, progressively more children and near-aged individuals are eligible for ICARE coverage. In addition, over time, other members of population transition to individual contracts, and risk adjustment and employer subsidy programs begin to ensure a smooth transition.

for all individuals insured by a subset of ESI plans during the year. Importantly, these claims data contain information on how the cost of medical care was shared between the individual and employer, as well as standard demographic information.

For each age-year, we calculated the average OOP spending and employer medical spending using this data. We annualized spending for all individuals who were not insured for the full year, and placed a spending cap of $250,000 on high-cost individuals. We augmented claims costs to approximate administrative costs of plans—in the base model, we inflated claims by 15% to accommodate these costs. This allows us to approximate the cost to employers and employees of medical care under different insurance schemes for the years 2024 through 2035.

Moving beyond those enrolled in ESI, we also estimated spending for uninsured individuals and individuals covered by Medicaid, CHIP, and Medicare. We used the most recent Medical Expenditures Panel Survey (MEPS) to obtain estimates of annual spending for uninsured individuals, and current CMS reports to estimate the costs of those covered by publicly-funded programs. We also incorporated reports from the MAC Stats Data Book and Kaiser Family Foundation reports in order to identify the breakdown of Medicaid spending by age group. (Kaiser Family Foundation, 2022).[10]

Enrollment data for children on Medicaid varies substantially across states and different reporting methods, and most records report only the estimates of children ever enrolled in Medicaid over a year, rather than a consistent estimate of how many enrollees the program has at any one time. Averaging the results of different reports suggests that of children covered by Medicaid and CHIP account for about 45% of all U.S. children, consistent with the figure typically used by popular media. However, this is not evenly distributed over children of all ages; the Urban Institute estimates that about 48.5% of children aged 3 years or younger are covered by these programs, while only about 42% of those 4 years old and up are covered (Haley et al., 2018). We incorporate this age structure differential into our projections. Finally, based on enrollment reports, we assume that 25% of the covered children are on CHIP and 75% are covered through Medicaid.

[10]Approximately 18% of Medicaid spending is used on enrolled children, yielding a projected spending total of about $2,837 per child annually. In line with the enrollment and spending reports, we assume that 65% of this spending is met by the federal government and the remaining 35% of it is left to the states. Using similar methods, we estimate a total annual cost of about $2,000 per child enrolled in CHIP, with 93% of the spending covered by the federal government and 7% covered by the state.

2.3 Key Choice Parameters

Table 2 shows exogenously calibrated choice parameters critical to our simulations. Our simulated spending and enrollment transition paths aim to incorporate substantial individual choice, both in plan selection and overall utilization. Table 3 explores the sensitivity of our results to the choice of these parameters.

Table 2: Key Parameters Used in Spending Simulations

Parameter	**Baseline Value**
Fraction of children covered under ICARE	1.00
Fraction of near-aged covered under ICARE	0.30
ICARE premium contribution for near-aged	0.45
Utilization increase under ICARE (ages 6+)	0.05
Fraction of uninsured opting into private insurance	0.30
Adverse selection cost inflation for near-aged	0.35
Overhead markup over claims cost	0.15
Healthcare inflation rate (above normal inflation)	0.01
Weight placed on commercial rates (vs. CMS rates)	1.00
Employer discount rate for health obligations	0.10
Fraction of employer savings passed on as wage increases	0.30

Table Notes: Table shows key choice parameters used in baseline simulations. We assume that 30% of the uninsured opt into private insurance—this includes an additional assumption that no uninsured individual eligible for ICARE enrollment remains uninsured. We assume that children covered on ICARE increase their spending by 5% relative to baseline averages in Marketscan data, and that the near-aged enrolled on ICARE are 35% more expensive than the average individual in each age group. When determining physician reimbursement (which impacts the costs of services), we assume that all rates paid are commercial rates, a very conservative estimate. For sensitivity of final projected spending/revenue figures to these parameters, see Table 3 and additional Appendix materials.

We propose that children will be universally covered by ICARE, but allow choice by near-aged individuals. While those with individual contracts will presumably receive contributions to their premiums both directly from their employers and indirectly from ICARE subsidies, near-aged individuals who opt to join ICARE will pay a subsidized premium of 45% of average per-enrollee plan payments (they will additionally be responsible for an average of 20% of overall costs OOP).

Previous work has shown that insured children—particularly those under

6 years of age—have utilization rates that are relatively unaffected by cost-sharing, making children an ideal place to begin offering universal, publicly-subsidized coverage with little room for moral hazard (Ellis, Bachman and Tan, 2017). Based on the estimated age differences in moral hazard effects, we allow a modest increase in utilization and spending by 5% for all children age 6 and above as well as near-aged adults on ICARE.

Our simulations also allow for other selection channels. We allow for the possibility that some previously uninsured individuals will opt into ESI instead of ICARE. Additionally, even though ICARE is designed with mechanisms to mitigate adverse selection effects among the near-aged opting into public insurance (as discussed in Section 1.2), we allow for the near-aged individuals who opt into ICARE to be sicker than average and hence cost 35% more than the average of that age group. Our baseline model assumes no switching between the Medicaid/CHIP program and private insurance, nor does it model anyone who is eligible for ICARE as opting into uninsurance.

We also specify parameters to capture other important features of the healthcare system omitted by our data collection. These include overhead costs (base: 15% of claims) not included in individual claims-level data, an inflation rate of health costs above typical inflation (base: 1%), and a way of determining reimbursement rates for ICARE as a weighted average of private and public rates (base: 100% commercial plan rates). This last feature is particularly relevant for those previously transitioning from the Medicaid/CHIP programs to ICARE coverage, as it represents additional costs to Medicaid coverage that need to be accounted for in the funding of ICARE.

Finally, we model employer behavior using two key parameters. In our baseline scenario, we propose that employers discount future healthcare obligations at a fixed 10% rate. We also propose that of the amount employers would have spent on insuring individuals now covered by ICARE, a fixed fraction is passed on to employees as wage increases.[11] Overall, due to recent

[11]Recent work examining how employee compensation responds to changes in employer health care costs finds different results, depending on both the specific institutional setting for a given employer (e.g., their sector and industry, as well as the union status of their employees) and the existence of multi-dimensional compensation packages beyond wage and health benefits alone. Clemens and Cutler (2014) provides an excellent discussion on the political negotiations involved in setting employer health care spending, showing how bargaining power from heavily unionized employees may lead realized results to deviate significantly from a perfectly competitive benchmark. When examining public sector employees, there is evidence that increases in employer health care costs leads to a small decline in wages, on the order of about a fifteen cents wage decrease for every dollar increase in employer costs (Clemens and Cutler, 2014; Qin and Chernew, 2014; Lubotsky and Olson, 2015; Eberts and Stone, 1985). On the other hand, examinations of private sector employees suggest fewer

increasing trends in health care costs and spending, this literature has largely been limited to the effect of an *increase* in health care spending on wage reductions; it remains an open question by how much wages will increase when employer obligations to health care costs are significantly reduced. Therefore, we conservatively estimate that 30% of employer savings will be passed on to employees in the forms of higher wages.

3 Spending Projections

In this section, we present the results of our simulations, which estimate the total public spending on the ICARE program. Public spending on ICARE comes from various sources: already funded programs such as Medicaid and CHIP, and any increased spending on these individuals from increasing coverage quality or reimbursement rates to providers; expanded coverage for children and the near-aged; and subsidies to individual (private) contracts. We estimate spending for individuals at the age-year level, and combine these estimates with population estimates from the U.S. Census Bureau to forecast a spending path for the years 2024 through 2035.

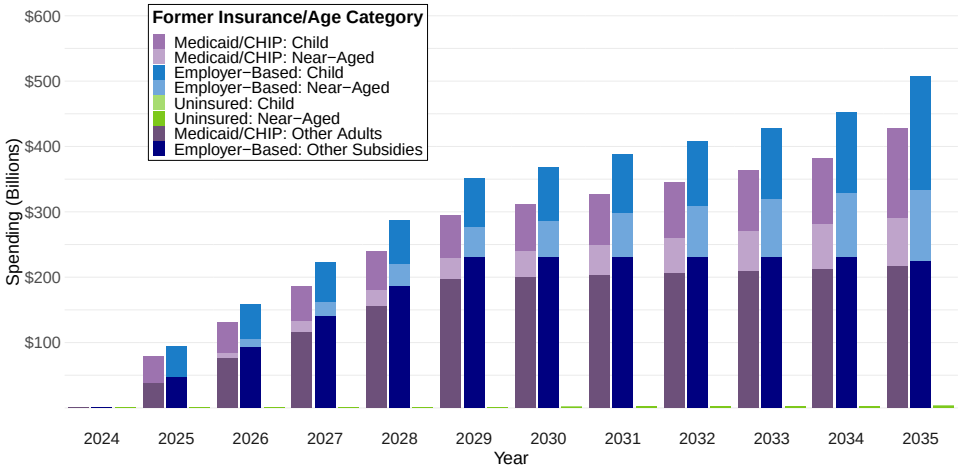
Figure 1 illustrates the estimated spending on ICARE over the transition period. During the first five years of the program, ICARE gradually takes over contracts for the youngest children—regardless of prior insurance status—as well as subsidizing the adult Medicaid population and offering contracts to the near-aged population. In addition, we phase in subsidies to employers contributing to adequate individual coverage over the first five years. As these programs are phased in and the age groups eligible for public coverage expand, costs will increase smoothly until the program is fully implemented.

We estimate that after ten years, combined spending on the ICARE public option will be about $715.4 billion annually. Of this, however, only about $289 billion needs to be accounted for in additional revenue, given that existing funding from the Medicaid/CHIP programs can be transferred to the ICARE program. The additional revenue covers both the expanded pool of enrollees as well as differences in fee schedules between various Medicaid/CHIP plans and commercial insurance.

We also estimate the cost of the associated subsidies needed to incentivize 75% of the remaining private insurance plans to expand the generosity of their coverage to at least a gold metal level. These subsidies are shown in Figure

frictions, resulting in a more one-to-one trade-off between wages and costs (Kolstad and Kowalski, 2016).

Figure 1: Projected ICARE Spending by Age & Former Insurance Status



Notes: Figure shows projected spending on ICARE during its phase-in from 2024 to 2035. Spending is broken down by former insurance coverage (Medicaid/CHIP, ESI, or Uninsured) and age (Children, Near-Aged, or Other Adult Subsidies). Note that current funding for existing Medicaid/CHIP programs can be applied to ICARE spending totals, so that the sum of the bars pictured here is more than the amount that needs to be accounted for by a VAT or payroll tax increase. Figures are reported in billions of 2022 USD.

1 in navy, phased in over the first 5 years of the program. In the final year of implementation, ICARE subsidies will cost about $224 billion, bringing the total cost of the ICARE program up to just over $513 billion per year.

Appendix Figure A.1 shows how the ICARE program fits into the larger national healthcare system in terms of both costs and enrollment. By the end of the transition period, we estimate that ICARE will enroll about 35.8% of the population while constituting just under one quarter of the overall spending on health care. Figure A.2 in the Appendix shows how this enrollment can be broken down amongst employees and their spouses and children—ultimately, ICARE enrollment will be overwhelmingly comprised of children, with only about 15% of enrollees over the age of 18.

4 Financing ICARE

In this section, we examine two alternative methods to finance ICARE: a proportional credit-invoice value-added tax, and an adjustment to the payroll

tax.

A value-added tax (VAT), similar to retail sales taxes popular in many states, is a tax levied on goods and services; the key difference between the two forms of taxation is that the VAT is levied at each stage in a good's development, rather than entirely at the retail level. This increases the number of points at which taxation is levied as well as increasing the relative incidence of the tax on businesses versus consumers; however, its implementation need not overly complicate existing tax structures in the United States. Specifically, A VAT may be collected in its entirety at the retail stage—being taxed at its sale price—with each business passing along an invoice for their share of the VAT downstream to the final seller, which allow the intermediate firms to claim these as tax credits. VATs are increasingly popular across the globe; all 35 OECD countries have had substantial VATs since 2005, with rates averaging 19.3% of final sales price in 2019. In these countries, VATs constitute the third largest source of revenue after the more standard social security and personal income taxes (OECD, 2019).[12]

There are several additional benefits to VATs over other popularly discussed methods of raising revenue. First, they are easier to enforce than wealth taxes or typical retail sales taxes, making them a more efficient way to administer a tax on the ultra-wealthy (Gale, 2020). Second, VATs do not distort saving, investment, or financial decisions, making them healthier for economic growth than either wealth or income taxes (Congressional Budget Office, 2018). Finally, the VAT enables revenue collection from non-citizens who still consume goods and services in the U.S., including tourists, illegal immigrants, and consumption from illicit industries (e.g., drugs).

However, there are concerns about implementing VATs. Primarily, it is difficult to make a VAT progressive, as lower-income households typically consume a larger fraction of their resources than higher-income households. In addition to low-income families, opponents of a VAT argue that it may penalize state and local governments and small businesses. However, as Gale (2020) makes clear, a VAT can be easily designed that exempts small businesses as well as increasing revenues and lowering administrative costs for state governments. As the current project is concerned primarily with funding an increase in public health care spending through a consumption tax, we do not

[12]Recent estimates suggest that VATs would also generate significant revenue if implemented in the United States; Gale (2020) estimates that starting A VAT of 10% in 2020 would raise $842 billion in its starting year (3.8% of GDP) and about $10 trillion dollars over 10 years. Even if part of the VAT revenue were used to finance a universal basic income, Gale estimates VAT revenue to be $247 billion (1.1% of GDP) in the first year, and nearly $3 trillion over 10 years.

take a stance on the form such transfers might take; instead, we simply note that current discussions about implementing the VAT make it feasible to implement a tax scheme that easily generates revenue without overly burdening lower-income individuals and families.[13]

In order to estimate the rate of a VAT needed to finance ICARE, our simulations identify the size of the base of taxable goods and services as a fraction of GDP. Implementing a VAT across as many goods as possible without exclusions ensures the broadest base, and hence the lowest nominal tax percentage. Calculations by the Congressional Budget Office (Congressional Budget Office, 2018), utilize a relatively narrow base of about $4 trillion worth of goods and services (roughly 20% of GDP) to estimate VAT revenue.[14] In contrast, the typical tax base for OECD countries ranges between 30–50% of GDP, excluding only goods and services whose value are hard to measure.[15] In our simulations, we use a taxable base of 40% of U.S. GDP; however, as discussed in Section 5, a VAT of 9% would be sufficient to fund ICARE even with the more conservative taxable base estimate of 20% of U.S. GDP.

Utilizing our simulated costs for the ICARE phase-in, we estimate that a VAT which caps at 4.4% is sufficient to finance the full ICARE program. Figure 2 shows a proposed way of gradually increasing the VAT in order to finance the ICARE program at each point in its transition, in keeping with the rising costs of the program. Phasing in the VAT over time in this manner minimizes the distortionary impacts of the tax, as noted by the CBO.

4.1 An Alternative Approach: Payroll Taxation

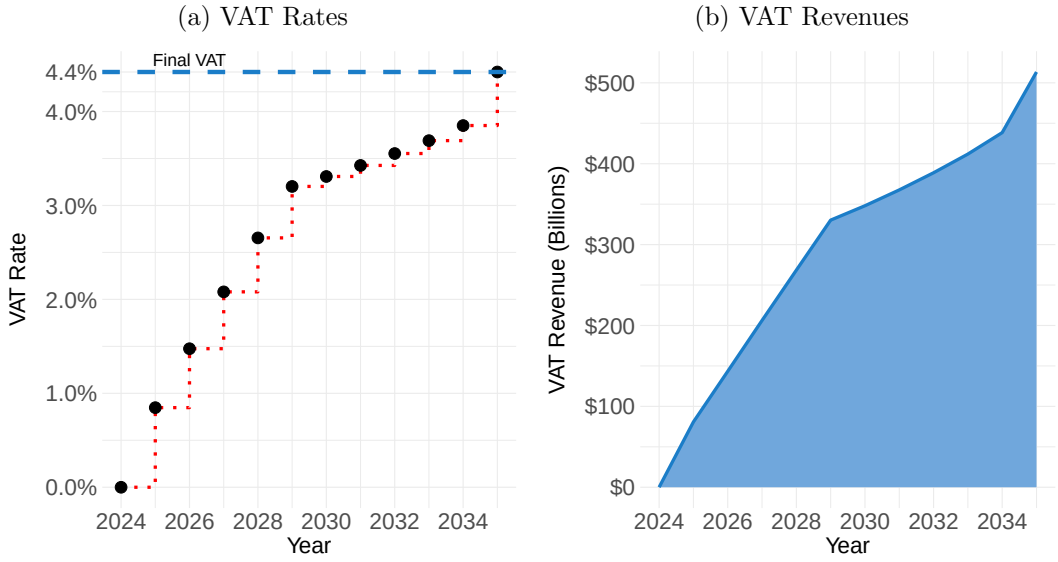
As an alternative to value-added taxation, one could consider financing the entire ICARE transition plan using an increase to the payroll tax. Such a decision would be consistent with the existing U.S. tax structure as well as

[13]There are several possible means to make a VAT less regressive. The first is to exclude certain basic goods and services from taxation, such as food. In addition to limiting revenue, such an approach may increase the distortionary burden of a VAT (Congressional Budget Office, 2018). A more feasible solution is to implement a universal basic income, or other means-tested transfer payment, to offset the regressive effects.Alternatively, as (Gale, 2020) points out, Social Security benefits calculations could be adjusted to prevent the need to incorporate a new transfer program.

[14]This, critically, has led to inflated estimates of the VAT rate necessary to finance Medicare for All plans, with estimates of the necessary VAT as high as 42% (Committee for a Responsible Federal Budget, 2019).

[15]These include health care, financial services, housing, education, and government/nonprofit services.

Figure 2: Financing ICARE with a Value-Added Tax



Notes: Figure shows the minimum VAT rates needed to fund ICARE enrollment and employer subsidies in panel (a), and the projected tax revenue raised by the tax in panel (b). Revenue is projected based on (2018). Revenue is measured in billions of 2022 USD.

previous health care reforms such as the ACA, requiring little restructuring. Additionally, there would be fewer concerns about the regressive nature of the tax.[16] However, increasing the payroll tax rate may also discourage savings and investment behavior.

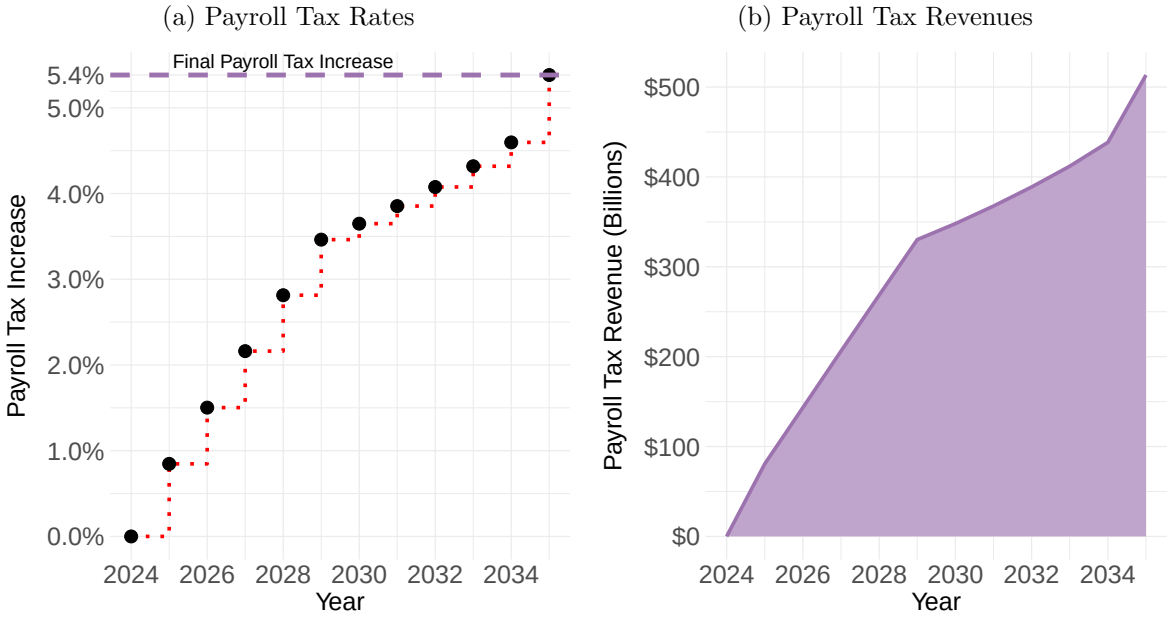
Our estimates for the necessary payroll tax rate utilize IRS data on the distribution of adjusted gross income for U.S. citizens. While the adjusted gross income is not directly the base of most income taxes, it provides a rough approximation to the income tax base for most Americans.[17] We estimate how these earnings will change over time, allowing an additional increase in wages due to employer savings from the ICARE program. Finally, we propose a payroll tax that does not include a cap on earnings, instead choosing to apply the same marginal tax rate to each dollar of earnings even among the ultra-wealthy. This is in contrast to some payroll taxes, such as those used

[16]There are some concerns about the regressive nature of existing payroll tax law—as income increases, typically a smaller share is payroll taxable, calling into question the progressive nature of a more simplified income tax.

[17]For example, the ACA tax further adjusts this amount by including non-taxable SSI benefits, tax-exempt interest, and excluded foreign income.

to finance Social Security benefits; however, such direct wealth taxation is both more progressive and increasingly popular in policy reform discussions (Scheuer and Slemrod, 2021).

Figure 3: Financing ICARE with a Payroll Tax Increase



Notes: Figure shows the minimum payroll tax increases needed to fund ICARE enrollment and employer subsidies in panel (a), and the projected tax revenue raised by the tax in panel (b). Revenue is projected based on IRS data on the adjusted gross income distribution in the U.S. as of 2020. Revenue is measured in billions of 2022 USD.

Figure 3 shows the results of our base simulations. We find that an overall payroll tax increase of about 5.4% is needed to finance ICARE's implementation. This tax could be borne entirely by taxpayers, or could be split between employers and employees, as is the precedent (e.g., the Medicare tax or the ACA tax). Additionally, to the extent that ICARE wages result in wage increases above our conservative estimate, the necessary tax increase could drop to as low as 5.0% when more of employer savings are passed on as increased wages, as discussed in the next section.

5 Sensitivity Analysis

In this section, we summarize how our results change when single key demand parameters are altered. Table 3 illustrates the relative stability of the results to altering only one parameter at a time. Each row represents a different simulation, indicating which parameters were changed and the resulting changes in both the total additional public funds needed to support ICARE and the changes to tax rates needed to finance the program once fully implemented.[18]

Table 3: ICARE Cost and Revenue Estimates: Sensitivity

Parameter Changed	Baseline Value	Adjusted Value	Cost	VAT	Payroll Tax Increase
Baseline simulations	–	–	$513	4.4%	5.4%
Near-aged qualifying age	55	50	$553	4.8%	5.8%
Children qualifying age	18	21	$556	4.8%	5.8%
% near-aged on ICARE	30%	70%	$583	5.0%	6.1%
Moral hazard effect, age 6–18	5%	15%	$551	4.7%	5.8%
Employer ICARE subsidies	35%	50%	$610	5.2%	6.4%
Fee schedule	commercial	Medicare	$358	3.1%	3,8%
VAT base (% of GDP)	40%	20%	–	8.8%	–
% employer savings to wages	30%	80%	–	–	5.2%

Table Notes: Table shows changes to the results presented in Section 3 based on altering key ICARE parameters. Each row represents a different simulation, comparable to the baseline simulations at the top of the table. All currency is presented in billions of 2022 USD.

In general, the cost estimates for the ICARE program are relatively stable to any single parameter change. Changes to expand the qualifying ages for children or near-aged have little impact, suggesting flexibility in who ICARE covers publicly. Changes to more critical parameters—including the fraction of near-aged opting into ICARE and moral hazard effects on utilization—drive up costs slightly. The most sizeable shock to ICARE payments comes from altering the size of employer subsidies, as these constitute about half of ICARE funds; however, even providing a 50% subsidy to employer contributions (e.g.,

[18]Note that throughout, the costs of ICARE are discounted by existing public funds such as those for Medicaid and CHIP.

roughly one-quarter of ICARE premiums) increases ICARE costs by only 18% ($90 billion). Finally, ICARE costs are substantially reduced if we propose changing physician reimbursement schedules from commercial rates to Medicare rates.[19]

Revenue parameters are also important in our simulations. While these parameters do not change the estimated costs of ICARE, choices such as the taxable base of goods and services for a value-added tax and the fraction of employer savings passed on to employees as wages will influence resulting tax rates. Even when reducing the size of the taxable VAT base by half—such as excluding basic goods like food and clothing to limit its regressive nature—funding ICARE requires a VAT rate which is less than half of the rate typical of OECD countries. Additionally, as employers pass on more of their health care savings to their employees, the necessary increase to the payroll tax similarly falls.

6 Variation in Employer Responses to ICARE

Currently, employer-sponsored health insurance programs exhibit a wide degree of variation in premium size, coverage generosity, and network availability, both across and within industries.[20] ICARE's proposal to carve out some of the most expensive enrollees, as well as to standardize and subsidize employer contributions to premiums, aims to reduce this inequality; however, this implies that some firms will benefit more from ICARE's implementation than others. In this section we examine how employers might respond differently to ICARE, as well as discuss the benefits of a cross-plan risk adjustment program.

6.1 Evidence of Heterogeneous Responses

To examine how ICARE may differentially impact different types of employers, we used the Marketscan data to identify 4 large firms that cover various populations that vary in their average enrollee age, coverage generosity, and unionization status. Table 4 provides a stylized guide to the firms, each chosen to characterize a subset of American employees (Sample means are provided

[19]Typically, Medicaid rates are roughly half of commercial rates, and about 70% of Medicare rates.

[20]For example, Figure A.3 in the Appendix shows large variations in the average cost per employee across five relatively similar firms in the finance and real estate industries.

Firm	Average Age	Coverage Generosity	Unionization Status
High Tech	Young	Generous	Low
High Deductible	Average	Restrictive	Low
Old Manufacturing	Old	Restrictive	Low
Old Unionized	Old	Generous	High

Table 4: Description of the Chosen Firms

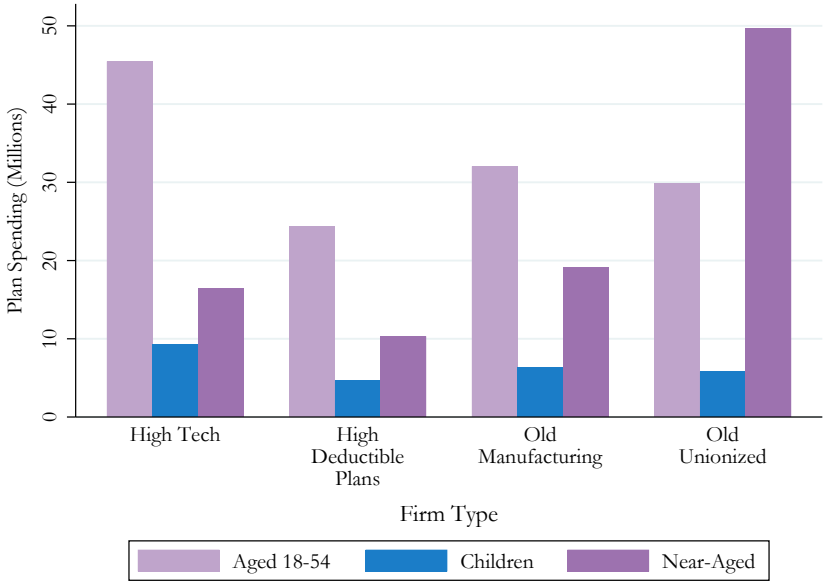
in Appendix Table A.1). We chose one firm with a large reliance on high-deductible insurance plans; one with a high fraction of unionized enrollees and subsequently generous benefit coverage; one with relatively young and healthy employees and hence generous coverage; and one with older (non-unionized) employees and more restrictive coverage.

We then simulate the likely effects of ICARE on employer costs and responses over the transition period. We normalized each firm to have 10,000 covered lives (including employees, spouses, and children) so that differences shown reflect compositional effects rather than size differences. For our simulations we used the full population of insurees in our sample to calculate transfers and burdens, and then extracted the implications for these firms. That is, we did not assume that these were the only firms in the economy, but rather that these were just among a few of the many included in the data.

In addition to heterogeneity across the composition of employees, heterogeneous responses to ICARE for various subpopulations may also yield important insights into behavioral responses to the program (and its accompaning risk equalization program). Among these groups include the previously uninsured who have received new coverage under ICARE, and employee dependents such as spouses and children. Since the decision to be a dependent on a spouse's plan or to remain uninsured is a strategic decision, these synthetic firms may have a different response than other, observable firms. The Appendix includes calculations for two additional, purely hypothetical "firms": one consisting only of employe spouses, and another purely of previously uninsured individuals (based on MEPS data).

Figure 4 illustrates the variation in employer spending across different compositions of employees and plan generosity. Firms offering high-deductible coverage typically incur much lower premium contributions than others, while firms with generous coverage *and* older employees pay more. However, as ICARE is phased in, this unequal pattern should resolve into a more consistent pattern of firm spending. This comes about through two mechanisms: the standardization of plan generosity and the sorting of different employees

Figure 4: Projected ICARE Spending by Age & Former Insurance Status



Notes: Figure illustrates heterogeneity in employer spending across both type of firm and age of enrollee. Total employer contributions are based on four observable firms in the Marketscan data (2014–2017), normalized to have 10,000 covered lives. Total employer contributions (assuming a constant contribution rate of 20% of an enrollee's imputed premium) for each of the relevant age groups is shown, measured in millions of 2022 USD.

into publicly-funded ICARE coverage.

Hence, a firm's demographics play a large role in determining how much it saves in healthcare costs from ICARE's implementation. Firms who currently employ a high percentage of near-aged individuals, or those whose employees have relatively more children than others, stand to see the largest reduction in their health care costs. Furthermore, firms who already provide generous coverage—such as those with heavily unionized employees—will be able to capitalize on ICARE subsidies without changing much of their health expenses. Hence, firms with older, unionized employees may be among those who prefer ICARE the most. On the other hand, firms who typically employ young employees without children, as well as those who are currently providing sub-par coverage, may incur large additional costs from ICARE. Firms that fall into this category may include software engineering firms or small businesses (e.g., non-franchised restaurants/coffee shops).

We simulate how different firms' healthcare obligations change during ICARE's

phase-in. We did this by estimating each firm's per-enrollee spending over time, modeling responses to three critical dimensions: the entry and exit of individuals into the employer pool of premium reimbursements; the relative increase in cost-sharing (and therefore premiums) and capitalization of subsidies; and any employer contributions to a VAT or payroll tax increase.

First, ICARE will eliminate firms' contributions for children and whichever near-aged individuals opt into ICARE, but introduces new individuals into the pool. Particularly, the increase in coverage generosity will induce at least a small fraction of those currently uninsured to seek coverage, resulting in their seeking premium coverage from their employers. Additionally, the move to individual contracts relieves individuals—particularly those in dual-earning households—of the need to choose between their own employer's health care coverage or their partner's. Therefore, as individual contracts become the norm, the pool of people an employer is reimbursing for health care shuffles to accommodate both the entry of employees formerly covered on a spouses plan, and the exit of spouses of employees who no longer receive family coverage through the firm.[21] In aggregate, since the reallocation is net zero, these shifts will not significantly alter the costs of ICARE, but may have important implications for heterogeneity in firm behavior.

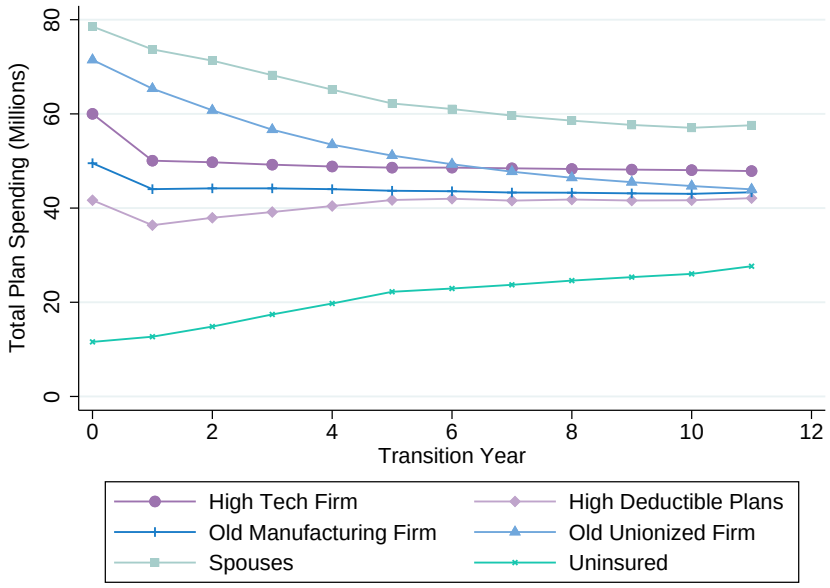
Second, ICARE subsidies are available for all firms who choose to contribute to premiums of plans providing gold coverage or better. A firm's decision of whether or not to take advantage of these subsidies will depend on their relative cost of increasing plan generosity given their current rates. As the majority of employers in the Marketscan data provide at least a silver level of coverage, even moderate subsidies to premium contributions should be sufficient to make employer contributions to more generous coverage worthwhile.

Finally, firms will begin to contribute towards the cost of ICARE's public option, through either the value-added tax or the payroll tax increase. Depending on the industry, firms that produce taxable goods and services will be expected to pay any consumption tax policy makers implement to fund ICARE. In the case of a payroll tax, firms have a precedent of contributing to taxes such as the FICA and ACA tax, and are likely to continue doing so for ICARE.

Figure 5 shows changes in firms' obligations over the transition period for multiple types of firms. In general, employer obligations decline at the start of the ICARE transition as the youngest children are moved onto ICARE cover-

[21] Appendix Figure A.4 illustrates the relative burden to an employer from employees, spouses, and other dependents (e.g., children and other relatives) by employee age for enrollees 18 and above. As these parties shift back to their individual employers, only the relative costs of *employees* will drive firm decisions.

Figure 5: Employer Health Spending During ICARE Phase-in Period

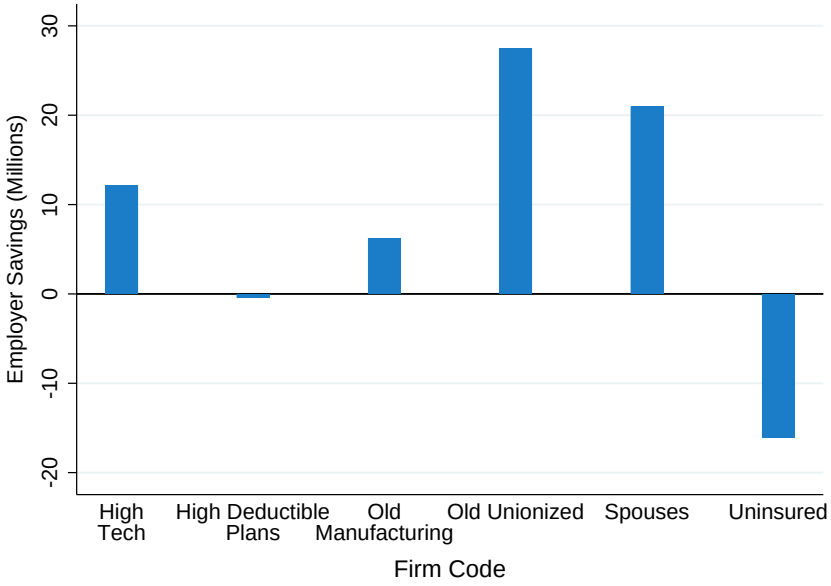


Notes: Figure illustrates heterogeneity in employer spending during the ICARE transition path. Employers pictured here include four observable firms in the Marketscan data (2014–2017) and two synthetic firms comprised entirely of (i) employee spouses and (ii) uninsured individuals (based on MEPS data). Each firm is normalized to have 10,000 covered lives. Total employer contributions minus total employer subsidies is shown in each year, measured in millions of 2022 USD.

age; however, as the program is phased in, employers trade off fewer enrollees and subsidized premium reimbursements against an increasing tax contribution. Over the phase in of the program, differences between employer obligations diminish; in fact, the two firms with the highest and lowest pre-ICARE costs have near-identical costs following ICARE's implementation. The figure also highlights the evolution of obligations for synthetic populations, including the previously uninsured and those covered as dependents on spouses' plans. Spouses tend to be more expensive than the average employee, with costs typical of an older, highly unionized firm. On the other hand, the uninsured population have characteristically low costs. Both groups approach the status quo of other real employers as ICARE is phased in.

Figure 6 shows the overall change in employer costs between 2024 and 2035. We estimate that firms already providing generous coverage to expensive employees will benefit the most. Critically, however, even employers who were providing low-generosity coverage prior to ICARE are expected to save money,

Figure 6: Employer Savings from ICARE (2035)



Notes: Figure illustrates aggregate savings in employer health expenditures from ICARE's implementation. Savings are measured as the difference in employer health spending (total employer contributions minus total employer subsidies) between 2035 and 2024. Employers pictured here include four observable firms in the Marketscan data (2014–2017) and two synthetic firms comprised entirely of (i) employee spouses and (ii) uninsured individuals (based on MEPS data). Each firm is normalized to have 10,000 covered lives. Savings are measured in millions of 2022 USD. See Appendix Figure A.5 for a more itemized analysis of the ICARE policies impacting these savings.

and firms that have historically provided low-cost coverage to their insurees will incur limited losses. The average firm of 10,000 employees is simulated to save just over $10 million annually, or about $1,000 per employee.

6.2 Utilizing a Risk Equalization Framework

Although ICARE's phase-in evens employer contributions across firms, remaining heterogeneity may limit plan portability. If firms continue to employ populations with systematically differing levels of risk, employers may also differ in their premium contributions, giving rise to job lock problems similar to those which currently plague ESI contracts (Barkowski, 2020). Hence, to encourage true portability and hence, mobility, we propose pooling risk across all private insurance plans and the ICARE program. As discussed in Section

1.2, even a simple risk adjustment model stands to benefit both employers and enrollees—in this section, we illustrate this using the HHS-HCC risk adjustment model to augment our analysis of employer heterogeneity.

Table 5: Proposed ICARE Transfers for Example Firms

Firm type	High Tech	High Deductible	Old Manufact.	Old Unionized
2024 employer premiums (millions)	\$55.1	\$38.3	\$45.4	\$65.6
In 2035:				
Savings from children	−\$11.1	−\$5.2	−\$6.7	−\$5.8
Savings from near-aged	−\$10.2	−\$11.3	−\$11.7	−\$32.7
Increase in payment generosity	\$2.3	\$6.3	\$4.8	\$4.0
ICARE subsidies	−\$12.2	−\$11.4	−\$11.3	−\$9.3
ICARE taxes	\$21.0	\$21.0	\$21.0	\$21.0
Risk adjustment payment	\$6.5	−\$1.0	−\$0.4	−\$12.4
Total transfers (sum of the above)	−\$3.7	−\$1.6	−\$4.3	−\$35.2
% of 2024 payments	6.7%	4.2%	9.5%	53.4%

Table Notes: Table shows estimated transfers from ICARE phase-in for 4 hypothetical firms, each with 10,000 enrollees and representing a separate demographic of ESI plans. Risk adjustment payments calculated according to the 2018 HHS-HCC model, including the ICARE program and all other available ESI firms in the risk pool. Note that in aggregate, net transfers sum to zero; however, this table highlights that each of the four types of firms here benefits from ICARE phase-in. We assume that employers contribute to half of the tax payments necessary for funding ICARE.

Table 5 shows the results (see Appendix Figure A.5 for a graphical representation). For each firm, total health care obligations are compared across the first and last year of ICARE's implementation (2024–2035), with spending changes broken down by their source. As expected, firms with larger, younger families will save more by having children carved out into a public option, while firms with older populations (particularly those providing generous coverage) benefit more from the near-aged option.[22] Since ICARE encourages an

[22]Currently, our simulations include the provision that there will be an adverse selection into ICARE, incentivizing near-aged individuals with higher than expected costs to migrate into the public option. However, to the extent that highly unionized firms opt for more generous than average coverage (e.g., "platinum" coverage), this selection effect will be

increase in the average level of coverage generosity, most employers will need to increase their spending slightly, accommodating both increases in premium costs and utilization from moral hazard effects; note that this effect will be especially salient for firms with previously restrictive coverage. However, the ICARE employer subsidy (specified at 35% in our base simulations) more than offsets these costs.[23] Finally, employers contribute to the public cost of the ICARE program; although contributions will in practice vary across industries, we simplify modelling by assuming that firms contribute a fixed amount per employee.

These spending adjustments highlight the effects of ICARE in decreasing employer heterogeneity in health spending; however, meaningful differences persist even after the program is fully implemented. Hence, to allow for free mobility of insured individuals across employers (without the need to change insurance plans), we propose pooling risk across all private insurance plans and the ICARE program. This results in additional transfers, typically from exceptionally healthy firms (e.g., the "High Tech" firm) to less healthy ones (e.g., the heavily unionized firm). For our four chosen firms, a little over half of the necessary risk adjustment transfers come from the ICARE program, which has a large pool of relatively low-risk children. This further lowers employer costs, particularly for formerly expensive firms. Overall, our chosen employers are projected to save between 4% and 54% of their baseline 2024 costs, a large difference in savings driven almost entirely by the reduction in heterogeneity across firms.

7 Conclusion

Current discussions of health care reform in the United States typically suffer from two drawbacks: they conflate multiple health policy issues, resulting in convoluted, grandiose policy proposals, and extreme reforms are favored over moderate ones. In this paper, we have motivated, parameterized, simulated, and evaluated a moderate option to increase access to high-quality health in-

dampened, and firm savings will diminish. We do not yet model differential rates of selection (as expected) according to the initial plan generosity.

[23]Note that future research on implementing ICARE could use this framework to endogenize the minimal ICARE employer subsidy rate such that a stated fraction of firms are indifferent or better off from increasing their contributions to gold plans. Such an exercise would require claims data with richer details on firm structure and industry than is currently available, and so is left for future work.

surance in the U.S., focusing on structural changes that would remove key frictions and coverage gaps and reduce major inefficiencies and inequities. We view ICARE as a politically attractive transition to individual health insurance contracts, public coverage for all children and for the near-aged who want it, and subsidies and a risk adjustment scheme to promote standardized coverage generosity across private and public plans. Our program preserves and incentivizes the private insurers and providers currently dominating the U.S. health care system while prioritizing equitable coverage and increasing access to care for vulnerable populations.

Our simulations are novel in that they address multiple dimensions of behavioral response to the ICARE program, relying on a wealth of health economics and health care policy literature. In particular, we accommodate adjustments to utilization, allow for the most expensive enrollees to choose and be subsidized by a public option, and model how employees and employers will respond in heterogeneous ways to the program. Future research on ICARE and other reform proposals may utilize and extend this framework, potentially endogenizing key parameters such as optimal subsidy rates and risk adjustment schemes. Additionally, future research may present more refined modeling of how ICARE can be used as a foundation to contain costs, and address "supply-side" issues in the healthcare system, such as profit-oriented physician decision-making, unacceptable wait times for care, and provider consolidation.

We estimate that ICARE will require about $513 billion of additional revenue per year when fully phased in, about 1/6 the expected cost of a full transition to a single-payer system. ICARE's increased public costs can be funded with a new value-added tax on goods and services of about 4.4% or a payroll tax increase of 5.4%. Perhaps most appealingly, our simulations are flexible and robust to alternative specifications and can be easily adapted by policy makers. It is our hope that this moderate alternative to health care reform could be politically and economically feasible, while achieving major improvements in the quality of health insurance coverage in the United States.

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A Appendix

Data Details

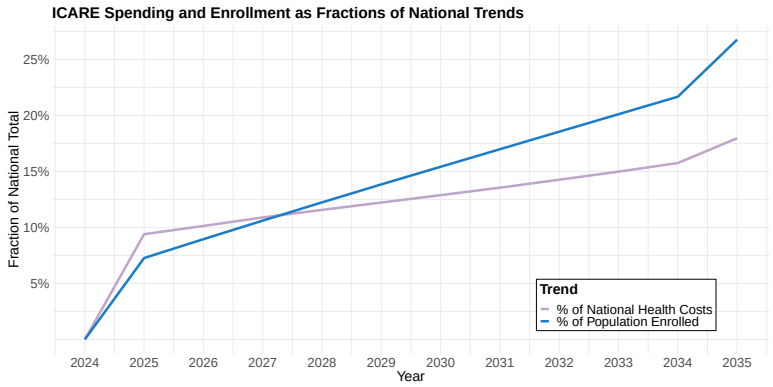
The MarketScan data used in this project utilizes the standard exclusions typical of claims analysis. For more details on this method, see the data sections of Ellis, Martins and Rose (2018).

The MarketScan data was used from 2007 to 2019. We used only enrollees aged 0 to 64, and required that all enrollees in the sample be covered for the full month in which their claim appeared, and that they had both prescription and mental health/substance abuse coverage information. For all that were eligible and covered for only a fraction of the year, we annualized spending (both plan and OOP); in addition, we imposed an annual spending cap of $250,000 and dropped individuals who had negative spending amounts. Finally, we excluded individuals in HMO plans with capitation, POS plans with capitation, and comprehensive health plans.

Employer heterogeneity is based only on data through 2014, as reliable firm/plan identifiers were no longer avaiable after that point in time.

Additional Results

Figure A.1: ICARE Spending and Enrollment as Fractions of National Trends



Notes: Figure shows projected enrollment and spending on ICARE coverage as shares of total national enrollment and expenditures. ICARE enrollment (shown in blue) refers to those with publicly-funded coverage (e.g., children and near-aged individuals), and does not include those with partially-subsidized individual contracts. However, these subsidies are accounted for in the spending projections shown in lavender.

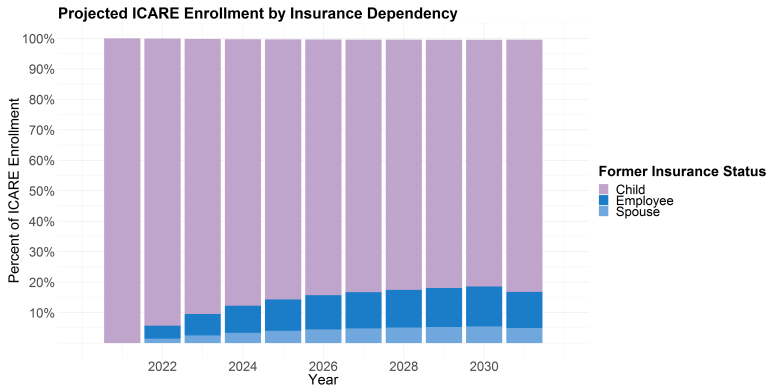


Figure A.2: ICARE Enrollment by Insurance Dependency

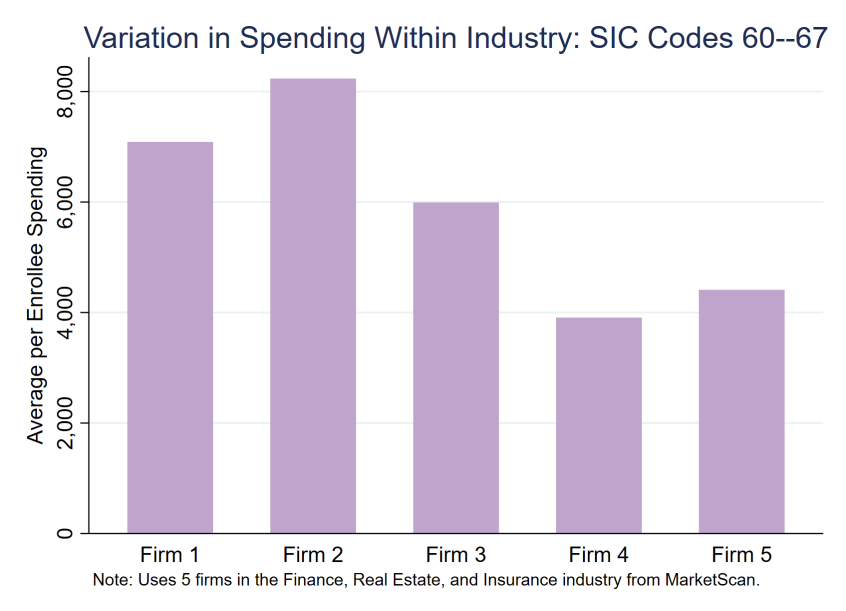


Figure A.3: Average Plan Spending by Firm, SIC Codes 60–67

Figure A.3 illustrates the substantial variation in premiums across firms within industries in the current system. This figure focuses on per-enrollee spending, a proxy for premiums, for 5 large firms in the finance, real estate, and insurance industry. Note that premiums vary from $8,000 in the most expensive firm to just under $4,000 in the cheapest.

Firm type	High Tech	High Deductible	Old Manufact.	Old Unionized	Spouses & adult children	Uninsured
Actual population	82.413	4,712	16,736	97,837	—	—
Simulated sample	10,000	10,000	10,000	10,000	10,000	10,000
% employees	42.6%	48.2%	39.5%	45.7%	0%	—
% adult dependents	28.1%	23.7%	29.4%	33.9%	100%	—
% children	29.4%	28.1%	31.0%	20.5%	0%	13.0%
Ave. employee age	30.1	31.2	31.8	42.8	47.3	35.0
Family size	5.8	3.1	4.2	2.9	—	—
% in HDHP	0.0%	77.4%	0.0%	0.0%	—	—
% unionized	16.6%	(no info)	0.6%	75.4%	—	(no info)
Average risk score	0.83	0.82	0.90	1.21	—	—
Per-enrollee spending	$13,043	$6,989	$12,128	$11,650	$14,571	$1,063

Table A.1: Summary Statistics for the Four Firms and Two Synthetic Groups

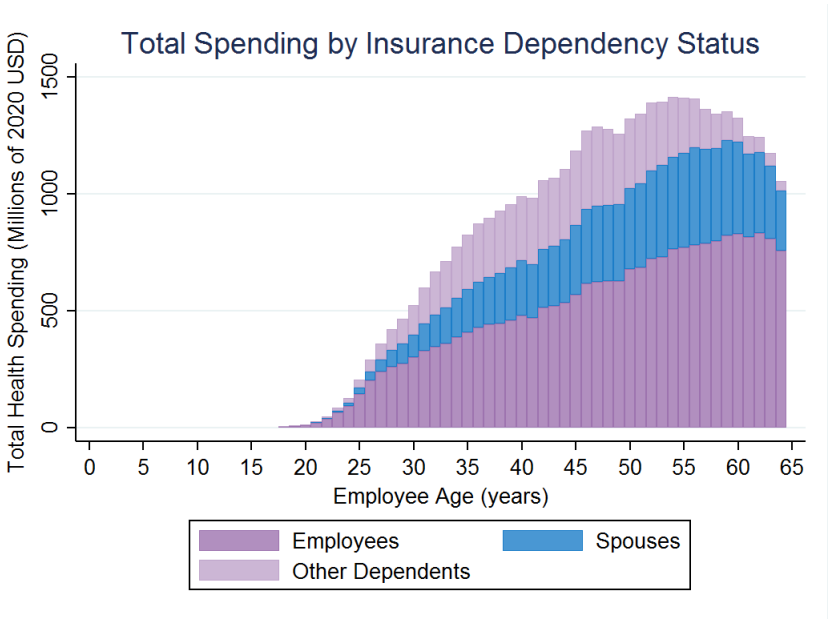
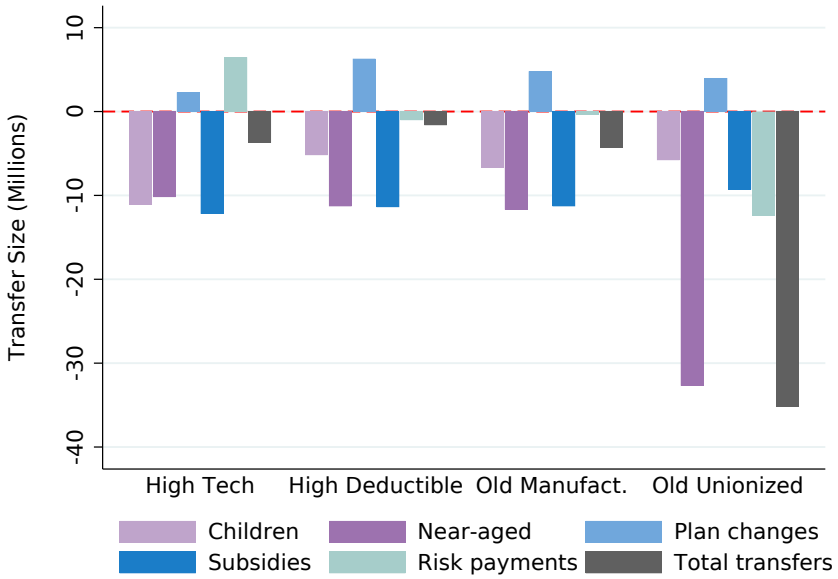


Figure A.4: Total Health Spending by Employee Age and Enrollee's Dependency Status

Figure A.5: Variation in Employer Response to ICARE



Notes: Figure shows the relative impacts of ICARE policies on changes to employer healthcare spending between 2024 and 2035 (total savings are in grey, matching the findings in Figure 6). Saving from eliminated premium contributions for all children and some near-aged individuals are shown in pink and purple. Additional costs of contributing to more generous insurance contracts (gold plans or better) is show in light blue, with the corresponding employer subsidies (using the 35% subsidy rate in Table 2) in dark blue. Non-ICARE payments have been risk-adjusted according to the HCC model, with resulting risk payments/transfers in light green. Not shown are the impact of the additional VAT/payroll tax, which will average a cost of $21 million for all firms. Employers pictured here include four observable firms in the Marketscan data (2014–2017); each firm has been normalized to have 10,000 covered lives. Savings are measured in millions of 2022 USD.