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The micro-dimensions of health policy design: evidence from a comparative analysis

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ABSTRACT

Policy design studies typically focus on broad policy goals and the types of tools that governments use to realize them. There is however limited scholarly understanding of how these goals and tools are operationalized “on-the-ground.” In this paper, we apply Capano and Howlett’s 2024 Framework on the Micro-Dimensions of Policy Design to understand how universal health coverage goals in the United States, Singapore, and Thailand are operationalized. The framework unpacks the “nuts and bolts” of policy design particularly the specification of policy targets and tools. A comparative analysis of three programs (Obamacare in the US, Medisave in Singapore, and Universal Coverage Scheme in Thailand) demonstrates how similar high-level policy goals are pursued through different tools and settings. Studying these micro dimensions provides insights into the actual operational ways in which high-level objectives are translated into impacts at the ground level. From an applied point of view, a comparative focus on the dimensions of the micro level of policy design is useful for generating evidence and informing health policy debates about what works or does not work on-the-ground.

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1. Introduction

Effective public policy depends on thoughtful design across multiple levels, from high-level goals down to implementation details. The proliferation of studies on policy tools and instruments –over the past decade – offers rich insights on the effectiveness of policies across a range of policy sectors (Borrás and Edquist 2013; Rogge and Reichardt 2016). These studies however have mostly focussed on the *macro and meso* aspects of public policy (Capano and Howlett 2020). Macro studies typically examine broad governance structures, dominant ideas and institutions, and how these collectively shape the choice of policy tools that governments use to realize their policy goals. Meso studies, on the other hand, emphasize different types of policy tools, how they are assembled in what scholars describe

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as “mixes” or “bundles” and “portfolios” with substantive and procedural counterparts (Howlett, Mukherjee, and Woo 2015; Bali et al. 2021). Despite these advances in macro and meso studies, there has been an insufficient empirical examination of the micro-dimensions of policy – i.e. how policy targets are specified and policy tools calibrated (Capano and Howlett 2020, Capano and Toth 2023)

Understanding these micro dimensions can offer insights for practitioners seeking frameworks for analyzing, designing and implementing policies and their components. This is particularly instructive in the case of complex policy sectors such as health-care where on-the-ground implementation details play a critical role in shaping outcomes (Nguyen et al. 2015; Ramesh and Bali 2021). Moreover, policymakers have more control over the micro relative to the meso and macro dimensions of policy design which tend to be more “sticky” and resistant to change (Bali, Howlett, and Ramesh 2022; Bali and Hannah 2021). Put differently, the micro dimensions are typically the first port of call for policymakers and practitioners when wanting to make adjustments or introduce changes in a policy area. It is in this context of inertia and policy stability that this paper explores how the micro dimensions in health policy are operationalized.

Our efforts to articulate the micro dimensions of health policy design are consistent with Cashore and Howlett (2007) elements framework that maps out differences between goals and means across varying levels of abstraction, and also with Hall’s (1993) different “orders” of change. The micro dimensions relate to the most “granular” aspects of Howlett and Cashore’s framework of policy *goals* (e.g. the target waiting times in public hospital emergency rooms, or the vaccination target rates across elderly populations, etc) and policy *means* (e.g. the specific dollar value of subsidies to public hospitals, or the number of vaccines to be procured by primary health centres). Similarly, the micro dimensions are the settings of instruments that are adjusted in what Hall calls a “first-order” change (Hall 1993). Put differently, the micro dimensions do not refer to the locus of design, but rather to the granular specificity of a particular policy.

Capano and Howlett (2024), in the introductory essay to this special issue, offer a novel framework that can help understand these micro dimensions. Their ten-variable framework unpacks these dimensions, focusing explicitly on *target specification* and *tool calibration*. In this paper, we apply their framework to examine universal healthcare coverage reforms in three different contexts. We focus on the landmark 2010 Affordable Care Act (ACA) in the U.S.A; Thailand’s storied 2001 Universal Coverage Scheme (UCS); and Singapore’s medical savings program (Medisave) introduced in 1984. The choice of these cases is not meant to be representative of health systems. Rather, the cases – based on data and information from existing research, legislation and policy documents – are meant to provide an illustration of how different health systems operationalize similar goals. Our analysis documents wide variations in the choice of policy tools (market-based insurance, individual medical savings accounts, and tax-financed arrangements) and, some similarities and differences across the settings of these tools.

Applying Capano and Howlett’s micro-level targets and calibrations framework brings into sharp relief the critical “nuts and bolts” of how these policies expand

access and affordability through careful population targeting, behavior requirements, resource allocation, implementation roles, and accountability mechanisms. Importantly, it focusses health policy debates away from abstract macro and meso-level features of health systems (such as the role of governments in financing or delivering care), to on-the-ground settings. The analysis reveals the Obamacare's complex policy mix combining mandates, subsidies, and insurance regulations to increase coverage. Thailand relies heavily on government subsidies but calibrates the payment instruments carefully to meet different objectives. Similarly, we also show how Singapore has continually recalibrated Medisave program to balance individual and collective health financing over decades.

There have been several calls for greater comparative analysis (see for e.g. Peters 2020) of policy designs including target specifications and tool calibrations across policies and contexts, which can generate several benefits (Capano and Howlett 2020; Bali et al. 2021).

First, it demonstrates the framework's usefulness for dissecting policies across geographies and to provide a more fine-grained analysis of the way in which policies are actually designed on the ground. Second, the approach reveals connections between macro and meso-level goals and micro-level details underlying outcomes. In doing so, it moves policy debates away from abstract goals to more specific implementation conditions (e.g. the specific conditions associated with subsidies to public hospitals rather than if public hospitals are subsidised). Finally, systematic focus on the micro level significantly advances methodology for cross-national policy analysis and offers a common analytical basis for more robust explanatory research on policy effectiveness in health policy. For policymakers, it offers an actionable lens to diagnose how calibrated policy components combine to achieve system-level goals, and where recalibration may be necessary. Beyond these three cases, the paper establishes a foundation to extend the analysis of healthcare targets and calibrations more widely and suggests a novel way to study health policies.

2. The challenge of health policy design

Debates on how healthcare services should be delivered and financed in a society are often polarizing, steeped in ideological predilections and do not adequately recognize the inordinate design work needed to support these universal healthcare programs (Roberts et al. 2003; Bali and Ramesh 2017; Ramesh and Bali 2021). There are several design challenges that governments have to navigate in order to realize universal healthcare coverage.

First, extensive asymmetric information among stakeholders and a myriad of moral hazards characterize the market for healthcare goods and services which give rise to a series of constitutive governance failures that are difficult to manage (Ramesh and Bali 2021). Further, the key agents in a health system –patients, healthcare providers, and insurers are in enmeshed in multiple principal-agent relationships that aggravate these failures (Bali and Ramesh 2015). Third, stakeholders in the health system have fundamentally differing interests and incentives. For example, healthcare providers value their autonomy in both medical and financial

matters while insurers or third-party payers are more responsive to lowering health-care costs. Patients, for their part, prioritize the immediacy and quality of care and to pass on costs to other stakeholders. Fourth, aligning the financial motivations of powerful actors in the sector, primarily the providers who control resource allocation, with the aims of governments and the broader public interest proves challenging (Fuchs 2011). There is an inherent conflict between the profit-driven incentives of powerful healthcare providers and the societal goals of maintaining economically an accessible healthcare system for all (Pauly 2009; Fuchs 2011; Ramesh, Wu, and He 2014). Finally, health systems are complex institutions which have developed incrementally, constrained by previous decisions and existing trajectories thus fostering inertia (Roberts et al. 2003).

Scholars have argued a policy design perspective can help address such complexity (Ramesh and Bali 2021). A design perspective requires an understanding of the technical aspects of healthcare challenges as well as the political and operational contexts within which they exist in societies (Chindarkar, Howlett, and Ramesh 2017; Bali, Capano, and Ramesh 2019). Over the past two decades there has been a proliferation of diagnostic and policy frameworks by international organizations such as the World Bank and the World Health Organization focusing on different components of health systems described as “building blocks” and “control knobs” (WHO 2010; Roberts et al. 2003). There are also various analysts associated international organizations that have produce “how-to” manuals on design of financing and payment systems for health care (Langenbrunner and Somanathan 2011; Langenbrunner, O’Duagherty, and Cashin 2009; Langenbrunner and Wiley 2002). These insights are valuable, but again, they are focused on the level of policy tools and not on the on-the-ground micro settings of the policy. What is needed is a granular examination of the different components of policy aims and means that constitute health policy. Put differently, we need to understand how a policy tool to pay for health services, for example, is actually operationalized in a particular context. That is, what are the specific settings of the tool (rates, services, coverage, etc) and how do they realize stated objectives.

The “new” design literature emphasizing the role of a policy tool or a collection of tools in addressing policy problems (Howlett and Rayner 2013; Schaffrin, Sewerin, and Seubert 2014; Howlett 2024) offers a promising approach to understand these micro dimensions. The design approach to public policy is a strategic method that emphasizes addressing public problems through the careful selection and application of specific policy tools or instruments. Key features of the design approach include, first, focus on understanding the problem and its causes and choosing goals that will eliminate or at least mitigate their adverse effects. Second, the approach emphasizes selection of appropriate tools to achieve the set policy goals. Third, the approach in recent times has highlighted the importance of conceptualizing policy tools as a part of a portfolio of tools used in a sector rather than in isolation. This acknowledges the complexity of contemporary issues and the need for a coordinated set of tools to address multifaceted problems. Fourth, the new design approach underscores the importance of designs that are coordinated, coherent, and consistent. This requires policymakers to consider how different tools interact and whether they complement or contradict each other in achieving specific policy goals. Finally, an essential aspect

of the design approach involves considering the existing patterns of beneficiaries and losers associated with the use of specific tools and how they may support or resist changes to tools based on their self-interest.

A recent contribution to the design approach is the calibration framework developed by Capano and Howlett in this special issue (Capano and Howlett 2024). Their conceptualization unpacks 10 key features of the micro-dimensions of policy design: namely three features around the *specification of targets*, and seven questions around the *specification of settings* (Table 1). These ten features offers granularity on the nuts and bolts of how policy tools and instruments are actually rolled out. We apply this framework to three empirical cases in health policy all focussed on efforts to extent universal health coverage.

Table 1. Capano and Howlett’s framework of the micro-dimensions of policy design.

<i>Policy Targets</i>	
Designation	Whom does the policy intervention target?
Outcome	What is expected to be done by the intervention?
When	What is the time frame of the intervention ?
<i>Policy Settings</i>	
Stringency	How coercive is the policy?
Visible	How visible are changes in policy to the public?
Automaticity	Can the policy tool be easily rolled out by existing agencies?
Resource Intensiveness	What is the level of resources committed to the policy tool?
Agency Implementation	Which agency is responsible?
Monitoring & Auditing Provisions	What are the policy audit and monitoring rules?
Accountability Rules	What are the audit and compliance rules?

Source: Based on Capano and Howlett (2024).

This framework holds promise for better understanding how health policies are designed and for capturing the micro differences in design that are very often obscured by the usual (macro and meso) analytical lenses used to study this type of policy (with the risk of not sufficiently understanding whether, why and to what extent these policies are successful or not). We thus illustrate the analytical potential of this framework by applying it to three relevant policy interventions aimed at reshaping the national character of health care in three very different systems, but with the same macro-policy objective (extending health care coverage). The cases are different not only in terms of the characteristics of the national health systems analyzed, but also in terms of the nature of the interventions: from major reforms in the US and Thailand to continuous incremental policy changes in Singapore.

3. Insurance-based coverage: Affordable Care Act in USA

The Affordable Care Act (ACA) was signed into law on March 23, 2010. Table 2 helps to clarify the policy targets and calibrations involved in operationalizing the Act’s policy goals, and how they are actioned.

First, the principal goal of the ACA is to extend healthcare access particularly to those who do not have insurance from their employers, or are ineligible for programs for the elderly (Medicare), and for the poor (Medicaid). This is summarized by National Council of State Legislators (NCSL) (2011) as follows:

1. Broaden the access of health insurance coverage
2. Strengthen consumer safeguards and regulations
3. Prioritize preventative care measures
4. Enhance the overall quality of healthcare services
5. Expand the workforce
6. Reign in healthcare costs

These six policy objectives are realized through a variety of policy targets and instruments that affect different population segments in different ways. Nonetheless the summary articulated by the NCSL and other analysts typically groups the measures designed to operationalize these objectives under different functional headings without distinguishing their different essential characteristics or highlighting how they work together, which convolutes understanding of how ACA works, resulting in a confusing patchwork of policy elements.

In [Table 2](#) below we identify ACA's policy measures related just to the one objective of expanding insurance coverage according to framework.

As [Table 2](#) shows, what is commonly known simply as the ACA or Obamacare "health policy" can be seen to actually be a large set of related objectives, tools, targets specifications and instruments' calibrations that need to be kept in alignment if the policy is to achieve its intended impact. The ACA operates at multiple levels. At the macro level, its overarching goal is to promote universal access to healthcare through private insurance markets, supplemented by public Medicare for seniors

Table 2. Policy elements of the ACA to expand health insurance.

POLICY GOAL	POLICY OBJECTIVES	SPECIFICATIONS
Universal Access to health care	Expand access to health insurance	<i>See below</i>
GOVERNANCE	POLICY TOOLS	CALIBRATIONS
Private provision and financing; autonomy for providers and users	Regulation Subsidy Organization	<i>See below</i>
TARGET SPECIFICATIONS		
<ul style="list-style-type: none"> • Extend health insurance coverage to about 32 million uninsured Americans by expanding both private and public insurance • Support for those without employer-provided insurance and ineligible for Medicare or Medicaid • Different components implemented over different time frames between 2010 and 2014. 		
TOOL CALIBRATION		
<u>Regulation</u>		
<ul style="list-style-type: none"> • Require employers to cover their workers, or pay penalties (High Stringency) • Require individuals to have insurance, with some exceptions (Stringency; Automaticity) • Enact consumer protections to enable people to retain their insurance coverage (Automaticity) • Require the Secretary to monitor premium increases premium increases of health insurance coverage offered through an Exchange and outside of an Exchange (monitoring) • Guidelines to ensure quality of provisions (Accountability) 		
<u>Subsidy</u>		
<ul style="list-style-type: none"> • Provide tax credits to certain small businesses that cover specified costs of health insurance for their employees. (Resource intensiveness) • Expand Medicaid to cover people with incomes below 133 percent of federal poverty guidelines. (Public Visibility; Resource intensiveness) 		
<u>Organization</u>		
<ul style="list-style-type: none"> • Require creation of state-based (or multi-state) insurance exchanges to help individuals and small businesses to purchase insurance. Federal subsidies will limit premium costs to between 2 percent of income for those with incomes at 133 percent of federal poverty guidelines, rising to 9.5 percent of income for those who earn between 300 percent and 400 percent of the poverty guidelines. (Stringency; Automaticity; Resource intensiveness) 		

and Medicaid for low-income populations. This broad goal is then pursued through meso-level policy objectives, as outlined by the National Conference of State Legislatures in six key areas. However, translating these objectives into reality occurs at the micro policy design level, where numerous detailed specifications and calibrations of the regulations, subsidies, and organizational structures are defined. It is this intricate micro-level design that ultimately determines how the macro goals and meso-level objectives are implemented in practice.

From a practitioner's perspective, the micro-design elements of the Affordable Care Act (ACA) are crucial to its success or failure, just as important as the program's overall objectives and policy tools. Key features like the employer and individual mandates are essential, as the program would be ineffective if these provisions were voluntary. The ACA also provided subsidies to small businesses and lower-income individuals to make insurance affordable. Without these subsidies, the mandates would be meaningless for those lacking resources to purchase insurance. Other vital micro-design aspects include expanding Medicaid eligibility for those below certain income levels and improving insurance market competition through state-based exchanges where consumers can compare plans and pricing with greater transparency. The ACA also defined a minimum level of covered services to facilitate meaningful plan comparisons

These intricate design details play an important role in the implementation of the reform. For example, the architects of the Affordable Care Act (ACA) recognized that imposing a financial penalty for not purchasing health insurance was essential to compel healthy individuals to obtain coverage. Without incentivising universal participation, insurance pools attract a disproportionately share of unhealthy individuals giving rise to classic adverse selection problems that plague health insurance programs. This, in turn, would further discourage healthy individuals from purchasing insurance, setting off a spiral of rising costs and diminishing coverage rates. The importance of avoiding this detrimental scenario by incentivizing broad participation was well-understood by those who crafted the ACA.

Equally, the opponents of the Affordable Care Act (ACA) recognized how the individual mandate and its associated financial penalty for not purchasing health insurance could be blunted by calibrating these instruments downwards. Thus, when the Republicans regained control of Congress in 2017, they effectively reduced the financial penalty to zero, thereby undermining the implementation of the ACA. This action led to a court challenge questioning the constitutionality of the ACA. However, the challenge failed on a technicality, as the plaintiffs were deemed to lack standing to sue since a zero-cost penalty did not cause them any actual harm.) (*California v. Texas 2021*).¹

3.1 Compulsory medical savings accounts: Medisave in Singapore

A second illustration of the significance of the micro-level elements of policy design can be seen in the development of medical savings accounts in Singapore. Singapore is reputed as having one of the best healthcare systems in the world, ranking among the top five countries for low infant mortality as well as high life expectancy (Bloomberg 2018. EIU 2014). What stands Singapore apart from most other systems,

however, is the low expenditures at which these outcomes have been achieved: total healthcare expenditures in the country accounted for 4.4 percent of GDP in 2019 while government expenditures in the area accounted for 2.3 percent of GDP (WHO 2022). Both these levels are less than half the average for OECD countries, many of which have worse health outcomes than the island state.

A key reason for Singapore's exceptional performance is often said to be the principle and practices of individual responsibility that guide its healthcare policy (Callick 2008). As the Ministry of Health puts it, "Patients are expected to co-pay part of their medical expenses and to pay more when they demand a higher level of service." The thinking is most evident in the significant out of pocket payment (OOP) for health services that users are expected to make as well as the Medisave program based on individual medical savings. Since Medisave saving is one's own money, it is expected that people will spend it more cautiously than public funds.

This thinking is, however, hard to put into practice due to the high cost of healthcare, which makes it impossible for most households to pay for it. To maintain Medisave's relevance in the face of rising costs beyond the means of most households, the government has had to constantly tinker with the scheme – i.e. calibrate and re-calibrate it – and has increasingly resorted to pooled financing as a key policy tool.

In Singapore, all users (except for those on stringently means-tested Medifund) must pay some part of their medical expenses out of pocket (OOP), and the various healthcare financing programs, even together, do not cover the entire cost of care. To help users pay for their OOP obligations, Medisave, adopted in 1984, requires all working individuals (including the self-employed) to save a part of their income for future medical expenses. Accumulated funds in one's account may be withdrawn to pay for their own and their immediate family members' allowed medical expenses.

The key role played by (re)calibrations of the adopted policy instruments in this policy area is clear. To promote accumulation for future needs, there are strict limitations on the amount and treatments for which funds can be withdrawn. The monthly contribution rates and the conditions of withdrawal as well as the Minimum Sum that must be retained in the account are adjusted periodically in line with changing circumstances.

At the time of launch, Medisave required all working adults to contribute 6 percent of their monthly wages (split evenly between employer and employee) to their personal account. The monthly contribution rate was raised to 7–9.5 percent (depending on age) in 2012 and 8–10.5 percent in 2023 percent to account for rising healthcare costs. Individuals continue to contribute to their account until the age of 65 years when contributions stop and the balance exceeding the annually-adjusted "minimum sum" may be withdrawn. The Minimum Sum (later renamed Basic Healthcare Sum (BHS) amount is deemed sufficient to last an average person's lifetime. Originally, the Minimum Sum was S\$5,000 but stood at S\$40,500 in 2013 and gradually calibrated upwards to S \$71,000 in 2024.

In addition, at its outset Medisave funds could only be used for expenses incurred in B2 or Class C wards (the lowest ward classes which are heavily subsidized) of government hospitals. In 1985, however, use of Medisave was

extended to cover bills incurred in private hospitals. Similarly, the use of Medisave funds for outpatient services at the time of launch was restricted to a limited number of serious and expensive illnesses (such as chemotherapy). However, these restrictions have been gradually relaxed since 2006 and now include a broad range of chronic conditions. In 2023, Medisave funds also became available for home medical and nursing services as well as video consultations for home palliative care.

In addition to adjusting Medisave contribution rates, top ups and relaxation of service coverage, the government has expanded the number and type of insurance and public assistance programs in the face of rising costs. In 1990, it launched an optional low-cost insurance scheme called Medishield offering limited protection against financially “catastrophic” illnesses. In 2015, the scheme was replaced by Medishield Life which was compulsory and offered more comprehensive coverage with lower co-payment throughout one’s life. Overall, there has been a progressive expansion of government subsidies and insurance funds to pay for healthcare which together now form nearly half of total health expenditures (Table 3).

The table shows that major policy changes were accomplished mainly through calibration of the stringency, resources intensiveness, and service coverage rules rather than through macro- or meso-level changes to the Medisave program. Most goals remained largely the same throughout this process.

Table 3. Policy elements of Singapore’s Medisave program, 1984 and current.

POLICY GOAL	POLICY OBJECTIVES	SPECIFICATIONS
To reinforce that health is an individual responsibility	Allow households to build individual savings to pay for healthcare.	See below
GOVERNANCE	POLICY TOOLS	CALIBRATIONS
Hierarchic Governance	Mandatory Savings	See below
TARGET SPECIFICATIONS		
At launch in 1984		Current
<ul style="list-style-type: none"> • Target Population: Working Singapore citizens and Permanent residents • Expected outcome: sufficient savings to be accumulated over one’s working life. • Time frame: Immediate coverage of the working target population. 		<ul style="list-style-type: none"> • Target Population: unchanged • Expected outcome: sufficient savings (inflation-adjusted) accumulated over one’s working life. However, other programs launched to complement Medisave. • Time frame: unchanged.
TOOL CALIBRATION		
At launch in 1984		Current
<ul style="list-style-type: none"> • High Stringency. Contribution Rate: 6% of monthly income. Minimum Sum at Retirement: S\$ 5,000. • High Public Visibility. Compulsory. • High Automaticity. Contributions automatically deducted from wages. • High Resource intensiveness: 6% of monthly income deducted. • Clear Responsibility for implementation: National Government • Monitoring and Auditing: Ministry of Health (MOH) & Central Provident Fund (CPF) • Accountability Rules: Accountability rules enforced by CPF & MOH • Service Coverage: Inpatient treatment in B2 or Class C wards of public hospitals. A limited number of expensive treatments. 		<ul style="list-style-type: none"> • Higher Stringency. Contribution Rate: 8–10.5% of monthly income. Minimum Sum at Retirement: S\$71,000. • High Public Visibility. Compulsory. • High Automaticity. Contributions automatically deducted from wages. • Higher Resource intensiveness: 8–10.5% of monthly income. • Unchanged Responsibility for implementation: National Government • Monitoring and Auditing: Extensive monitoring of consumption of health services • Accountability Rules: no changes • Service Coverage: Inpatient treatment in public or public hospitals. Expanded range of outpatient and long-term, and home care. Higher claims limit.

3.2 Publicly subsidised health programs: universal coverage scheme (UCS) in Thailand

A final illustration of the significance of the micro-level elements, and the role they play in realizing policy objectives is evident in Thailand's Universal Coverage Scheme (UCS). Thailand enjoys health outcomes that compare favorably relative to other middle-income countries (Tangcharoensathien et al. 2015). Importantly, Thailand has achieved these health outcomes at relatively low costs (less than 5% of GDP) and has one of the lowest rates of OOP spending (less than 10% of total health spending) (WHO 2022). A principal driver of these impressive metrics has been Thailand's UCS rolled out in 2001 (Ramesh and Bali 2021). The UCS immediately extended healthcare coverage to a third of the Thai population that did not have access to healthcare despite policy efforts by successive governments. Thailand's UCS program is frequently celebrated in debates on universal health coverage, and has become a model for countries aspiring to expand access at relatively low costs (Ramesh and Bali 2021: Chapter 5).

UCS has given Thailand a seemingly simple health system. The public sector accounts for an overwhelming share of healthcare provision, employment, and financing. More than three-fourths of all hospital beds across the country are in publicly owned and operated hospitals. An equal share of the health workforce is employed at these public hospitals and clinics. Importantly, most health expenditures are financed through publicly organized programs (a Social Insurance Program for those in the formal private sector (covering about 10% of the population), the Civil Service Medical Benefit Scheme for those working in the government (10% of the population), and the UCS that covers the remaining population). Around 10 percent of the population have voluntary private insurance. The UCS provides for outpatient treatment at a registered "contractor network" (essentially a health clinic), and inpatient treatment at a public hospital. Members of the UCS do not have to pay for treatments, and all costs are borne by the government. Our focus in this empirical illustration is on the micro elements of UCS's payment system: specifically, how it pays healthcare providers.

UCS largely avoids paying providers on a fee-for-service basis (as is the norm in many health systems) using them infrequently, and instead relies on three different payment mechanisms. First, it uses an age-adjusted capitation rate per person registered with the clinic. Second, it uses case-based payment (DRG) rate for inpatient care that is layered with a strict global budget. Third, there are set fees for high-cost and priority treatments. These mechanisms are meant to incentivise providers to be cost-conscious and remain within their allocated budget. This layering and packaging of prospective and retrospective payment tools is the result of sustained efforts over the past decade to calibrate different payment tools to create the appropriate incentives and disincentives.

DRG is a key innovation in Thailand's capped payment system. Indeed, it was one of the first developing countries to implement a prospective payment system for most of its population. There are currently two base DRG rates: a regional rate with global budget and national rate for referrals. Higher cost treatments have been "bundled out" from the DRG and are now reimbursed on a fee schedule. This is

layered with routine audits by the National Health Security Office (NHSO) to ensure that patients are not assigned to more expensive diagnostic groups.

Thailand's experience with capped payments highlights the complexity in designing provider payments (Langenbrunner, O'Duagherty, and Cashin 2009). No single arrangement - FFS, Capitation, or DRGs - can create appropriate incentives for healthcare providers. Indeed, most governments rely on a combination of them (Wu and Ramesh 2014) and must continually adjust them in response to underlying data on costs and utilization. Such calibrations of the adopted policy instruments require extensive data, and investments in analytical capacity to understand and respond to variations in utilization of high-cost services. Thailand has developed robust capacities to collect granular data on healthcare costs, usage patterns, regional disease burdens, and epidemiological trends. The National Health Security Office (NHSO) then leverages this detailed information to adjust the per-capita payments and subsidies it provides to its contracted healthcare provider networks (Patcharanarumol et al. 2018). Providers, in turn, use data on costs and utilization in their negotiations with the contractor network and the NHSO. While healthcare providers resist the sharing of data (Ramesh 2008), this challenge has been overcome in Thailand as the government owns and finances most hospitals and is able to use this data to calibrate the instruments. Table 4 summarizes the micro-design dimension of the UCS at the time of its creation.

Table 4. Policy elements in Thailand's universal coverage scheme (UCS).

POLICY GOAL	POLICY OBJECTIVES	SPECIFICATIONS
Universal Access to Healthcare	Expand Public Financing of Healthcare	<i>See below</i>
GOVERNANCE	POLICY TOOLS	CALIBRATIONS
Hierarchic Governance	Treasure (Subsidies), Organization (Public Hospitals)	<i>See below</i>
TARGET SPECIFICATIONS		
At launch in 2001		
<ul style="list-style-type: none"> • Target Population: All citizens not covered by the program for civil servants, and the program for those employed in the formal private sector • Expected outcome: access to basic health care • Time frame: Immediate coverage of the target population. 		
TOOL CALIBRATION		
Low Stringency. The program is coercive in that everyone is covered by the national program. Co-payment of 30 THB to access services	High Public Visibility. No changes	High Public Visibility. No changes
High Public Visibility. The UCS has high public visibility and is a central pillar of Thailand's social policy programs.	High Automaticity. Changes made to enrollment criteria and changing provider networks	High Automaticity. Changes made to enrollment criteria and changing provider networks
High Automaticity. Enrollment in the program is straightforward. UCS was relatively easy to implement.	Higher Resource intensiveness: Frequent changes into capitation rates and level of public subsidies	Higher Resource intensiveness: Frequent changes into capitation rates and level of public subsidies
Higher Resource intensiveness: No individual payments, but increased public spending on healthcare	Responsibility for implementation: no changes	Responsibility for implementation: no changes
Responsibility for implementation: increased responsibility for the Ministry of Public Health	Monitoring and Auditing: adjustments made on the basis of continual audits, and use of data analytics to different payment rules	Monitoring and Auditing: adjustments made on the basis of continual audits, and use of data analytics to different payment rules
Monitoring and Auditing: new government agency (NHSO) established to monitor and audit healthcare provision, and distribution of funds across hospitals	Accountability Rules: Accountability mechanisms introduced by the NHSO	Accountability Rules: Accountability mechanisms introduced by the NHSO
Accountability Rules: Extensive rules introduced on how public funds would be allocated across hospitals.	Service Coverage: Frequent calibration in types of services offered (expanding coverage of new treatments), and payment rates to providers for those treatments (e.g. increasing reimbursement rates to promote certain types of treatments such as cataract surgeries).	Service Coverage: Frequent calibration in types of services offered (expanding coverage of new treatments), and payment rates to providers for those treatments (e.g. increasing reimbursement rates to promote certain types of treatments such as cataract surgeries).
Service Coverage: Inpatient treatment at hospitals or outpatient treatment at clinics.		

4. Discussion

The three empirical illustrations analyzed in this paper – Obamacare in the US, Medisave in Singapore, and UCS in Thailand – illustrate variations across micro-level dimensions of public policy design specifying policy targets and instrumental calibrations (Table 5). Together, the cases showcase the wide applicability of the framework for elucidating the micro-level details that operationalize common policy goals of extending universal healthcare across geographies and time periods. That is, efforts to achieve universal healthcare coverage when operationalized on-the-ground can be summarized across the 10 key features of the micro dimensions (the degree of stringency, the degree of visibility, the degree of resource intensiveness, etc) articulated by Capano and Howlett. For example, Singapore and Thailand frequently calibrate resource intensiveness of the policy instruments relative to the United States. Equally, policy instrument settings are more coercive in the United States (ACA) and in Singapore (Medisave) than in the UCS in Thailand. Such exercises can be generative not only for further empirical work on comparing health systems and health policy designs, but equally for developing and testing propositions on the impact of specific types of calibrations on policy outcomes.

The ACA provides a complex contemporary case of major health system reform in the United States, allowing granular analysis of how the law's numerous components combine to expand insurance coverage. For instance, micro-design around the penalties for employers not providing insurance for their staff is a critical element that impacts insurance coverage. Studying Medisave offers a longitudinal perspective on how Singapore has continually recalibrated its signature healthcare financing scheme (Medisave) over decades to balance individual responsibility and affordability. Examples of this include frequent changes to what Medisave balances can be used for, and changes to the “basic health sum.” Thailand's case demonstrates the frequent calibration of payment tools in order to keep providers responsive to patients' needs, while at the same time incentivising them to be cost-conscious. These collectively offer a more nuanced understanding to

Table 5. Variations in policy settings across the three countries.

Micro Features	Description
Stringency: How coercive is the policy	High degree of coercion in the policy settings in the United States and Singapore, relative to Thailand.
Visibility: How visible are changes in policy to the public?	High degree of public visibility across all three countries.
Automaticity: Can the policy tool be easily rolled out by existing agencies?	High degree of automaticity in Singapore and Thailand, while adjustments had to be made in the United States.
Resource Intensiveness: What is the level of resources committed to the policy tool?	Higher degree of resource intensiveness across in Singapore and Thailand relative to the United States.
Agency Implementation: Which agency is responsible?	No significant variation.
Monitoring & Auditing Provisions: What are the policy audit and monitoring rules?	Extensive guidelines issues to monitor and evaluate performance across all three programs.
Accountability Rules: What are the audit and compliance rules?	Extensive use of accountability mechanisms in Singapore and the United States relative to Thailand.

practitioners on how universal healthcare goals are actually operationalized relative to discussion around healthcare “models” that characterize many policy debates (Hsiao and Shaw 2007).

Across the three cases, applying the targets and calibrations framework sheds light on the concrete, operative ways through which policy design translates high-level goals into ground-level impacts. The three cases have ambitious and abstract macro goals of extending universal health coverage, but rely on different set of policy tools, and different approaches to how these tools are calibrated. Focusing on micro-level specifications and calibrations reveals critical details around intended target populations, required behaviors, implementation responsibilities, and accountability provisions that constitute the “nuts and bolts” of how policies take effect. For instance, the framework spotlights how ACA’s success hinges on mandates and subsidies to activate participation, while recalibration of Medisave’s contribution rates and permitted uses have allowed Singapore to balance individual and collective responsibility over time. Similarly, calibrating three different sets of payment tools allows the government to realize the objectives of moderating health costs.

These cases lay the groundwork for broadening the application of target-setting and calibration approaches to additional policy domains going forward. From a policy design lens, this framework can aid scholars in addressing questions on how micro-level calibrations and specifications align with meso and macro level objectives (Sewerin, Cashore, and Howlett 2022; Howlett, Ramesh, and Capano 2022). While perfect alignment is often unattainable in practice, understanding the reasons behind misalignment can be helpful for practitioners. The framework also helps us unpack policy dynamics. That is, analysts and practitioners can have a clearer understanding as to which of the ten micro dimensions of design have changed, and understanding their impact.

Note

1. The true intent of the Republicans was lost on voters who largely supported ACA but opposed the mandate, not realizing that the program was not viable without the compulsion of a penalty or the threat of one.

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