Uses of cost analysis for ECE policy

Method	Purpose
Cost data collection and estimation Cost modeling at provider level	• Understanding cost variation • Understanding cost drivers • Setting reimbursement rates • Setting individual provider contracts

Cost modeling at system level	• Understanding system-level cost
	• Considering stakeholders that would cover cost
	    o Private contributions (families, employers, philanthropy)
	    o Public sector contributions (federal, state, and local levels)

Application: VT cost and financing study

- In recent years, Vermont has expanded access to and the quality of ECE
  - Increasing the income eligibility for ECE subsidies
  - Expanding the pre-K program to reach universality
  - Using the STep Ahead Recognition System (STARS) to define and incentivize quality

- Further investments raises two key policy questions:
  - How much will it cost?
  - How can it be paid for?

- Vermont legislature requested cost and financing study
  - Cost with expanded subsidy access for high-quality ECE with a well-compensated workforce (Study 1)
  - Identify stable, long-term funding sources (Study 2)

Research Report

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Vermont Early Care and Education Financing Study

Estimated Costs, Financing Options, and Economic Impacts
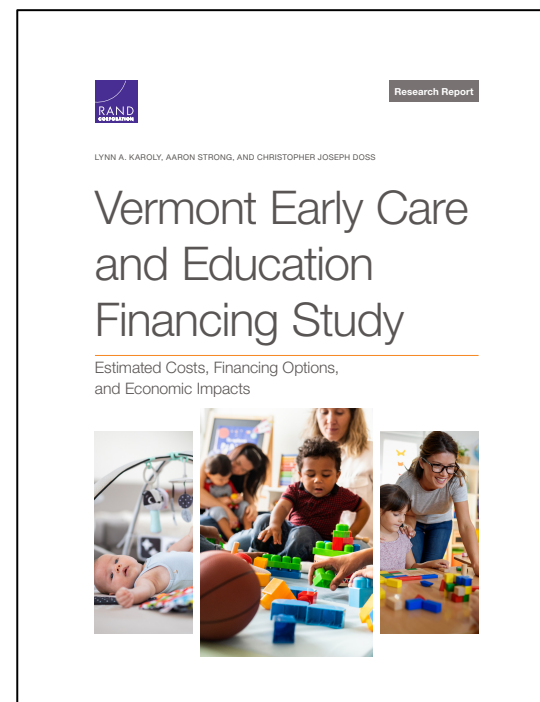
Study 1 involves four components

Total system cost of care

−

Family contribution

−

Existing public funding
Based on current system
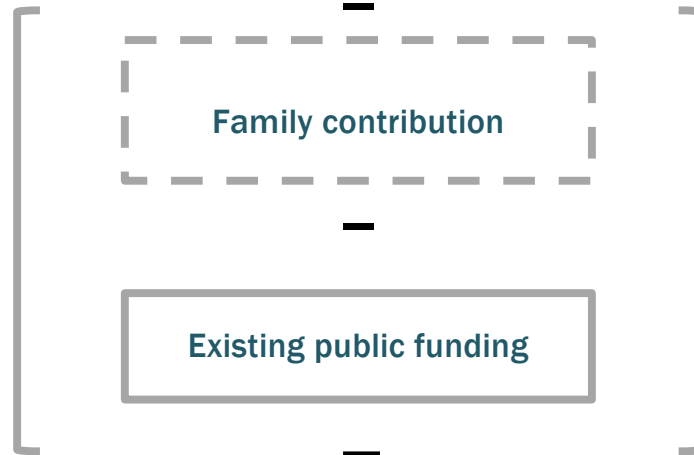
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Estimated funding gap
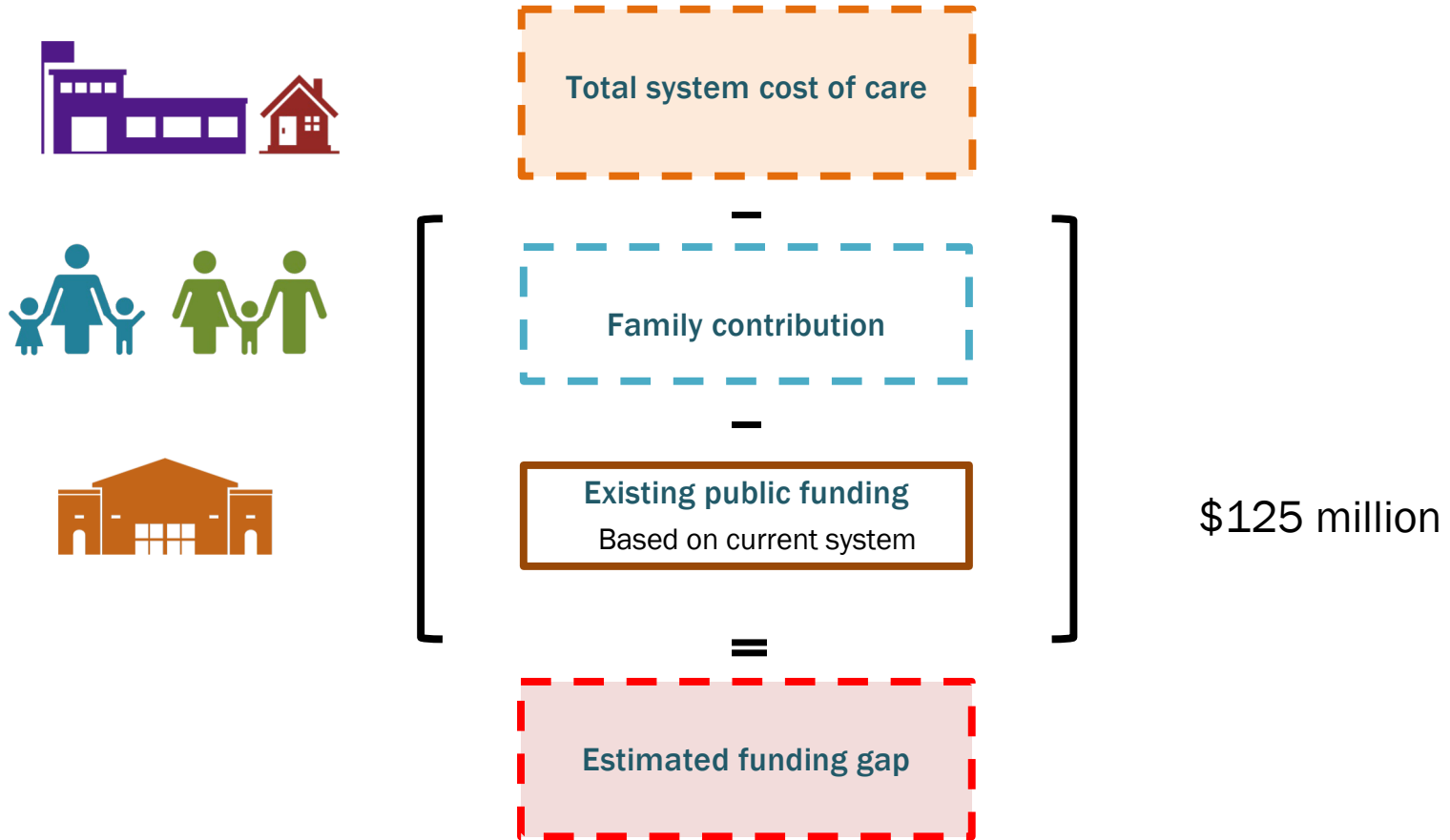
$125 million

NOTE: 2022 dollars.

First component is an estimate of the cost of high-quality ECE

Total system cost of care
For provider type, age group, assumed hours, and care quality

—

Family contribution

—

Existing public funding

=

Estimated funding gap

$125 million

NOTE: 2022 dollars.

Key assumptions about program quality in centers and FCCHs

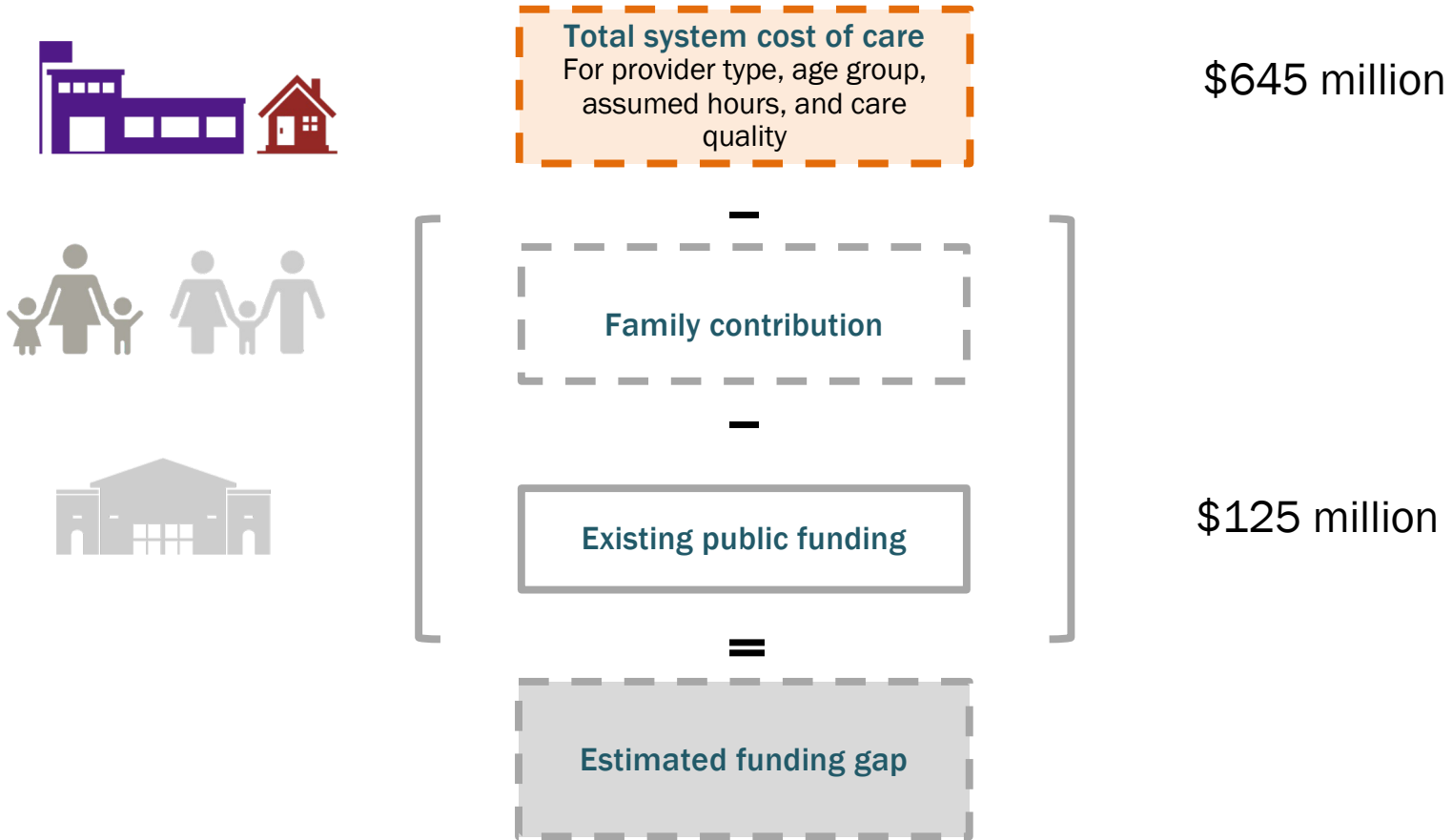|		
	Ratios and group sizes	Same as licensing which are consistent with accreditation standards
	Lead teacher education	Bachelor's degree in early childhood field
	Assistant teacher education	Associate's degree in early childhood field
	Professional development	Paid time for professional activities and other support resources
	Other quality features	Evidence-based curriculum Use of developmental screeners Use of child formative assessments Independent classroom/home quality assessments

Commensurate compensation is based on a salary scale

Classroom staff salaries used in cost model, by role

Role	Median Annual Wages	Median Hourly Wages
Assistant Teacher	$46,553	$22.38
Lead Teacher	$69,420	$33.38

Cost model assumes a 26% fringe benefit rate.

NOTE: 2022 dollars.

Estimated system annual cost cost is $645 million

Total system cost of care
For provider type, age group, assumed hours, and care quality

$645 million

–

Family contribution

–

Existing public funding

$125 million

=

Estimated funding gap

NOTE: 2022 dollars.

Second component is an estimate of family contribution

Total system cost of care
For provider type, age group, assumed hours, and care quality

$645 million

−

Family contribution
Based on subsidy structure and estimated use of care
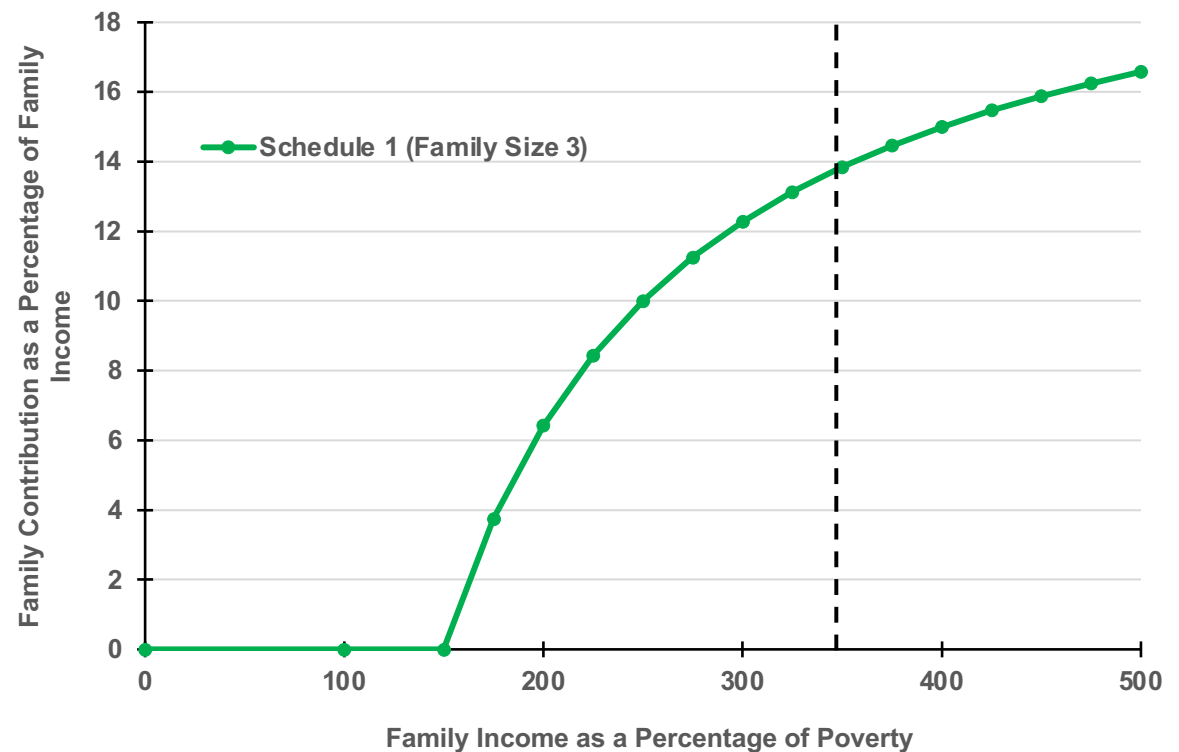
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Existing public funding

$125 million

=

Estimated funding gap

NOTE: 2022 dollars.

Five alternative family contribution schedules are modelled (Schedule 1)

Subsidy schedules
1. Status quo

Schedule 1 (Family Size 3)

Y-axis: Family Contribution as a Percentage of Family Income

X-axis: Family Income as a Percentage of Poverty

Five alternative family contribution schedules are modelled (Schedule 2)

Subsidy schedules

1. Status quo

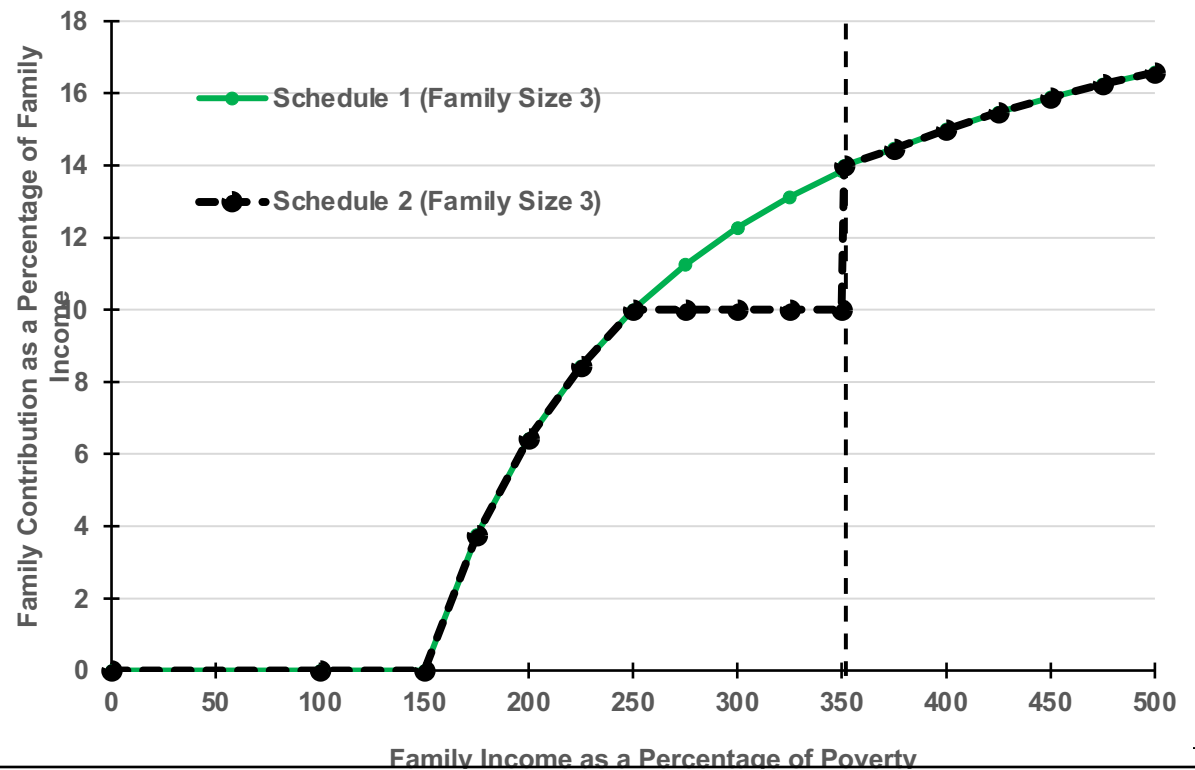2. Status quo, cap costs to 10% of income for families up to 3.5x poverty

.1

Five alternative family contribution schedules are modelled (Schedule 3)

Subsidy schedules

1. Status quo

2. Status quo, cap costs to 10% of income for families up to 3.5x poverty

3. Extend schedule 2 up to 5x poverty

Chart axes:
- Y-axis: Family Contribution as a Percentage of Family Income (0 to 18)
- X-axis: Family Income as a Percentage of Poverty (0 to 500)

Legend:
- Schedule 1 (Family Size 3)
- Schedule 2 (Family Size 3)
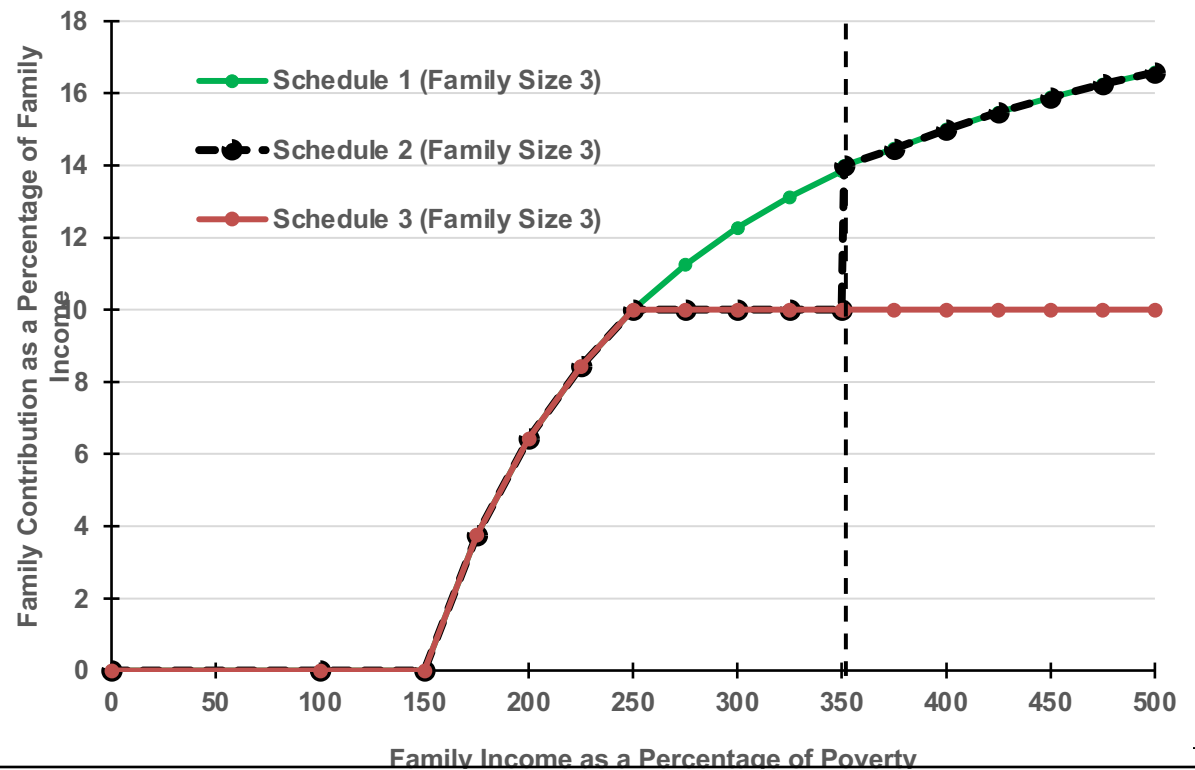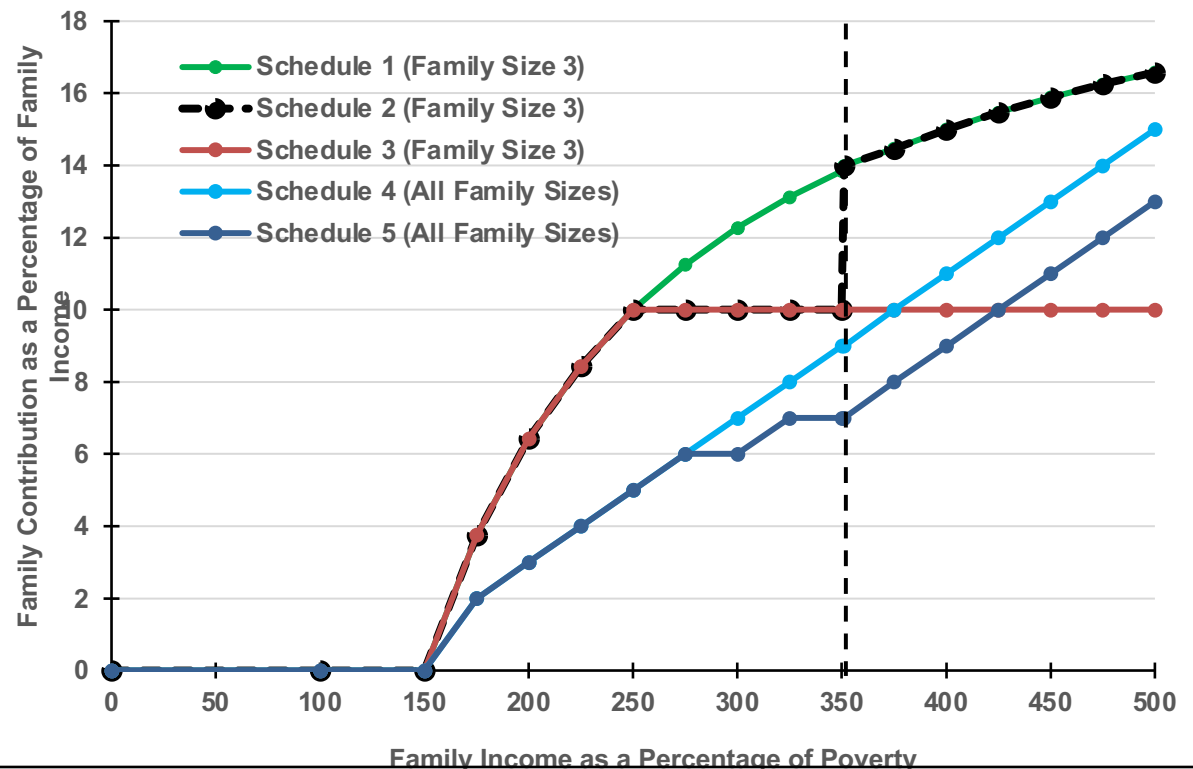- Schedule 3 (Family Size 3)

.2

![Family icons]

Five alternative family contribution schedules are modelled (Schedules 4 and 5)

Subsidy schedules

1. Status quo

2. Status quo, cap costs to 10% of income for families up to 3.5x poverty

3. Extend schedule 2 up to 5x poverty

4. Sliding scale maxes at 10% by 3.5x poverty and 15% by 5x poverty

5. Sliding scale maxes at 7% by 3.5x poverty and 13% by 5x poverty

Family Contribution as a Percentage of Family Income

Family Income as a Percentage of Poverty

Legend:
- Schedule 1 (Family Size 3)
- Schedule 2 (Family Size 3)
- Schedule 3 (Family Size 3)
- Schedule 4 (All Family Sizes)
- Schedule 5 (All Family Sizes)

Estimated family contribution varies across schedules

Subsidy schedules	Total Family Contributions (In Millions)
1. Status quo	$263
2. Status quo, cap costs to 10% of income for families up to 3.5x poverty	$260
3. Extend Schedule 2 up to 5x poverty	$246
4. Sliding scale maxes at 10% by 3.5x poverty and 15% by 5x poverty	$250
5. Sliding scale maxes at 7% by 3.5x poverty and 13% by 5x poverty	$237

NOTE: 2022 dollars.

Estimates of first three components lead to gap estimate

Total system cost of care
For provider type, age group, assumed hours, and care quality

$645 million

—

Family contribution
Based on subsidy structure and estimated use of care

$260 million

—

Existing public funding
Based on current system

$125 million

=

Estimated funding gap

NOTE: 2022 dollars using subsidy Schedule 2.

Size of the funding gap is $258 million with subsidy schedule 2

Total system cost of care
For provider type, age group, assumed hours, and care quality

$645 million

–

Family contribution
Based on subsidy structure and estimated use of care

$260 million

–

Existing public funding
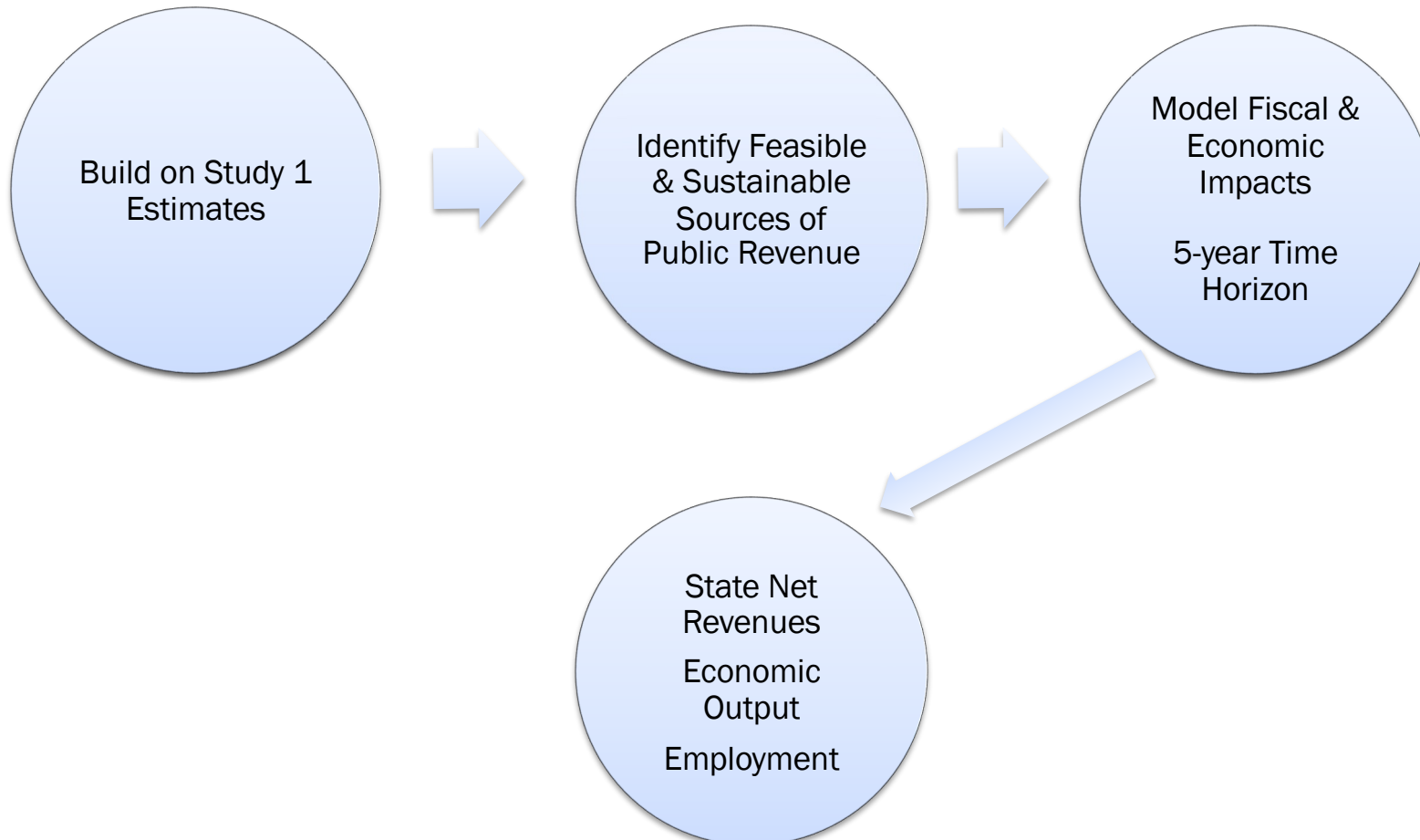Based on current system

$125 million

=

Estimated funding gap

$258 million

NOTE: 2022 dollars using subsidy Schedule 2.

Approach: Address questions from macro-level

Build on Study 1 Estimates

➡

Identify Feasible & Sustainable Sources of Public Revenue

➡

Model Fiscal & Economic Impacts

5-year Time Horizon

State Net Revenues

Economic Output

Employment

Methods: Modeling approach and data

Modeling will account for three sources of policy change

INCREASED COMPENSATION

INCREASED SUBSIDIES

FISCAL FINANCING (TAXES, ETC.)

- Use models developed by RAND for prior studies

Funding source options

OPTION 1: NEW PAYROLL TAX

OPTION 2: INCREASE SALES AND USE TAX

OPTION 3: NEW LIMITED SERVICE TAX

(PERSONAL SERVICES AND EQUIPMENT)

OPTION 4: NEW EXTENDED SERVICE TAX

(LIMITED SERVICE TAX + BROADCASTING AND PUBLISHING)

OPTION 5: NEW SODA TAX INCREASE HOSPITALITY TAX NEW PAYROLL TAX

OPTION 6: NEW SODA TAX INCREASE HOSPITALITY TAX INCREASE SALES TAX

- Options 1 – 4 are single-source options that rely on one type of tax to produce the needed revenue

- Options 5 and 6 are options composed of bundles of different taxes, meant to minimize increases in any one type of tax

Baseline estimates of potential revenue

Tax	Type of Change	Revenue Generated
Payroll tax	1%	$196 million
Sales tax	1 percentage point increase from base	$85 million
Limited services tax	6%	$105 million
Extended services tax	6%	$143 million
Hospitality tax	1 percentage point increase from base	$14 million
Soft drink tax	15%	$24 million

NOTE: 2022 dollars.

Phase-in funding for Schedule 2

Phase-in Stage	Gap ($ millions)	Option 1 Payroll Tax	Option 2 Sales Tax	Option 3 Limited Services Tax	Option 4 Extended Services Tax	Option 5 Bundle of Taxes	Option 6 Bundle of Taxes
25%	65	0.29%	0.66pp	3.09%	2.25%	Soda: 15% Hospitality: 1pp Payroll: 0.09%	Soda: 15% Hospitality: 1pp Sales: 0.21pp
50%							
75%							
100%	258	1.14%	2.64pp	13.60%	9.65%	Soda: 15% Hospitality: 1pp Payroll: 0.94%	Soda: 15% Hospitality: 1pp Sales: 2.18pp

NOTES: 2022 dollars. "pp" represents the percentage point increase in hospitality or sales tax from their current rates. As payroll, services, and soda taxes would be new to Vermont, amounts are proposed tax rates.

Funding estimates takeaways

- **Funding the smallest gap estimates that maintain the status quo of funding families up to 3.5x the poverty level could be accomplished with single sources of revenue**
  - 0.9 percent payroll tax OR
  - 2.0 percentage point increase in the sales tax OR
  - A new limited services tax of 9.9 percent OR
  - A new expanded services tax of 7.1 percent

  Bundling sources can lower the increases in any one tax source

- The larger gaps generated by expanding subsidies to higher-income families cannot be funded by a single revenue source without increasing the magnitude of the tax to a rate not typically seen in other states

- Tax increases are expected to have a small impact on household economic well-being

Other considerations

- Use 2019 data because last full year of data before pandemic, but present figures in 2022 dollars

- Estimates are state-level

- Our results indicate what a long-run, stable ECE system would look like

- Added cost for children with special needs are not included

- We do not explicitly model after school care for school-aged children

- Downstream benefits to children and society are expected from increased ECE investments, but they would accrue beyond our 5-year time horizon

Epilogue

- Vermont legislature in June 2023 overrode the Republican governor's veto of historic increase in ECE funding (HR 217)

- State's expanded investment of $76M in FY 2024 ($125M in FY 2025):
  - Expand coverage and generosity of child care subsidy
    - No contribution up to 175% FPL (from 150%)
    - Maximum eligibility increases from 350% to 450% (FY 2024) and 575% (FY 2025)
  - Increase workforce compensation, especially direct care staff
  - Increase provider reimbursement up to 35% over current rates
  - One-time readiness funds for providers to improve quality
  - Commitment for further funding to reach universal full-time preK
  - Funding through general revenues and a new payroll tax

Available at www.rand.org/t/rra2213-1