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Investing in Maternal and Child Health Benefits: An Employer Cost-Savings Calculator

National Business Group on Health

Contents

Background

Employers have good reason to be concerned about the health of the children, adolescents, and women who participate in their health plans:

- Due to frequency and cost, pregnancy is the largest single health claim for many employers.[1]
- Pregnancy is also a leading cause of disability and turnover for most companies.[1]
- Employers provide health care coverage to more than half the children in the United States.[2]
- Beneficiaries under the age of 25 account for approximately 15 percent of large employers' health care costs.[2]
- When child and adolescent beneficiaries are unhealthy, employers face higher health care costs, lower employee productivity, and lower retention/higher turnover rates.[2]

Thus, it is crucial that employers offer health benefit coverage for the preventive services that will keep these beneficiaries healthy.[1-3] To assist employers in making benefit decisions, the National Business Group on Health (Business Group) published *Investing in Maternal and Child Health: An Employer's Toolkit* (Toolkit) to provide large employers with guidelines for designing evidence-based and evidence-informed health plan benefits ("model benefit," Appendix Table 11) for a target population of women of child-bearing age (19-44 years) and dependent children (0-18 years).[2] The business case for including these preventive health benefits assumes that the investment in these benefits will result in increased production time and decreased direct medical costs; however, historically employers have not had a way to assess the overall financial impact of offering these benefits. Tough economic times also mean that employers have to make hard decisions about where to invest their limited health care dollars.

This technical implementation brief describes a cost-savings calculator, developed by the National Business Group on Health in conjunction with the University of Michigan, which calculates the financial value of preventive health benefits for women of child-bearing age and children. The results can be used to inform benefit design strategies and help employers quantify the business value of preventive health benefits. In this brief, a simulated business case study is used to describe how an employer might use this calculator to analyze the cost-savings impact that implementing preventive benefits may have on direct health care costs as well as on indirect health and productivity costs. A detailed description of the supporting methodology is included as an appendix to this document.

Preventive Benefit Business Case Study — Tate River Manufacturing

Tate River Manufacturing (Tate) is a 4,700-employee company headquartered in Florida. Tate's self-insured health plan covers 10,000 members, and the company offers employees a Preferred Provider Network (PPO). Tate's PPO costs have been increasing by an average of 10% per year for the last three years. The company's response to these increases has included shifting some of the plan costs to employees, but management remains very concerned about the plan's overall cost trend.

Tate's health benefits planning team recently reviewed the financial target for next year and is considering additional cost-sharing as well as reductions in plan coverage for all benefit categories, including benefits for preventive services. Tate currently covers a comprehensive array of preventive benefits; depending on the type of service, the company pays 50% to 100% of the cost. Prior to receiving senior management's directive to cut costs, the planning team had believed the company could increase its entire preventive services benefit to 100% coverage.[4] However, management's concern about premium costs, coupled with its skepticism that preventive care can directly reduce other health plan costs and/or improve employee productivity, has reduced the likelihood that Tate will even maintain its preventive benefits at current coverage levels.

Tate's Health Plan Benefit Options

One of Tate's benefit managers was charged with examining cost and utilization rates for each of Tate's maternal and child health preventive benefits and then developing coverage recommendations to be presented at an upcoming budget planning meeting. This manager began researching various plan design models online and was directed to a benefit-to-cost-savings calculator at the Business Group's website.

The calculator generates an estimated economic impact derived from Tate's company data combined with information about disease prevalence and health and productivity estimates that are supported by research and public opinion. Examples of company data used in this model are employee demographics and health plan coverage levels with their related costs. If this data is unavailable or inaccessible, Tate's benefits manager can input estimates instead.

Defining the Population and Maternal and Child Benefit Plan Attributes

Cost Sharing Input

Tate's benefits manager initially summarizes the company's current premium contribution percentage for each of the model benefit's 11 preventive services categories (Table 1). Data entry options include the following values: 0%, 20%, 50%, 80% and 100%. Employers should choose the column that most accurately reflects their preventive benefit coverage level.

These input values will be used to estimate the following values for Tate:

- health care costs;
- indirect health and productivity costs (e.g., absenteeism); and
- projected overall cost-savings.

Table 1: The company's preventive benefit coverage and financial contribution

Check the circle that best approximates the company's financial portion for each of the following preventive benefit categories:	Company preventive benefit coverage by category				
	Not covered (0%)	Some employer coverage (20%)	Half employer coverage (50%)	Majority employer coverage (80%)	Full employer coverage (100%)
1. Well-Child Services	○	○	○	◉	○
2. Immunizations	○	○	○	◉	○
3. Preventive Dental Services	○	○	○	○	◉
4. Early Intervention Services for Mental Health/Substance Abuse	○	○	◉	○	○
5. Preventive Vision Services	○	○	○	○	◉
6. Preventive Audiology Screening Services	○	○	◉	○	○
7. Unintended Pregnancy Prevention	○	○	○	◉	○
8. Preventive Preconception Care	○	○	○	◉	○
9. Preventive Prenatal Care	○	○	○	◉	○
10. Preventive Postpartum Care	○	○	○	◉	○
11. Preventive Services (General)	○	○	○	◉	○

Demographic Input

Tate's benefits manager then enters the total number of beneficiaries covered by the employer's health plan (Table 2). There is an option either to enter a single number or to check the box at the top of the screen to enter more detailed demographic data (e.g., age and gender) on an additional table. Beneficiaries over the age of 18 are defined as adults, and women aged 19 to 44 are defined as being of child-bearing age. If these specific population numbers are not available, the default values can be left in the model for purposes of the simulation. Once this information is entered, the calculator then takes into account the eligible population for each preventive benefit category in calculating Tate's costs. For example, only dependent children between ages 0 and 18 will be considered when modeling Well-Child Services.

Table 2: Company demographic information

❑ Check box if you wish to enter detailed employee and dependent demographic (e.g. employment status, age and gender) data.

Enter the number of covered members. The default percentages reflect national averages and may be adjusted if necessary.

Number of covered members 10000	**%**	**N**
a. Number of adult women between the ages of 19-44, who are employees	6 %	600
b. Number of adult women between the ages of 19-44, who are dependents	6 %	600
c. Number of child dependents age 18 and under	23 %	2,300
d. Number of dependent children age 18 and under, and adult women between the ages of 19-44, who are employees or dependents	35 %	3,500

Costs of Preventive Benefits

Tate's benefits manager will then enter the most recent year's cost values for each of Tate's preventive benefits (Table 3, column 1). If the company cost data is not available, the benefits manager may accept the table's default values, which reflect the values contained in the Toolkit's pricing model. Tate's total maternal and child health benefit costs are then calculated according to the company's percentage contribution from Table 1, and this total cost of preventive benefits is entered at the bottom of the table. The contents of this table, when combined with data entered in Tables 1 and 2, will be used to estimate the impact of the model benefit on Tate's direct and indirect costs (Table 11).

Table 3: The company's overall (company and employee) preventive benefit costs

Enter the company's total per eligible per year (PEPY) costs or use the national reference for each of the following preventive benefits:	Company preventive benefit costs by category	
	National pepy (100%) model benefit costs estimate	Calculated annual company cost (from Table 2)*
1. Well-Child Services	$ 224.00	$ 515,200.00
2. Immunizations	$ 221.00	$ 508,300.00
3. Preventive Dental Services	$ 260.57	$ 911,995.00
4. Early Intervention Services for Mental Health/Substance Abuse	$ 585.00	$ 1,345,500.00
5. Preventive Vision Services	$ 39.00	$ 89,700.00
6. Preventive Audiology Screening Services	$ 39.00	$ 89,700.00
7. Unintended Pregnancy Prevention	$ 178.43	$ 214,116.00
8. Preventive Preconception Care	$ 0	$ 0
9. Preventive Prenatal Care	$ 101.74	$ 122,088.00
10. Preventive Postpartum Care	$ 20.35	$ 24,420.00
11. Preventive Services (General)	$ 133.71	$ 467,985.00
Total company maternal and child health prevention costs	**$ 1,802.80**	**$ 4,289,004.00**

*Changing the values in column 1 will result in a change in costs for the eligible population in column 2.

**See table 11 for definitions of these preventive benefits*

Cost Difference Calculation

After the company's preventive benefit costs are entered, the calculator estimates the cost difference between Tate's current direct cost per member per year and the cost of the model benefit. The result of this calculation will be the additional cost that Tate would incur by increasing coverage to the model benefit's recommended 100% coverage levels for preventive services (Table 4). In this scenario, Tate's contribution to the preventive benefit, from Table 1, currently costs the company an estimated $3.2 million (Table 4, column 2). If Tate were to adopt the full model benefit and increase its contribution to 100% of the plan's preventive benefit costs, the company would have to pay an additional $1.08 million to cover the prevention costs currently being paid by its employees (Table 4, column 3).

Table 4: Estimated cost of the current company's plan benefit

Preventive Service Category	Comparison between company contribution and model benefit (100%)		
	Company current contribution (from Table 1)	Employer's current portion of the cost (from Table 3)	Additional cost to company by adopting model benefit (100%)
1. Well-Child Services	80%	$ 412,160.00	$ 103,040.00
2. Immunizations	80%	$ 406,640.00	$ 101,660.00
3. Preventive Dental Services	100%	$ 911,995.00	$ 0.00
4. Early Intervention Services for Mental Health/Substance Abuse	50%	$ 672,750.00	$ 672,750.00
5. Preventive Vision Services	100%	$ 89,700.00	$ 0.00
6. Preventive Audiology Screening Services	50%	$ 44,850.00	$ 44,850.00
7. Unintended Pregnancy Prevention	80%	$ 171,292.80	$ 42,823.20
8. Preventive Preconception Care*	80%	$ 0	$ 0
9. Preventive Prenatal Care	80%	$ 97,670.40	$ 24,417.60
10. Preventive Postpartum Care	80%	$ 19,536.00	$ 4,884.00
11. Preventive Services (General)	80%	$ 374,388.00	$ 93,597.00
Estimated Total		**$ 3,200,982.20**	**$ 1,088,021.80**

Note: If adopting the model benefit (100%), the employer will assume full cost with no employee cost-sharing.
*The actuarial value of this service is statistically insignificant.

❑ Check here to go through the demonstration for immunization

Model Direct Benefit Cost Analysis

The calculator includes a set of research-based cost-savings ratios to estimate the direct treatment costs that would potentially be saved by adopting the model benefit. In most of the preventive service categories, the available research on cost–savings was limited; thus, the calculator uses a conservative default ratio of 1:1 (see table 5). This suggests that in the model benefit, employers will realize savings at least equal to their investments.

Table 5: Projected savings-to-costs ratio on health care costs according to literature

This table shows the minimum, maximum societal, and average cost-savings ratio for health care costs based on a conservative reading of the literature.	**Cost-savings ratio from literature when implementing model benefit (100%)**		
	Lowest	**Highest (societal benefit)**	**Average**
1. Well-Child Services	0	> 1.0	1.0
2. Immunizations*	0	16.5	10.8
3. Preventive Dental Services	0	> 1.0	1.0
4. Early Intervention Services for Mental Health/Substance Abuse	0	> 1.0	1.0
5. Preventive Vision Services	0	> 1.0	1.0
6. Preventive Audiology Screening Services	0	> 1.0	1.0
7. Unintended Pregnancy Prevention	0	> 1.0	1.0
8. Preventive Preconception Care	0	> 1.0	1.0
9. Preventive Prenatal Care	0	> 1.0	1.0
10. Preventive Postpartum Care	0	> 1.0	1.0
11. Preventive Services (General)	0	> 1.0	1.00

Where limited applicable research was available, a conservative cost-savings ratio of 1:1 was chosen. If desired, these ratios can be adjusted by the user.
*Based on discount rate of 3%

Using these ratios and information about current coverage levels, the calculator estimates the amount that Tate could potentially save by implementing the model benefit. For example, research on immunizations suggests that Tate will save $10.80 in direct treatment costs for every $1 the company invests in immunization benefits (table 5). Thus, by increasing coverage for immunization benefits (table 6, line 2) from 80% to 100%, Tate is projected to save approximately $1.09 million in treatment-related costs.

Table 6: Projected direct cost benefit

This table calculates estimated preventable treatment costs by preventive service. Users may enter experienced-based cost-savings ratios in column 2.	**Estimated additional costs from preventive service**	**Estimated average cost-savings from literature**	**Calculated preventable potential treatment costs**
1. Well-Child Services	$103,040	1.0	$103,040
2. Immunizations	$101,660	10.8	$1,097,928
3. Preventive Dental Services	0	1.0	$0
4. Early Intervention Services for Mental Health/Substance Abuse	$672,750	1.0	$672,750
5. Preventive Vision Services	0	1.0	$0
6. Preventive Audiology Screening Services	$44,850	1.0	$44,850
7. Unintended Pregnancy Prevention	$42,823	1.0	$42,823
8. Preventive Preconception Care	0	1.0	$0
9. Preventive Prenatal Care	$24,418	1.0	$24,418
10. Preventive Postpartum Care	$4,884	1.0	$4,884
11. Preventive Services (General)	$93,597	1.0	$93,597
Estimated total company costs of adopting model benefit (100%)	**$1,088,022**		**$2,084,290**

When all categories are totaled, Tate could expect to see a reduction of about $2.08 million in the cost of treating conditions that are potentially preventable (or a net savings of approximately $1 million after investing $1.08 million (table 7, row 2) to increase its prevention coverage to match the model benefit). One output of the calculation is a cost-savings ratio; this describes the relationship between Tate's total investment and the total direct costs Tate could save (Table 7). Tate's cost-savings ratio is 1.9, suggesting that for every new dollar Tate invests in prevention, the company will avoid $1.90 in direct costs.

Table 7: Projected cost-savings ratio for direct costs

This table summarizes estimated preventable treatment costs by adopting the model benefit (100%) for preventive services, and estimates the additional cost required to implement the model benefit (100%). The cost-savings ratio is arrived by dividing the value in line 1 by the value in line 2.

Direct cost-savings ratio calculations	
Total estimated preventable treatment costs	**$2,084,290**
Additional costs of adopting model benefit (100%) from Table 4	**$1,088,022**
Cost-savings ratio	**1.9**

Model Indirect Benefit Cost Analysis

After completing this stage of the simulation, Tate's benefits planning team is able to see that raising coverage levels to 100%, rather than reducing coverage, would be a good business strategy to help the company save money on direct treatment costs. However, management is still concerned about the upfront costs the company will have to pay in order to raise its coverage to the model benefit levels. Management is willing to consider raising the benefit coverage levels, but it will be more supportive if the benefits planning team can show how the proposed enhancements to the health plan will affect other indirect costs. To address management's concern about indirect costs, the calculator applies the same cost-savings ratio developed for direct cost-savings to indirect cost-savings. We hypothesize that Tate's direct cost-savings from implementing the model benefit will be directly proportional to its indirect cost-savings (see appendix, page 15).[5, 6]

For the purpose of this calculator, employers' indirect costs are defined as the employee productivity time (in hours) expected to be lost when employees take time away from work for a particular health condition (whether their own or their dependent's), multiplied by the employer's average hourly compensation rate.

Health and Productivity Cost Calculation

In order to determine Tate's indirect costs in employee health and productivity, the calculator starts with a standard hourly compensation rate and an assumption about estimated lost time. Tate's benefit manager can use these default values or populate the values with their own estimates, as illustrated in Table 8:

- Column 1 lists the costs per eligible beneficiary for each preventive service in the model benefit.
- Column 2 shows an assumed hourly amount of lost productive time, on a per employee basis, that the company would incur if it did not offer any of the preventive benefits.
- Column 3 is the estimated cost of lost productive time Tate would incur from adopting the model benefit. For example, the model benefit provides one or two annual Well-Child visits. If each visit requires the parent to miss a half day of work, or 4 hours, the annual lost time for supporting this service would be 8 hours per employee.
- Column 4 shows the estimated total indirect costs the company would incur if it adopted 100% of the model benefit. This is calculated by multiplying the average hourly rate by the amount of lost time for each preventive service category. In Tate's case, that amount was more than $1.03 million.

Table 8: Estimated Indirect Costs

Estimated Hourly Rate: $ 26

This table displays the employer's indirect costs of adopting the model benefit (100%)	Direct costs	Company estimated indirect costs		
	National PEPY model benefit (100%) cost estimate (from Table 3)	Time used for PEPY by clinic visits*	Total indirect costs (time lost) to adopt model benefit (100%)	Additional indirect costs (time lost) of adopting model benefit (100%)
1. Well-Child Services	$224.00	4 hour	$239,200	$47,840
2. Immunizations	$221.00	8 hour	$478,400	$95,680
3. Preventive Dental Services	$260.57	6 hour	$452,400	$0
4. Early Intervention Services for Mental Health/Substance Abuse	$585.00	24 hour	$1,435,200	$717,600
5. Preventive Vision Services	$39.00	2 hour	$119,600	$0
6. Preventive Audiology Screening Services	$39.00	2 hour	$119,600	$59,800
7. Unintended Pregnancy Prevention	$178.43	8 hour	$124,800	$24,960
8. Preventive Preconception Care	$0.00	0 hour	$0	$0
9. Preventive Prenatal Care	$101.74	4 hour	$62,400	$12,480
10. Preventive Postpartum Care	$20.35	1 hour	$15,600	$3,120
11. Preventive Services (General)	$133.71	5 hour	$377,000	$75,400
Estimated total company indirect costs of adopting the model benefit (100%)	**$1,802.80**	64 hour		**$1,036,880**

*These values estimate the employee's time away from work that may be required if the preventive service is covered at 100%. Users can enter experience-based PEPY time-away-from work and hourly rate where available.

Indirect cost-savings calculation

By investing in offering the model benefit and encouraging employees to take the time needed to use the preventive benefits, Tate will realize an indirect cost-savings in its health and productivity costs that is at least equal to the additional indirect costs of adopting the model benefit ($1.04 million in Table 8, column 4). This is because the time away from the workplace for preventive services is much less than the time away if the employee or dependent were to experience an actual illness.

Table 9 shows the results of applying the cost-savings ratio from Table 7 to the additional indirect costs of implementing the model benefit from Table 8. The results indicate that if Tate implements the model benefit of 100% coverage in all 11 preventive benefit categories, the company could avoid approximately $1.97 million in health and productivity costs (Table 9, column 3).

Table 9: Projected savings from indirect costs

This table displays the total benefits from estimated preventive costs and cost-savings from literature for avoidance treatment — This avoidance results from model benefit (100%).	**Projected benefits from model benefit (100%)**		
	Estimated indirect costs from adopting model benefit (100%) (from Table 8)	**Estimated average cost-savings from literature (from Table 5)**	**Calculated total benefits from indirect costs (column 1 x column 2)**
1. Well-Child Services	$47,840	1.0	$47,840
2. Immunizations	$95,680	10.8	$1,033,344
3. Preventive Dental Services	$0	1.0	$0
4. Early Intervention Services for Mental Health/Substance Abuse	$717,600	1.0	$717,600
5. Preventive Vision Services	$0	1.0	$0
6. Preventive Audiology Screening Services	$59,800	1.0	$59,800
7. Unintended Pregnancy Prevention	$24,960	1.0	$24,960
8. Preventive Preconception Care	$0	1.0	$0
9. Preventive Prenatal Care	$12,480	1.0	$12,480
10. Preventive Postpartum Care	$3,120	1.0	$3,120
11. Preventive Services (General)	$75,400	1.0	$75,400
Estimated total company cots of adopting model benefit (100%)	**$1,036,880**		**$1,974,544**

The allocation of Tate's indirect cost savings is based on available EMPAQ data from the 2009 Annual Report (Table 10).[7]

- Incidental Absence – Indirect costs are calculated according to the matrices in the 2009 EMPAQ Summary Research Report. The individual company values are estimated using an employer's lost working days and its average wage.
- Family Medical Leave – Indirect costs are calculated according to the matrices in the 2009 EMPAQ Summary Research Report. The individual company values are estimated using an employer's lost working days and its average wage.
- Short-Term Disability – Indirect costs are calculated using short-term disability cost values generated from EMPAQ data.
- Long-Term Disability (LTD) – Indirect costs are calculated according to the matrices in the 2009 EMPAQ Summary Research Report. Values are estimated by blending the matrices showing the employer's incident rate and its cost per LTD claim.
- Workers Compensation – Indirect costs are calculated by using direct cost values generated from EMPAQ data.

The results of Table 10 show that Tate's overall cost-savings on indirect costs is more than $1.97 million.

Table 10: Estimated distributions of indirect costs savings for indirect costs

This table shows how the company's indirect costs savings from Table 9 will be distributed. These distributions are based on EMPAQ® Annual Report, 2009.

Distribution of indirect cost savings		Results
	Distribution	
1. Projected indirect cost savings for target population		$1,974,544
2. Distribute the projected benefit into different measures:		
a) Short Term Disability	12.5%	$246,818
b) Short Term Disability	15.8%	$311,978
c) Short Term Disability	32.0%	$631,854
d) Short Term Disability	37.5%	$740,454
e) Short Term Disability	2.2%	$43,440

Output

Table 11 combines both the direct and indirect costs, calculated previously, to reach an overall figure for the potential cost savings of implementing the model benefit.

Table 11: Estimated economic impact of adopting model benefit

This table summarizes the additional company costs to implement the model benefit (100%) and the total cost savings of adopting the model benefit (100%). These costs are organized into direct measures, indirect measures and overall measures.

Estimations	Direct measure (from Table 6)	Indirect measure (from Table 9)	Overall measure (direct and indirect measures combined)
Additional costs to implement the model benefit (100%)	$1,088,022	$1,036,880	$2,124,902
Additional total cost avoided due to model benefit (100%)	$2,084,290	$1,974,544	$4,058,834

Impact Analysis

The results of this simulated calculation provide an estimate of how Tate's annual direct and indirect costs could be impacted by increasing its preventive benefit contribution levels to 100%. If the company focused solely on the direct cost of covering 100% of the preventive benefits for women, children and adolescents, it would have assumed that these plan enhancements would mean an additional $2.1 million in expenditures. However, the simulation here offers a more comprehensive estimate of how increasing preventive benefits to match the model benefit could potentially impact the company's cost-savings:

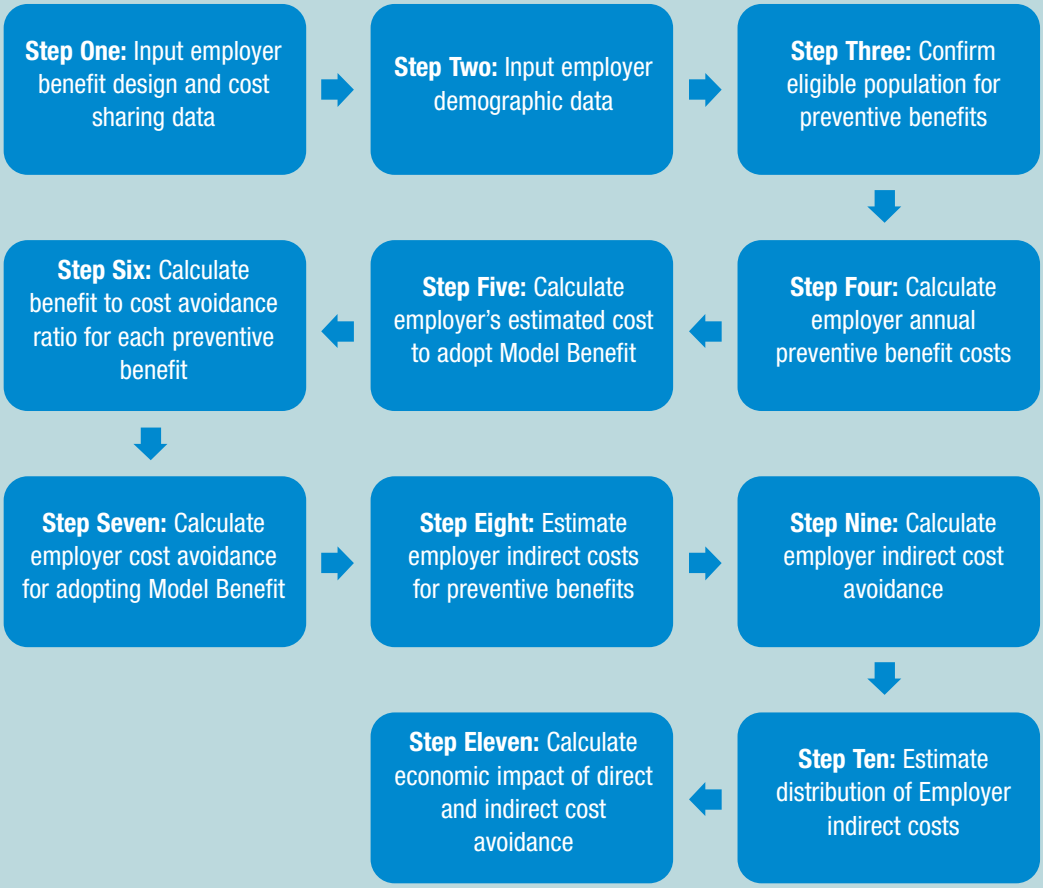
- First, this calculator determines that Tate will need to make a combined $2.1 million investment in employee direct and indirect costs.
- Second, calculating the impact of the improvement in benefits coverage reveals additional cost-savings for Tate. The annual direct costs of treatment — due to increased use of preventive benefits — decrease by an estimated $2.08 million, while the company's health and productivity costs are estimated to decrease by $1.97 million because of reduced illness. The total cost-savings, including indirect and direct costs, is $4.06 million. The net impact on Tate of adopting the model benefit of 100% coverage of maternal and child preventive services is a potential savings of approximately $1.93 million ($4,058,834 minus $2,124,902) associated with the annualized impact on both direct and indirect costs.

Appendix

Calculator Framework

This section provides background detail for the employer calculator. "Benefit," for the purpose of this analysis, means the amount of direct and indirect employer costs that can be avoided by adopting the model benefit. "Cost," in this analysis, means the sum of the employer's direct and indirect costs incurred by either adopting or not adopting the model benefit.

The steps below outline the Data Model that was used to develop the calculator:



Direct costs

Direct costs are the costs to the employer's health plan incurred by sponsoring or paying for health benefits. These health plan benefits or treatment costs will be organized using the following covered services categories, published in *Investing in Maternal and Child Health, An Employer's Toolkit:*

Preventive Services detect the existence or risk of diseases, conditions and problems (See Table 1).

Physician / Practitioner Services support the delivery of care by individual health professionals who may or may not be affiliated with a group practice or hospital.

Emergency Care, Hospitalization and Other Facility-Based Care address acute health care needs. These services may be necessary to treat illness, address injury or support pregnancy.

Therapeutic Services / Ancillary Services include an array of specialty services that may be performed in a practitioner's office, the patient's home or a health care facility.

Laboratory Diagnostic, Assessment and Testing Services determine the presence, severity or cause of an illness, or diagnose a specific illness, injury or disability.

Table 5 Preventive Benefits

The model benefit includes coverage recommendations for the following 11 preventive benefits:

Well-Child Services – Medical services designed to promote and protect the health of infants, children and adolescents. These services include comprehensive health assessments; age-appropriate screening, counseling, preventive medication and preventive treatment; parent and child education; and anticipatory guidance.

Immunizations – Screening for susceptibility to vaccine-preventable diseases; immunizations; and related services.

Preventive Dental Services – Covered preventive services include risk assessments and anticipatory guidance in order to promote oral health; oral examinations; and diagnostic procedures.

Early Intervention Services for Mental Health / Substance Abuse – Medical services designed to educate and counsel individuals and families about behaviors that facilitate mental health and improve personal resiliency; facilitate early intervention and prevent the escalation of sub-clinical problems; and monitor and treat V-code conditions.

Preventive Vision Services – Medical services designed to identify children who may have either eye or vision abnormalities or risk factors for developing eye problems. The eyes should be examined beginning when the child is a newborn and at all subsequent well-child care visits. Additional preventive vision screening is recommended if children cannot be screened during regular well-child visits due to time or health constraints.

Preventive Audiology Screening Services – Medical services to detect and diagnose speech, hearing and language disorders.

Unintended Pregnancy Prevention Services – Medical services designed to facilitate the prevention of unintended pregnancies and promote healthy approaches to family planning.

Preventive Preconception Services – Medical services aimed at ultimately improving the health outcomes of pregnant women and infants by promoting the health of women of reproductive age *prior* to conception.

Preventive Prenatal Care — Medical services designed to facilitate the health of a pregnant woman or fetus, or services that are necessary as a result of pregnancy. Covered services may also address conditions that might complicate a pregnancy or threaten a woman's ability to carry the fetus to term or safely deliver the fetus.

Prenatal Pediatric Care — A single visit designed to allow a pediatrician (or other primary care provider) to gather basic information from parents-to-be, provide information and advice, and identify high-risk situations in which parents may need to be referred to appropriate resources for help.

Preventive Postpartum Care – Medical services necessary for the health of the woman post-pregnancy and/or the newborn infant.

Preventive Services (General) – Medical services designed to detect the existence or risk of diseases, conditions and problems in asymptomatic people.

Indirect Costs

Indirect costs, for the purpose of this analysis, are defined as the financial value of "productive time" that is gained or lost by the adoption or non-adoption of the model benefits. More specifically, productive time is affected by the company's health and productivity costs, which are described in the Business Group's Employer Measures of Productivity, Absence and Quality™ (EMPAQ). EMPAQ metrics include direct and indirect cost attributes that can be used to

approximate the financial value of productive time. The following EMPAQ categories are used to calculate the indirect costs associated with the model benefit:

Incidental absence (IA) typically includes days off from work for any of a variety of reasons: sick days, bereavement, jury duty, military leave, etc. They are the days off typically taken incrementally by an employee.

Family Medical Leave (FML) allows covered employees to take job-protected unpaid leave or substitute earned/accrued paid leave. Typically, employees may take this leave for up to 12 weeks in a 12-month period, although this may vary according to companies' internal policies.

Short-term disability (STD) provides income replacement to employees who are disabled due to non-occupational injury or illness. It may also supplement workers' compensation benefits for time lost because of occupational injuries or illnesses. STD provides wage replacement to cover employee absences that are longer than incidental sick day occurrences but fall short of qualifying for long-term disability coverage.

Long-term disability (LTD) benefits provide income to employees who are still disabled after their short-term disability or salary continuation benefits end. Typically, LTD benefits are paid as a percentage of salary, can continue until the age of 65, and are usually offset by Social Security Disability income, workers' compensation and/or disability pensions.

Workers Compensation (WC) provides coverage for medical expenses and wage replacement for employees who are disabled because of occupational injury or illness. WC expenses typically coincide with medical expenses, wage replacement payments, legal or investigative expenses, settlement costs and/or general expenses for claims administration.

Benefit

The benefit generated from savings on direct costs is calculated as the employer's treatment costs that are saved by adopting the model benefit as compared to providing no preventive benefit. The baseline values for providing no preventive benefit are derived from available peer-reviewed research for each covered preventive benefit service. The estimated employer savings of providing a preventive benefit is then converted to a cost-savings ratio. This ratio compares the amount of money saved to the amount of money an employer would have spent if no preventive benefit was provided.

The indirect cost-savings benefit represents the total productive time saved by the employer by adopting the model preventive treatment benefit. This indirect cost savings is hypothesized to be directly proportional to the employer's direct cost savings.[5, 6] In other words, the amount of money an employer saves by adopting a preventive benefit is generally proportional to the productive time that is "not lost" to illness and is therefore available for work-related purposes. This means that employers can estimate the impact of providing the model benefit on both direct and indirect costs by applying the cost-benefit ratio for direct costs to its indirect costs as well.

References

1. National Business Group on Health. *Pregnancy-related health.* Available at: http://www.businessgrouphealth.org/benefitstopics/topics/0068.cfm?topic=0068&desc=Pregnancy-Related%20Health#2. Accessed May 14, 2010.
2. Campbell KP, ed. *Investing in maternal and child health: An employer's toolkit.* Washington, DC: Center for Prevention and Health Services, National Business Group on Health; 2007.
3. National Committee for Quality Assurance. *The State of Health Care Quality 2005: Industry Trends and Analysis.* Available at: http://www.ncqa.org/Portals/0/Publications/Resource%20Library/SOHC/SOHC_2005.pdf. Accessed March 23, 2010.
4. Edington D. *Zero trends: Health as a serious economic strategy.* Ann Arbor, MI: Health Management Research Center, University of Michigan; 2009.
5. Kirschstein R. Disease-specific estimates of direct and indirect costs of illness and NIH support. Rockville, MD: U.S. Department of Health and Human Services; 2000.
6. Weiss KB, Gergen PJ, Hodgson TA. An economic evaluation of asthma in the United States. *N Engl J Med.* 1992;326(13):862-866.
7. National Business Group on Health. *Employer Measures of Productivity, Absence and Quality™: 2009 Annual Summary Research Report.* Washington, DC: National Business Group on Health; 2010.

ISSUE **Brief**

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Investing in Maternal and Child Health Benefits: An Employer Cost-Savings Calculator

National Business Group on Health

Written by:

Scott Rothermel
Principal, Rothermel & Associates, Inc.

Amy Reagin Ford
Program Analyst, Center for Prevention and Health Services

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About the Center for Prevention and Health Services

Mission: Educate large employers about diseases and health issues in order to protect and promote health and well-being among their employees and beneficiaries as well as control costs.

The Center:

- Identifies strategies and develops tools to address health and benefits issues.
- Translates health research into practical solutions for large employers.
- Provides the national voice for large employers and links them with national expertise and resources.

For more information, e-mail healthservices@businessgrouphealth.org.

Issue Brief

National Business Group on Health
Center for Prevention and Health Services
50 F Street N.W., Suite 600 • Washington, D.C. 20001
Phone (202) 628-9320 • Fax (202) 628-9244 • www.businessgrouphealth.org

Helen Darling, President, National Business Group on Health

About the National Business Group on Health

The Business Group is the only non-profit organization devoted exclusively to representing large employers' perspectives on national health issues and providing solutions to its members' most important health care and health benefits challenges. The Business Group fosters the development of a safe health care delivery system and treatments based on scientific evidence. Members share strategies for controlling costs, improving patient safety and quality of care, increasing productivity and supporting healthy lifestyles.

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