Institute for Accountable Care

Home-Based Care Return on Investment (ROI) Calculator for ACOs: Instructions

Introduction:

This is tool is designed to provide an estimate of the **return on investment** (ROI) you could see from implementing a home-based primary care (HBPC) or community paramedicine programs. The tool is designed to help organizations that operate HBPC and paramedicine programs estimate the financial impact of these programs. It can also serve as a financial planning and budgeting tool for those interested in starting a new program. Designed for organizations participating in ACOs, shared savings are a key part of estimating program return on investment.

This tool asks you to enter the costs incurred and reimbursements received for your program. It includes detailed information from 14 studies of HBPC and paramedicine programs that can be used as a reference for estimating the potential savings your program may achieve. All this information comes together to provide an estimate of ROI. The tool also allows you to estimate indirect costs and benefits, such as better patient satisfaction, higher quality or other factors that reflect contributions of the programs. This information is used to calculate a **benefit-cost ratio**. The following sections provide tab by tab instructions on how to use the tool.

General instructions:

Throughout the tool, green cells are for you to enter information. Gray cells contain calculations based on the data in the green cells. Please only enter information in the green cells.

Costs & Revenue:

This tab is designed to capture the cost of operating your home visit or community paramedicine program. We also ask you to provide information about reimbursements received by the different clinicians involved in the care. First, enter the number of patients expected to be enrolled in the program annually and the number of home visits per patient during the year.

Home-Based Primary Care Savings:

On this worksheet, enter a per-patient savings amount you expect to achieve because of your program in **cell "B9."** The savings rate could be based on your actual experience or an estimate. To help users develop an estimate, the worksheet includes detailed information from twelve studies of home-based primary care programs that measured either cost savings or reductions in service use. Links to the abstracts from each study are provided at the right side of the table. You can review the descriptions of program services and beneficiary characteristics to determine which of the programs studied most closely resemble yours. This information is intended to help you make a reasonable estimate of potential savings from your own program.

At the top of the page, we focus on twelve studies rated high or medium quality and split them into 3 categories. One is pure HBPC programs (peach-colored cells). These are programs that regularly see patients in their home for an extended Time period. The second is blended programs (green), which provide care in the home, but either for a shorter amount of time or with less consistency than the programs classified as HBPC. Finally, there are care transition programs (yellow), which are programs that provide home-based care, but are focused on the first month or so after a hospital discharge. These programs have been summarized with the number of studies, the total number of patients in those studies, as well as the minimum, mean, and maximum savings shown by the studies in those categories. The right-hand side of the table includes links to the abstracts for each study. These can also be used for reference as you select an expected savings amount for the model.

Community Paramedicine Savings:

If you do not have a paramedicine program you can skip this tab. If you have a Paramedicine program, enter the rate of savings per patient you expect your program to achieve in **cell "B6."**. Below are summaries of two studies on paramedicine programs that measured program savings, as well as a summary at the top containing the total number of patients and average savings. Feel free to use these for reference as you select an expected savings amount for the model.

Shared Savings:

This tab has two sections. At the top of the page is an optional section where you can enter expected savings from reduced ED visits. We have included this section because some of the studies in the HBPC savings tab only look at savings from reduced hospitalizations. If you used one of those studies as the basis for expected HBPC savings but believe you will also see savings from reduced ED visits, you can complete this section. You need to enter the number of expected ED visits per patient per year for patients that will be enrolled in this program. Next enter an average cost per ED visit. Finally, enter the percent decrease in ED visits you expect to see for this group. The tool will calculate total expected savings from reduced ED visits.

The second section calculates shared savings generated by the HBPC program. It is almost based on the values you enter in the HBPC savings tab and in the ED visits section above. However, the tool is designed for ACOs to estimate shared savings payments that would result from the program. Therefore, you need to enter your ACO's shared savings rate and an estimate of the probability that your ACO will receive shared savings payments this year (the default 52% is the percentage of MSSP ACOs that achieved shared savings in 2019). The tool then calculates an expected shared savings payment your ACO will generate because of the HBPC program.

Extra Costs and Benefits:

This optional tab allows you to enter an estimate of the value of non-financial outcomes of your HBPC program such as its impact on employee satisfaction or patient satisfaction. Please enter an annual value for these other costs and benefits in this tab. This is a more subjective aspect of the tool that allows you to quantify potential non-economic impacts of the program.

Results:

This tab calculates an overall Return on Investment for your program based on your inputs into the model. A number above 0 indicates positive return, while a number below 0 indicates losses. It also provides a benefit-cost ratio that includes the value of non-economic factors you have entered in the Extra Cost and Benefits tab. In this case, a number above 1 indicates that the benefits outweigh the costs, while a number below 1 indicates greater costs than benefits.

Inflation and References:

The inflation tab lists the Consumer Price Index for Medical Care services in June of each year from 1996-2020. All of the HBPC savings results in this tool were standardized to reflect 2020 dollars, regardless of when the study was done. This tab also provides the citations for the studies listed in the HBPC and Paramedicine Savings tabs.

Appendix

Methodology for Estimated Program Savings Based on the Published Literature

This appendix outlines the methodology for converting reduced utilization estimates and savings rates from published studies into per-member-per-year (PMPY) savings rates. The studies we identified were very diverse. They reported on a range of different outcomes and measured these outcomes in different ways. The program models studied also varied. Therefore, we took steps to convert all the study findings into a consistent, PMPY savings/losses framework as described below.

1. We reviewed each study to assess the program design, methods used to measure program savings or reductions in utilization, and the level of savings achieved, or utilization reductions achieved.
2. If the study provided a savings amount in any form, we adjusted it to reflect a per-member-per-year value.
3. The PMPY savings were then adjusted into 2020 dollars using the Medical Care Services value of the Consumer Price Index from June of each year from 1996-2020.
4. Some studies measured utilization reduction but not cost savings. For these studies we translated the number of hospitalization reductions into a per program beneficiary amount.
5. We priced hospitalization reductions using the 2017 price per hospitalization for all patients, patients age 65-74, age 75+, and age 85+ from the AHRQ Healthcare Cost and Utilization Project (HCUP).
6. We chose a cost per hospitalization based on the age range of the patients in the program being studied.
7. This value was multiplied by the number of hospitalizations reduced per beneficiary according to the study to determine the PMPY program savings.
8. This number was then adjusted from 2017 to 2020 dollars using the same method as discussed in step 3.