

Research Brief Supplement \ November 2023

# Supplement to Dana Center Mathematics Pathways Long-Term Follow-Up Cost Analysis

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In this supplement, the cost to implement and operate the Dana Center Mathematics Pathways (DCMP) program across the participating colleges is presented separated into primary cost categories based on program components describing what portion of spending went to training, teacher time in class, teacher time outside of class, advisement, technology, curriculum materials, and general administration. These costs are shown in Supplement Table 1 for the start-up phase. In addition to costs incurred by the college, costs incurred by the Dana Center are quantified in Supplement Table 2. The ongoing cost of the intervention to colleges was calculated based on an estimation of DCMP program costs, the cost of the traditional developmental math sequence, and the cost of college credits attempted. These resources include direct instructional costs, as well as the usual advising services, administration, and other student services. The ongoing costs for the operation of the program during one academic year are presented in Supplement Table 3.

**SUPPLEMENT TABLE 1. Dana Center Mathematics Pathways Start-Up Costs to Colleges over the Two-Year Start-Up Period**

Cost Category	Average Cost per College (\$)	Percentage of Total Cost (%)
Training		
Faculty	16,750	10.2
Advisors and counselors	21,400	13.0
Tutors	980	0.6
Other staff members	60	0.0
Administration	95,830	58.3
Preparation	26,540	16.1
Other		
Materials	310	0.2
Travel	2,090	1.3
<b>Total</b>	<b>163,960</b>	<b>100.0</b>

*SOURCE: MDRC calculations using cost data collected from colleges in DCMP.*

*NOTES: Tests of statistical significance were not performed.*

*All dollar values have been rounded to the nearest \$10 amount. Rounding may cause slight discrepancies in sums and differences.*

*These estimates calculate costs over a two-year start-up period.*

*All costs are shown in constant 2022 dollars.*

**SUPPLEMENT TABLE 2. Estimated Start-Up Costs for the Dana Center's Work**

Component	Rate (\$)	Multiplier	Cost for Implementation Similar to DCMP (\$)
State support services	76,050 - 111,150	1 state	76,050 - 111,150
State support services: two-day workshop	21,050 - 40,370	1 state	21,050 - 40,370
College-level implementation: two-day workshop and three webinars	22,580 - 22,580	4 colleges	90,320 - 90,320
Two cohorts of Focused Online Collaborative Interactive Sessions <sup>a</sup>	27,610 - 27,610	4 colleges	110,450 - 110,450
Transfer and alignment support: one-day workshop	20,130 - 20,130	1 state	20,130 - 20,130
<b>Total</b>			<b>318,000 - 372,430</b>
Midpoint of total cost			345,220

SOURCE: MDRC calculations using cost data from the Dana Center.

NOTES: DCMP = Dana Center Mathematics Pathways. Tests of statistical significance were not performed.

All dollar values have been rounded to the nearest \$10 amount. Rounding may cause slight discrepancies in sums and differences.

Rates reflect current Dana Center rates at the time data were gathered, rather than the rates from when DCMP was implemented. Rates are reported as a range to reflect that many factors can influence the cost of Dana Center services. For example, workshop costs vary depending on the number of participants. All costs are shown in constant 2022 dollars.

<sup>a</sup>Focused Online Collaborative Interaction Sessions are highly interactive collaborative learning techniques that can be applied to mathematics classes. There is no travel required to participate in these online sessions.

**SUPPLEMENT TABLE 3. Estimated Annual Net Ongoing Cost of Dana Center Mathematics Pathways**

Component	Average Cost per College (\$)	Percentage of Total Cost (%)
Faculty	14,620	64.6
Advisors and counselors	470	2.1
Tutors	900	4.0
Student ambassadors	1,430	6.3
Administration	4,460	19.7
Materials	740	3.3
Total net costs	22,620	100.0

*SOURCE: MDRC calculations using 2016–2017 school year cost data from colleges in the Dana Center Mathematics Pathways program.*

*NOTES: Tests of statistical significance were not performed.*

*All dollar values have been rounded to the nearest \$10 amount. Rounding may cause slight discrepancies in sums and differences.*

*Program costs are based on a steady state of operation that excludes external research and start-up costs.*

*All costs are shown in constant 2022 dollars.*

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