

Do Health Professions Pipeline Programs Make a Difference? Findings from the RWJF SMDEP Impact Study

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Cecilia Speroni

Clemencia Cosentino • Margaret Sullivan • Raul Torres

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Pipeline Programs Have Grown Over Time

- The proportion of medical schools offering an undergraduate pipeline program increased from 50% to 72% between 1991 to 1999 (Ready & Nickens, 1994; Wilson & Murphy, 1999)
- Today, there is the perception that nearly all medical schools offer an undergraduate pipeline program
 - Growth partly related to LCME accreditation requirements for medical schools
- Pipeline programs are most common in medicine, but also found in range of health-professions such as dentistry, nursing, public health, and pharmacy

Evidence of Their Effectiveness is Lacking

- **Rigorous evaluation of pipeline programs are rare**
 - **Most are outcome studies that follow program participants over time**
 - The Imhotep evaluation (Duffus et al., 2014) is one example
 - A literature review on these programs conducted by the U.S. Department of Health and Human Services in 2009 includes only one study that uses rigorous design—namely, a prior study of SMDEP
 - **There are few comparison group studies**
 - Canton et al. (1998) on SMDEP
 - Grumbach & Chen (2006) on Postbaccalaureate Premedical Programs in CA
 - Prenovitz et al. (2015) on Mellon Mays fellowship

Summer Medical and Dental Education Program (SMDEP)

- Is a free, six-week residential science enrichment program sponsored by the RWJF
- Offered to minority or disadvantaged college students who are interested in attending medical or dental school
- To increase the number of successful applicants to medical and dental schools to help diversify the health professions
- Is currently implemented in 12 sites across U.S.
 - Three sites offer only the program's medical component, whereas the others offer both the medical and dental components
 - Administered by the National Program Office (NPO) led by AAMC and ADEA

This SMDEP Evaluation

Key Research Questions

1. Student Impacts

What is the impact of the program on students' health career trajectories?

2. Key Program Characteristics

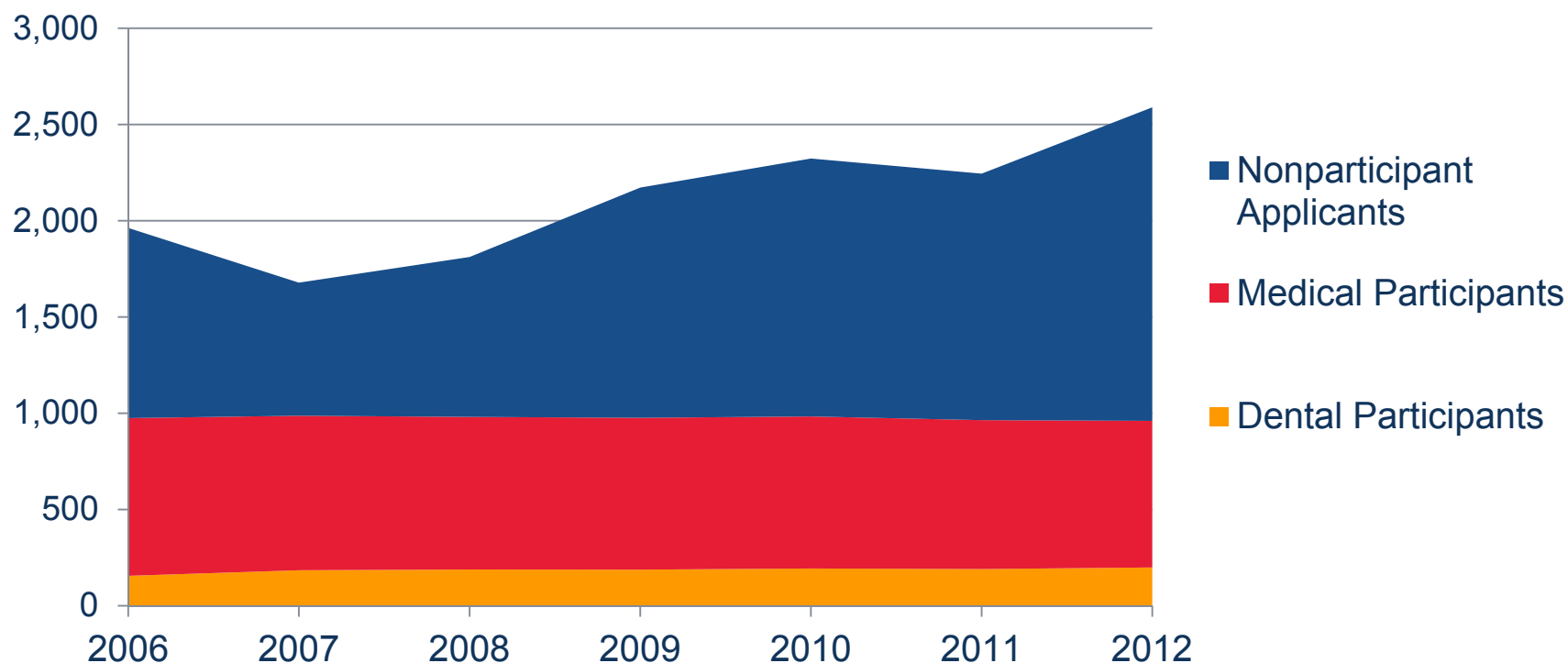
What are the critical ingredients of this program?

Mixed-Methods Design

- **Qualitative Analysis**
 - Document review (proposals, reports, and other documents)
 - Telephone interviews (32 across all 12 sites)
 - Site visits (4 sites)
- **Quantitative Analysis**
 - SMDEP application data (NPO)
 - College enrollment and graduation data (NSC)
 - Medical and dental application and matriculation (AAMC and ADEA)
 - Institutional characteristics data (IPEDS and qualitative work)

Impact Analysis: Propensity Score Matching

- Matched 2,864 participants to 894 nonparticipant applicants within sites (cohorts 2006-2008)
- Feasible given SMDEP oversubscription and “qualified candidates” in the nonparticipant pool

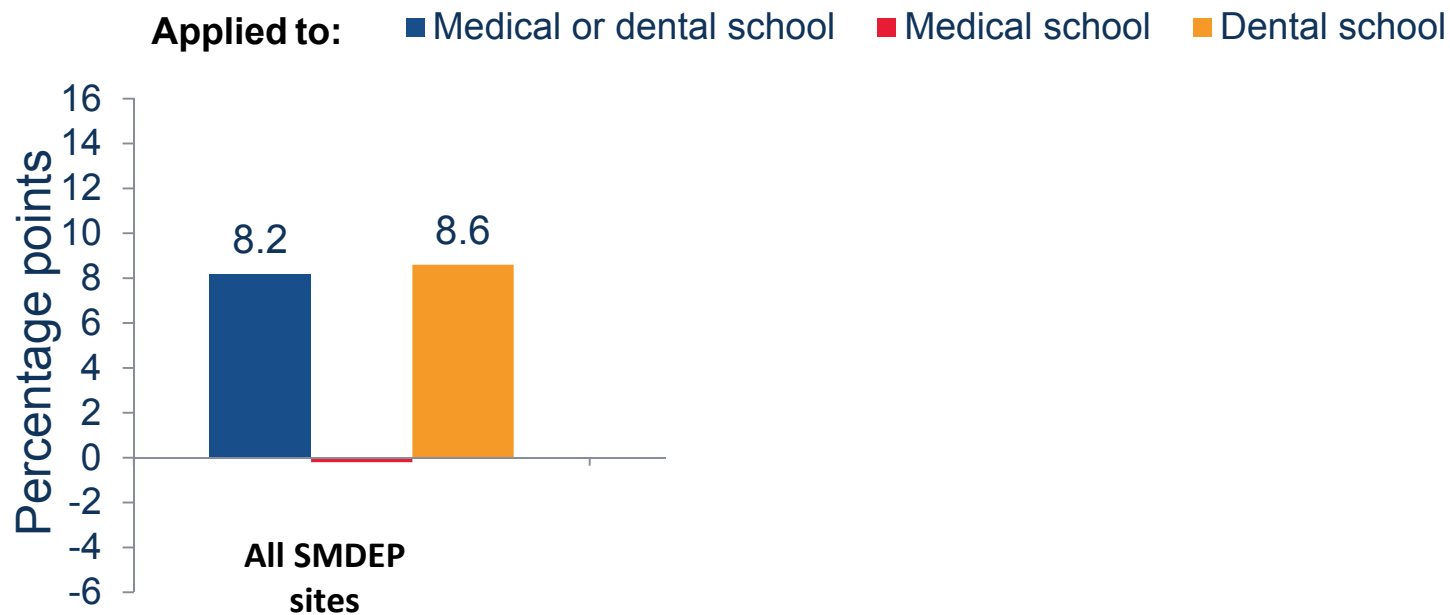


1. Student Impacts:

What is the impact of the program on students' health career trajectories?

SMDEP Has A Positive Impact on Application to Medical or Dental School

- The impact is driven by a large effect on dental school outcomes

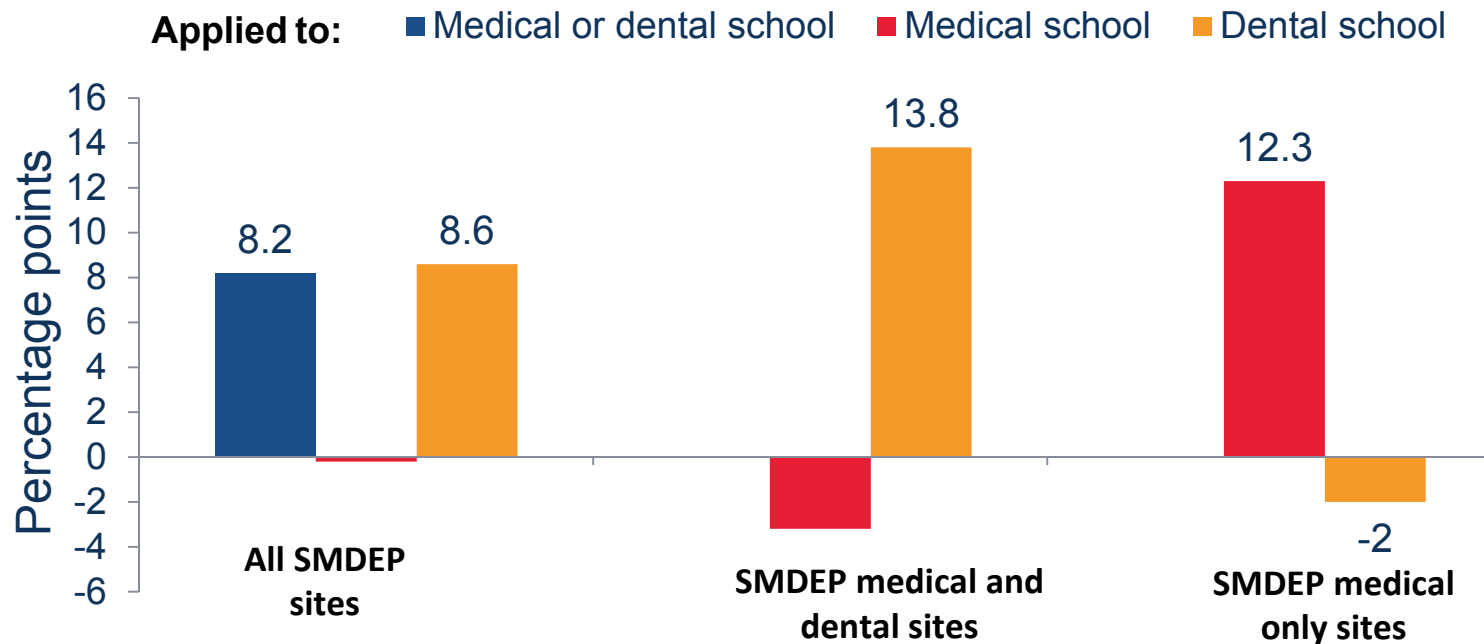


Source: NPO program data and Integrated Postsecondary Education System (IPEDS) 2011.

Note: Shown impact estimates are statistically significant at 1 percent.

Impacts Vary By Whether Sites Offer The Dental Component

- Sites offering both medical and dental program have an impact on dental outcomes
- Medical only sites have an impact on medical outcomes



Source: NPO program data and Integrated Postsecondary Education System (IPEDS) 2011.

Note: Shown impact estimates are statistically significant at 1 percent.

2. Key Program Characteristics:

What are the critical components of SMDEP?

A Few Components are Correlated with Program Impacts

- **Grouped sites by shared characteristics**
- **Academic characteristics (measures of academic intensity, ability grouping, and pedagogical approach) were not correlated with program impacts on student outcomes**
- **Program staffing and clinical experience matter:**
 - **Sites led primarily by one program (medical or dental) have better dental school outcomes than those with a more collaborative leadership approach**
 - **Low faculty engagement has a negative impact on medical school outcomes**
 - **Sites offering less clinical exposure have better dental school outcomes than those dedicating more time to clinical experience**

Study Conclusions

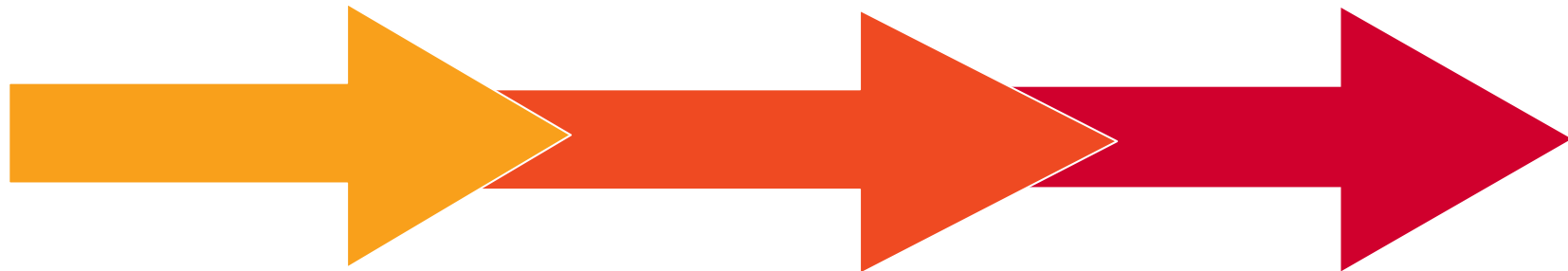
- **SMDEP helps diversify professional schools**
 - Medical-only sites have an impact on medical school applications and matriculation
 - Medical and dental sites have an impact on dental school applications and matriculation
 - SMDEP works but implementation matters
- **One question remains**
 - Why does SMDEP have a positive impact on medical school outcomes at some sites but not others?

Lessons Learned on Promising Practices Throughout Evaluation Phases

Evaluation Design

Data Collection & Analysis

Report & Dissemination



Develop true research partnerships

- Get buy-in for rigorous research
- Assuage fears

Leverage on existing data

- Application data (collect electronically)
- Other data (NSC, IPEDS)

Make research relevant and provide monitoring support

- Present relevant analysis
- Provide feedback to improve monitoring

Lessons Learned for Policy Research

- **Sometimes we don't know what we think we know**
- **Presumption that all medical schools offer an undergraduate pipeline program**
 - **Colleges are encouraged but not required to have pipeline programs to satisfy LCME accreditation standards**
- **Wide array of programs have emerged to address the low representation of minorities in the health workforce, but there are no reliable or updated measures of their offerings and types**

Thank You

For more information:

- **Cecilia Speroni**
csperoni@mathematica-mpr.com
- **Report available at Mathematica's website:**
<https://www.mathematica-mpr.com/>