



Growing Pains to Collaborative Gains: A Longitudinal Evaluation of a Multidecade Clinical Research Program

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INTRODUCTION

Few dedicated, funded clinical research fellowship (CRF) positions exist in plastic surgery. This longitudinal analysis provides insights from an established CRF, highlighting its educational impact, confirming the impact of positive institutional support and increased efforts in collaboration.

OBJECTIVES

- Examine trends in academic productivity and research impact, while describing the infrastructure of the program.
- Determine the role of trans-disciplinary, inter- or cross-institutional collaborations in the productivity of the program.

METHODS

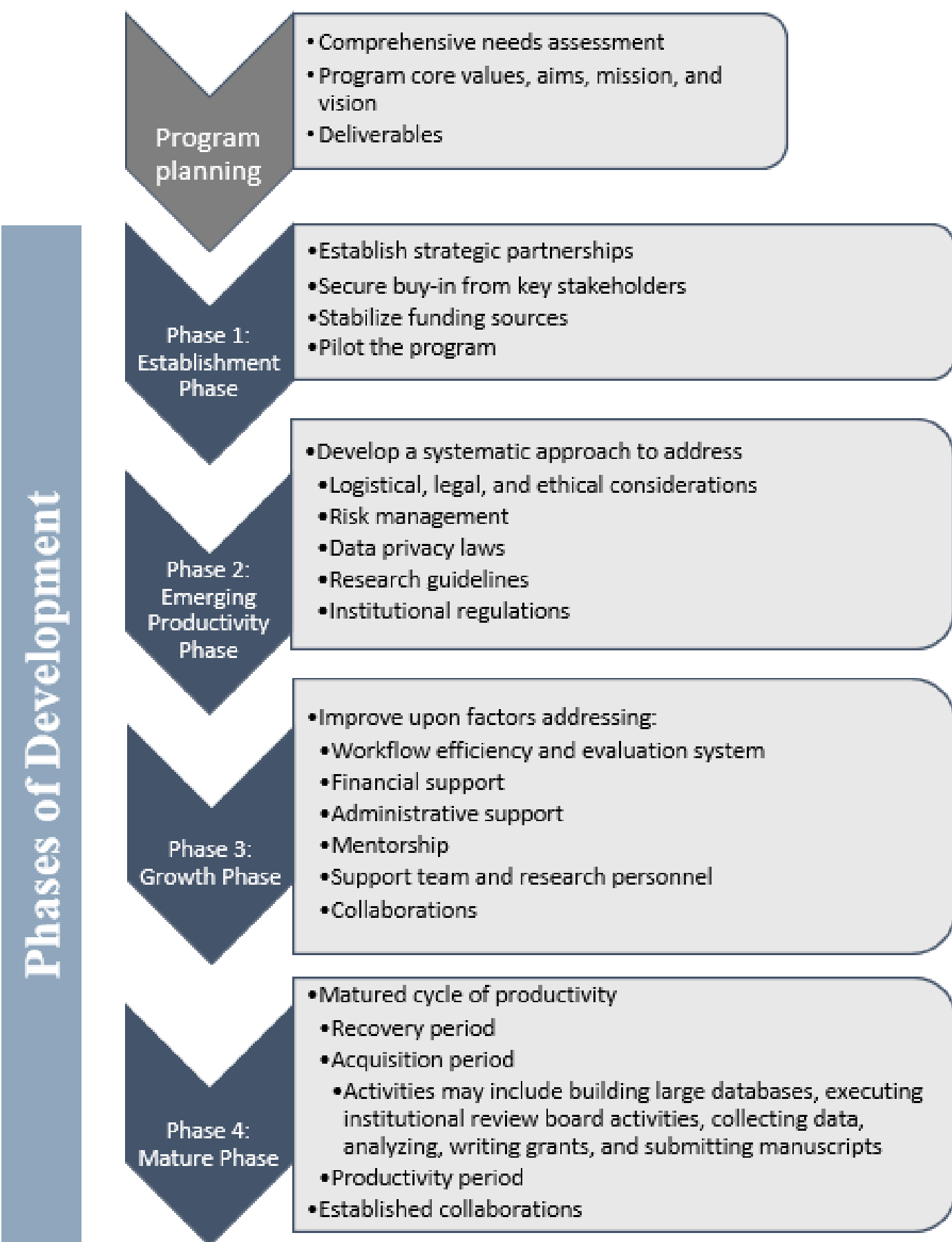
All research fellows (RF) within the program from July 2008-July 2020 were assessed during their year of employment and subsequent two years. Internal and external collaborations were determined using PubMed affiliations. Correlation between external collaborations and research impact were examined using Pearson's correlation coefficients. Research impact was characterized by publication count, journal impact factor, and journal diversity.

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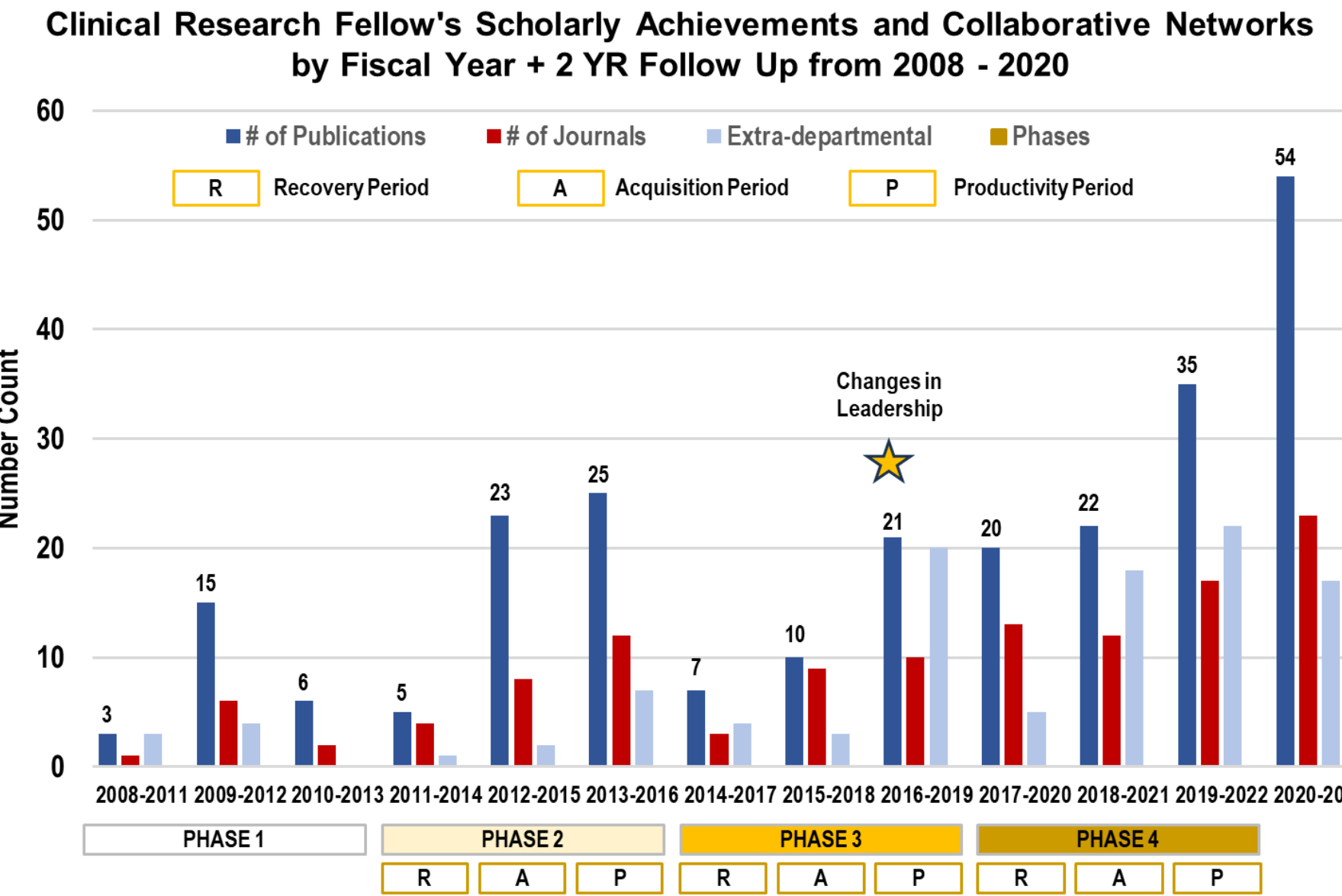
- Thirty-one RFs were identified over 12 years. There was a 100% match rate with one research fellow completing a preliminary year first.
- A shift towards more external collaborations occurred after 2016 [p=0.008].
- A positive correlation was observed between external collaborations and academic output (r=0.72, p=0.004), journal diversity (r=0.74, p=0.004), and journal impact (r=0.63, p<0.05).
- Significant growth was observed in the collaborative networks [p=0.002], publications [p=0.003], journal diversity [p<0.001] and research personnel [p=0.002].

PHASES OF DEVELOPMENT



RESULTS

FIGURE: A graph of all clinical research fellow's scholarly achievements and collaborative networks by fiscal year +2-year follow-up from 2008-2020. Includes developmental phases 1-4, the productivity cycle, and the impact of leadership.



THE POWER OF COLLABORATION

Collaboration was found to be the driving factor for the explosive growth of our program

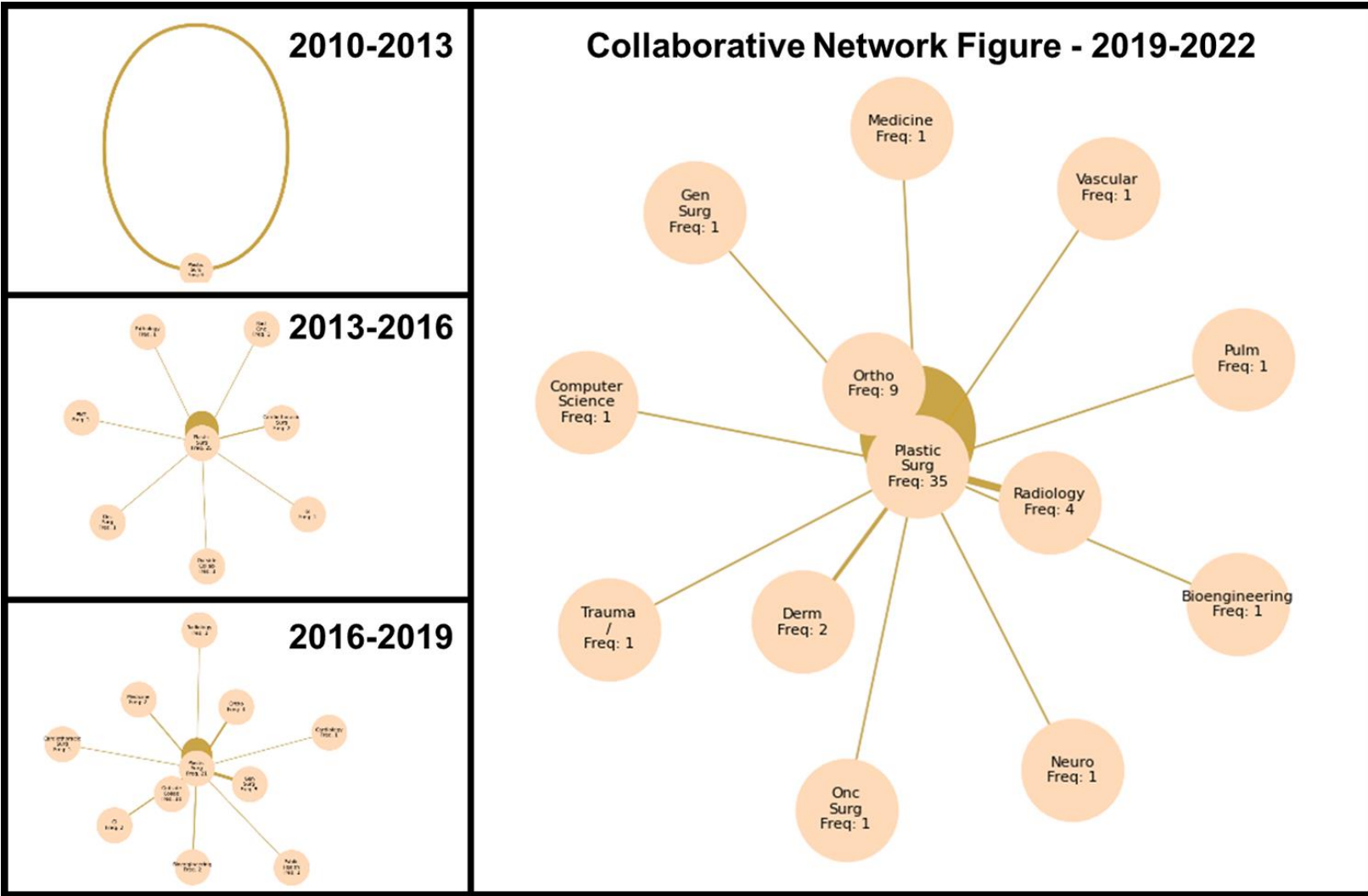


FIGURE: Collaborative network figures for fiscal year + 2-years follow-up at 2010, 2013, 2016, and 2019.

CONCLUSIONS

We highlight the importance of creating a strong infrastructure before attempting a collaborative-first model when building a CRF program.

As result of leadership, funding, administrative support, and collaboration, there is discernible improvement in measurable impact, contributing to the growth of our multidecade program.

Dedicating resources to foster deeper collaborations can enrich the field of plastic surgery research, recognizing that this investment fuels the cycle of productivity, offering promising returns to the future.

REFERENCES

McGraw JR, Amro C, Niu EF, et al. The role of dedicated research training in promoting academic success in plastic surgery: analysis of 949 faculty career outcomes. *Plast Reconstr Surg Glob Open*. 2023;11(5):e4996. doi:10.1097/GOX.0000000000004996

Carney MJ, Weissler JM, Koltz PF, Fischer JP, Wu LC, Serletti JM. Academic productivity, knowledge, and education in plastic surgery: the benefit of the clinical research fellow. *Plast Reconstr Surg*. 2017;140(4):842-849. doi:10.1097/PRS.0000000000003681

Mehta K, Sinno S, Thanik V, Weichman K, Janis JE, Patel A. Matching into Integrated Plastic Surgery: The Value of Research Fellowships. *Plast Reconstr Surg*. 2019;143(2):640-645. doi:10.1097/PRS.0000000000005212

Romeo DJ, Du S, Massenburg BB, et al. Clinical Research Fellowship Fosters Mentorship, Teamwork, and Productivity: Our 11-Year Experience With a Craniofacial Research Fellowship. *J Craniofac Surg*. February 29, 2024. doi:10.1097/SCS.0000000000000998

Belovich AN, Bahner I, Bonaminio G, et al. USMLE Step-1 is Going to Pass/Fail, Now What Do We Do? *Med Sci Educ*. 2021;31(4):1551-1556. doi:10.1007/s40670-021-01337-4

Fijany AJ, Zago I, Olsson SE, et al. Recent trends and future directions for the integrated plastic surgery match. *Plast Reconstr Surg Glob Open*. 2023;11(6):e5053. doi:10.1097/GOX.0000000000005053



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