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Evaluating the Correlation of Academic Pursuits and Relative Value Unit Reimbursement in Trauma Surgery

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Background

- Generation of work relative value units (wRVU) are produced by the services trauma surgeons perform at Lehigh Valley Health Network (LVHN), and is therefore used for the standardized comparison of surgeons' productivity as well as ultimate reimbursement.
- According to Medicare and Medicaid, wRVUs are intended to reimburse the work surgeons perform from evaluation of a patient preoperatively, procedural work during the operation, and postoperative care.¹
- Productivity is only based on the clinical setting, thus academic pursuits are not considered a part of wRVU generation.
- There have been recent proposals to formulate a supplemental academic RVU model (aRVU), where RVU generation would be based on retrieving productivity in research and publications.²

Objective: Determine if increased wRVU generation for reimbursement will correlate with decreased academic pursuits among full-time attending trauma surgeons at LVHN.

Methods

Total number of research pursuits of full-time attending trauma surgeons from the fiscal years 2007-2019 were evaluated from LVHN Scholarly Works database, and a PubMed search using attending physician name.

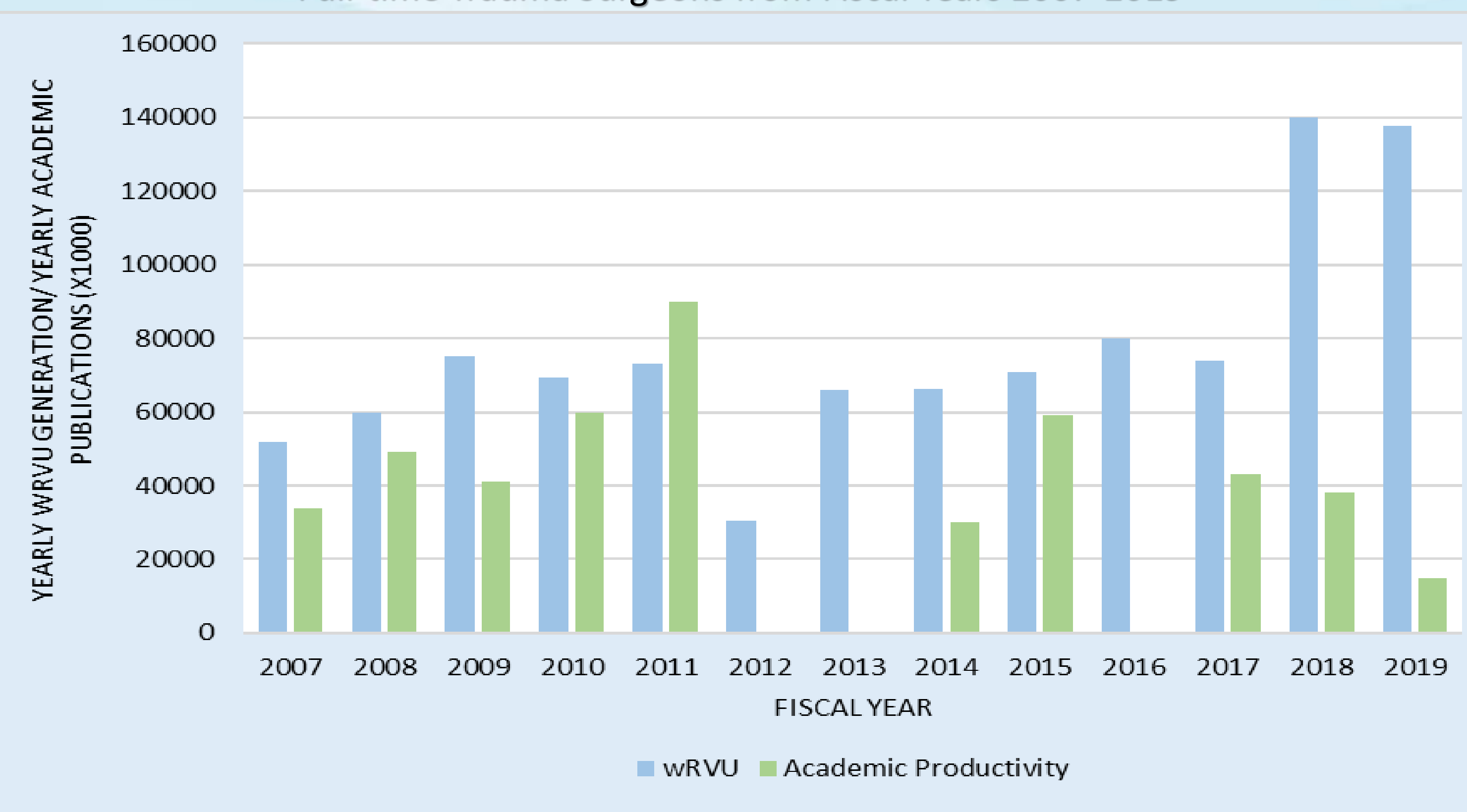
Research publications was compared with records of total wRVU generation from each month of the same fiscal year, which was obtained from the Department of Trauma Surgery.

Analysis was conducted on total wRVU generation and academic publications during each fiscal year (2007-2019).

Statistical analysis using Pearson's correlation was used to determine if a correlation exists between monthly wRVU generation and total academic publications.

Results

Figure 1: Comparison of Total wRVU Generation and Academic Publication (x1000) by Full-time Trauma Surgeons from Fiscal Years 2007-2019

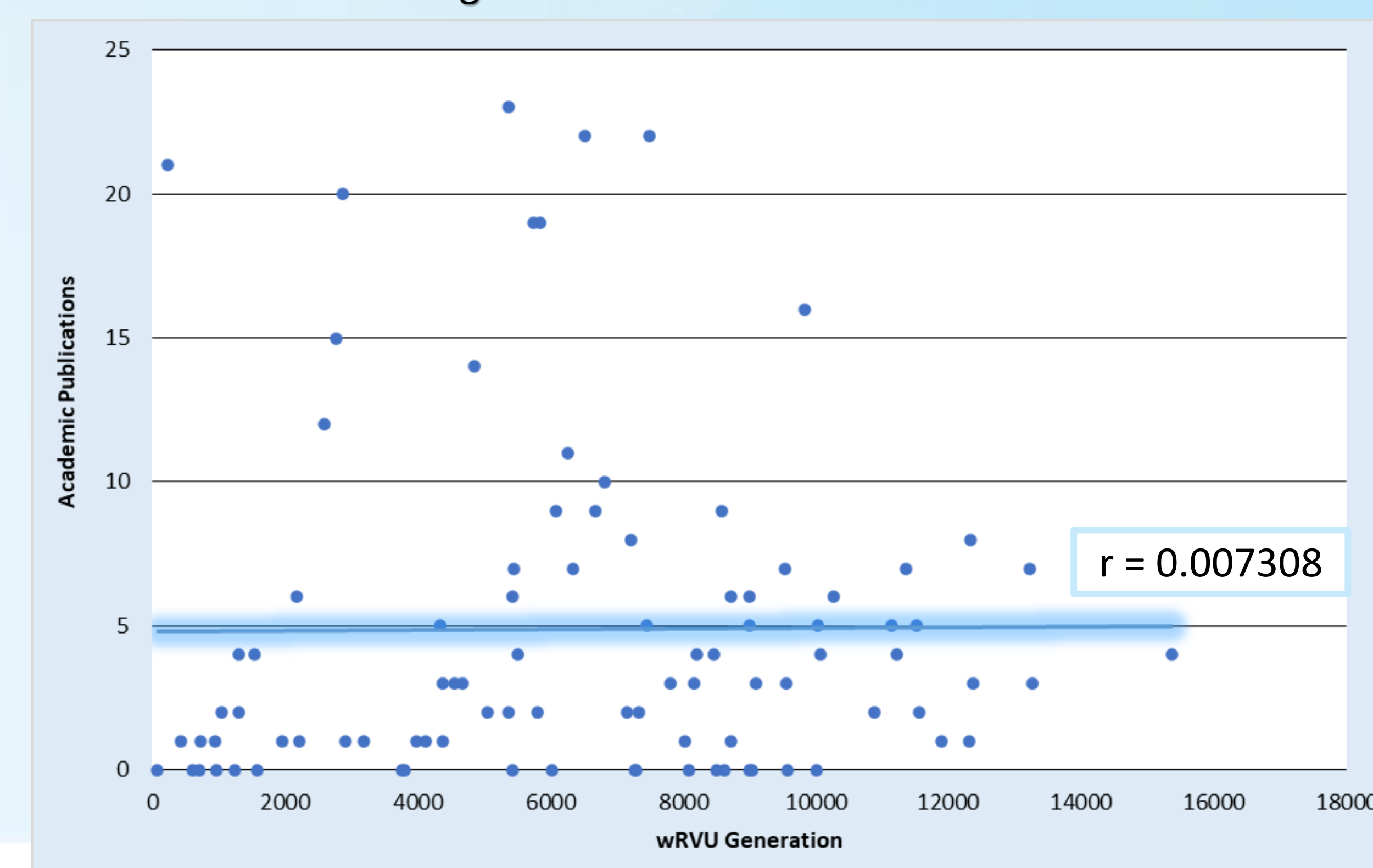


Missing data within this study in Figure 1 include: academic productivity in the fiscal years 2012, 2013, and 2016 from all surgeons

Table 1: Comparison of Trauma Surgeons in their Most Productive Year Based on wRVU Generation and Academic Publications

Trauma Surgeon	wRVU Generation	Academic Publications	
1	12323.31	1	■ Trauma surgeon 1 in their most productive year (2009) based on wRVU generation.
2	6529.31	22	■ Trauma surgeon 2 in their most productive year (2011) based on academic publications.

Figure 2: wRVU Reimbursement vs. Academic Publications Generated Per Trauma Surgeon from Fiscal Years 2007-2019



- Data includes full-time attending trauma physicians from each month of fiscal years 2007-2019.
- Pearson correlation coefficient (r) between total wRVU generation and total number of academic publications: **0.007308**.

Missing data from Figure 2 include: fiscal years 2012, 2013, and 2016 due to absent academic productivity or wRVU generation from specific surgeons

Analysis and Conclusion

- A trend in decreasing academic productivity was observed after the fiscal year 2013, with a subsequent average yearly wRVU generation nearly doubling (Figure 1).
- A negative relationship occurs between total wRVU generation and academic publications when comparing surgeon productivity in their most productive years (Table 1).
 - In the year 2011, trauma surgeon 2 had nearly 50% lower wRVU generation when compared to surgeon 1's most productive wRVU year.
 - In surgeon 1's most productive wRVU year, only 1 (4.55%) academic publication was created, compared to 22 publications generated by surgeon 2's productive academic year.
- From fiscal years 2007-2019 though, little to no direct correlation exists between wRVU generation and academic publications amongst individual trauma surgeons at LVHN (Figure 2).

As proven in these comparisons, it is possible that increasing clinical work, evidenced by high wRVU generation, allows less time for academic pursuits.

Future Recommendations and Intervention

- Development of an aRVU model may make up for the undervalued academic publications which are not reimbursed.
- Recover missing data for more valid conclusions.
- Additional variables should be investigated surrounding wRVU generation which may influence the completion of academic endeavors.

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