

Pennsylvania Department of Health Final Performance Summary Report Formula Grants

Overview of the Health Research Project Performance Review Process and Criteria

An applicant that receives a health research grant under Tobacco Settlement Act / Act 77 of 2001, Chapter 9, is subject to a performance review by the Department of Health upon completion of the research project. The performance review is based on requirements specified by Act 77 and criteria developed by the Department in consultation with the Health Research Advisory Committee.

As part of the performance review process, each research project contained in a grant is reviewed by at least three experts who are physicians, scientists or researchers. Reviewers are from the same or similar discipline as the research grant/project under review and are not from Pennsylvania. Reviewers use the applicant's proposed research plan (strategic plan), the annual progress report and final progress reports to conduct the review. A grant that receives an unfavorable performance review by the Department may be subject to a reduction in funding or become ineligible for health research funding in the future. The overall grant evaluation rating is based on the ratings for the individual research projects contained in the grant.

This performance review report contains the outcome of the review for the grant as a whole (outstanding, favorable, or unfavorable), strengths and weaknesses of each research project, as well as recommendations for future improvement.

The following criteria were applied to information submitted by research grant recipients:

- **Criterion 1 - How well did the project meet its stated objectives? If objectives were not completely met, was reasonable progress made?**
 - Did the project meet the stated objectives?
 - Were the research design and methods adequate in light of the project objectives?
 - Consider these questions about data and empirical results: Were the data developed sufficiently to answer the research questions posed? Were the data developed in line with the original research protocol?
 - If changes were made to the research protocol, was an explanation given, and, if so, is it reasonable?
 - Consider (only for clinical research projects) the extent of laboratory and clinical activities initiated and completed and the number of subjects relative to the target goal.
 - Were sufficient data and information provided to indicate or support the fact that the project met its objectives or made acceptable progress?
 - Were the data and information provided applicable to the project objectives listed in the strategic research plan?

- **Criterion 2 - What is the likely beneficial impact of this project? If the likely beneficial impact is small, is it judged reasonable in light of the dollars budgeted?**
 - What is the significance of this project for improving health?
 - Consider the value of the research completed towards eventual improvement in health outcomes.
 - Consider any changes in risk factors, services provided, incidence of disease, death from disease, stage of disease at time of diagnosis, or other relevant measures of impact and effectiveness of the research being conducted.
 - Consider any major discoveries, new drugs and new approaches for prevention, diagnosis and treatment, which are attributable to the completed research project.
 - What are the future plans for this research project?

- **Criterion 3 - Did the project leverage additional funds or were any additional grant applications submitted as a result of this project?**
 - If leveraging of funds were expected, did these materialize?
 - Are the researchers planning to apply for additional funding in the future to continue or expand the research?

- **Criterion 4 - Did the project result in any peer-reviewed publications, licenses, patents, or commercial development opportunities? Were any of these submitted/filed?**
 - If any of the above listed were expected, did these materialize?
 - Are the researchers planning to submit articles to peer-reviewed publications, file for any licenses, or patents or begin any commercial development opportunities in the future?
 - Consider the number/quality of each.

- **Criterion 5 - Did the project enhance the quality and capacity for research at the grantee's institution?**
 - Were there improvements made to infrastructure?
 - Were any new investigators added or were any researchers brought into the institution to help carry out this research?
 - Were funds used to pay for research performed by pre- or post-doctoral students?

- **Criterion 6 - Did the project lead to collaboration with research partners outside the institution, or new involvement with the community?**
 - Are the researchers planning to begin any collaborations as a result of the research?
 - For clinical research only: consider the number of hospitals and health care professionals involved and the extent of penetration of the studies throughout the region or the Commonwealth.

Overall Evaluation Rating

An overall evaluation rating is assigned to each research project. The rating reflects the overall progress the project attained in meeting the stated goals and objectives. The rating is based on a scale of 1–3, with 1 being the highest. An average rating is obtained from all the reviews (minimum of 3) of each project and is the basis for the determination of the final overall rating for each project as follows:

1.00 – 1.33 = *Outstanding*

1.34 – 2.66 = *Favorable*

2.67 – 3.00 = *Unfavorable*

The grant level rating is an average rating from all projects as above. The numerical rating appears in parentheses for the grant and each project in the ***Overall Grant Performance Review Rating*** section of the report.

Overall Grant Performance Review Rating

Grant Rating: Favorable (2.33)

Project Rating:

Project	Title	Average Score
0865601	Analysis of Emergency Department Elopements Over Time	Favorable (2.33)

Project Number: 0865601
Project Title: Analysis of Emergency Department Elopements Over Time
Investigator: Kumar, Rani (UPMC McKeesport)

Section A. Project Evaluation Criteria

Criterion 1 - How well did the project meet its stated objectives? If objectives were not completely met, was reasonable progress made?

STRENGTHS AND WEAKNESSES

Reviewer 1:

The strength of the project was that it allowed the research team to learn to become familiar with their clinical and administrative datasets.

The goals of this project were to analyze hospital-specific summary data related to elopements from the University of Pittsburgh Medical Center McKeesport Emergency Department, to measure the impact of the new "medical home" initiative, and to aid in the implementation of corrective actions based on the data analysis in order to reduce the overall incidence of emergency department elopements.

Specific aims:

- Analyze and initiate corrective actions to reduce the length of stay for treated and discharged and treated and admitted patient categories to best-practice levels as compared to equivalently sized emergency departments based upon volume of visits.
- Improve patient satisfaction scores to the 90th percentile level as measured by the Press Ganey Patient Satisfaction Scores.

Weaknesses:

- Not enough data are presented in either of the two Annual Progress Reports or in the Final Report to determine if the project met its stated objectives. The tables provided do not address the research aims.
- The research design and statistical methodology described is rudimentary and inadequate to assess the project objectives.
- The data were not developed sufficiently to answer the research questions posed. It is difficult to evaluate whether the data developed were in line with the original research protocol as the data presented for evaluation are sparse and do not address any of the research questions.
- Changes were made in the research protocol regarding variables collected, but there were no data to support the decision.
- No activities to address Aims 2 or 3 were presented in the report.
- The data and information were not sufficient to support the fact that the project met its objectives or made acceptable progress. The data presented were sparse and not pertinent to the

stated goals. The only data presented in the Final Report are percent elopements of the total with regard to age (adult/pediatric) and shift. No other data were presented.

- The data and information provided were not applicable to the project objectives listed in the Strategic Research Plan. It is unfortunate that the findings were so poorly presented because this project's aims have potentially significant implications for our changing health care system and economy.

Reviewer 2:

1. According to the Strategic Research Plan, the primary objective of the project was to analyze emergency department data to measure the extent to which a new "medical home" program in the facility reduced the emergency department elopement rate, and to initiate corrective actions to reduce the elopement rate by 25% in Year One and by 50% in Year Two. Secondary objectives included reducing patient length of stay to "best-practice levels," and improving patient satisfaction scores to the 90th percentile level in Press Ganey scoring. It should be noted that the secondary objectives, while important, are not necessarily related to the primary objective of reducing elopement.

The project did appear to meet its primary objective in that it did analyze collected data. It found that over the 18-month study period, elopements actually increased on the second and third shifts, while remaining at approximately the same level on the first shift. This would seem to confirm a null hypothesis that the implemented "medical home" model did NOT reduce the elopement rate as hoped.

2. The research methods were very basic, collecting emergency department disposition data from one year before to one year after implementation of the "medical home" system with Medicaid patient navigators with respect to eleven variables. Using SPSS, the Mann-Whitney U Test (for non-normally distributed data) was run to gauge changes in monthly elopement rates. These changes were broken down by shift, patient age, gender, length of stay, mode of arrival and acuity level. Given the relatively short analytical period and the small percentage of emergency department admissions that result in elopement in any case, it would be difficult to statistically detect anything other than very large changes in the elopement rate. The research methods were not incorrect, but they were rather weak.

3. The data were developed to the extent that the basic hypothesis of the impact of the "medical home" model on elopement rates could be tested. Given the brief time period and relatively small database, not much more could be accomplished. The data were developed in line with the original research protocol, although some variables (i.e., emergency department occupancy level, waiting count, boarding count and length of stay) were dropped from the analysis after the study began.

4. The change in the research (dropping four variables) was briefly explained as being due to a level of complexity requiring labor intensity (% FTE commitment, presumably) that could not be applied, given the modest level of funding. This is a reasonable explanation. The secondary objectives of exploring changes in length of stay and patient satisfaction also dropped out of the study. The authors stated that the Press Ganey Patient Satisfaction scores were "not yet available" at the time of the Final Progress Report.

5. Sufficient data and information were provided, although the attained project objective was a negative finding - the expected reduction in elopement did not occur, and elopement rates, in fact, increased in most categories. At the most basic level, this could be considered to be "acceptable progress," given that the research was very basic and limited in intensity and scope. Much more (and more intensive) research would have to be done to gain a greater understanding of elopement.

6. The data and information provided were applicable to the project objectives.

Reviewer 3:

This was a relatively well-conducted study. The research design and methods were adequate and data were developed for answering most of the stated aims. The study did not make any major changes to the original research protocol.

Some of the stated outcomes were not analyzed, including satisfaction and length of stay. No satisfactory explanations were given for not including these variables, which is considered a weakness of the project.

Criterion 2 - What is the likely beneficial impact of this project? If the likely beneficial impact is small, is it judged reasonable in light of the dollars budgeted?

STRENGTHS AND WEAKNESSES

Reviewer 1:

Strengths: The likely impact of this project is that it collected data that may be used by future groups to decrease the elopement rate among patients who present for care in emergency departments. Future plans for the project include "data mining" and initiating actions to fulfill the original aims.

Reviewer 2:

1. The significance of this project for health improvement is very modest at best. All it demonstrates is that a "medical home"/patient navigator model in Medicaid may not have a positive impact on one undesirable program characteristic (elopement).
2. Unless the study is followed up with more extensive and intensive research, it will have very little impact on improvement of health outcomes. The problem (elopement) is still there and not well understood.
3. The benefit of the study is that it tells us what will perhaps NOT have an impact on emergency department elopement ("medical homes" and patient navigators).
4. There are no major discoveries here without further research.
5. There appears to be no future plans for research, according to the project report. No further funding is being sought.

Reviewer 3:

The ultimate goal of the project is to redesign processes to improve the timeliness of patient care, provide care appropriate to treat the individual, and prevent loss of revenue and to reduce elopements with the implementation of the "medical home" program. If achieved, these goals would greatly impact health care of patients; however, it is not clear how current research and results will help to achieve these goals.

Criterion 3 - Did the project leverage additional funds or were any additional grant applications submitted as a result of this project?

STRENGTHS AND WEAKNESSES

Reviewer 1:

No additional funds were obtained.

Reviewer 2:

1. There was no leveraging of funds.
2. The project narrative states that "it is hoped in the near future that we will achieve additional funding;" however, no additional details were provided regarding these plans.

Reviewer 3:

This project did not leverage additional funds.

Criterion 4 - Did the project result in any peer-reviewed publications, licenses, patents, or commercial development opportunities? Were any of these submitted / filed?

STRENGTHS AND WEAKNESSES

Reviewer 1:

No peer-review publications resulted from this project as the work was very preliminary.

Reviewer 2:

There are no stated plans to generate research products, such as publications, and none materialized.

Reviewer 3:

There are no publications from this project.

Criterion 5 - Did the project enhance the quality and capacity for research at the grantee's institution?

STRENGTHS AND WEAKNESSES

Reviewer 1:

Strengths: None.

Weaknesses: The Final Report states that improvements were made to the research infrastructure, although there is no evidence of this in the report. No new infrastructure was achieved. The original project coordinator left early in the course of the project - the hospital's chief financial officer took her place. No new researchers were brought into the institution to carry out this research. Funds were not used to pay for research performed by pre- or post-doctoral students.

Reviewer 2:

1. No infrastructure improvements were mentioned or evident.
2. The original project coordinator left the institution, and another individual took on that responsibility (the institution's CFO). No other new investigators or outside researchers were brought into the project.
3. No funds were used to pay for research performed by pre- or post-doctoral students.

Reviewer 3:

It is not clear whether the project has enhanced the quality and capacity of research at the grantee's institution.

Criterion 6 - Did the project lead to collaboration with research partners outside of the institution or new involvement with the community?

STRENGTHS AND WEAKNESSES

Reviewer 1:

Strengths: The Final Report indicated that the institution may collaborate with other institutions in the future.

Weaknesses: The research has not led to any new collaboration.

Reviewer 2:

There is no discussion of any collaboration that might result from this research.

Reviewer 3:

This project did not lead to any collaboration with researchers outside the institution.

Section B. Recommendations

SPECIFIC WEAKNESSES AND RECOMMENDATIONS

Reviewer 1:

1. Specific weaknesses: None of the specific aims were met. Two of the specific aims weren't even addressed.

Recommendations: Develop detailed data/variables to collect for each aim. Provide a detailed plan of how data for each aim is to be collected, recorded, checked, cleaned, and analyzed. Provide a detailed plan of how findings will be addressed.

2. Specific weaknesses: Insufficient data were reported. The data presented did not address the specific aims. The statistical methodology used was overly simplistic and failed to analyze the issues listed in the *Aims* section.

Recommendations: Develop clear tables with raw and descriptive data. Present data that address the original aims of the project. When analyzing a complex dataset, statistical methodology that adjusts for multiple variables should be employed. Consultation with a Ph.D. statistician or seasoned research methodologist is warranted.

Reviewer 2:

1. If the researchers plan to continue this line of research (as they state), they need to follow through on the steps suggested in the *Future Plans* section of the report. This includes increasing the size of the elopements database by adding data from other comparable emergency departments in Pennsylvania (presumably also using the new "medical home" model with patient navigators).
2. As they add data and data sources, the researchers should consider alternative and possibly more powerful statistics for their analysis. This might include Kendall's Tau or other nonparametric statistics.

Reviewer 3:

1. The researchers should further analyze and determine the correct actions to reduce the incidence of elopements in emergency departments, using a potential outcome causal model.
2. Work is needed to develop a way to increase patient satisfaction to the 90th percentile level.

Additional Comments

Reviewer 3:

This is a small-scale project and has finished most of the stated aims. The obtained results are reasonable; however, they are just a first step in achieving and improving health care of patients. New research is needed to achieve these goals. This project fails to propose meaningful future research to move from toward the ultimate goal of reducing elopements.