

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
<p>The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Service Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p> <p>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.</p>					
1. REPORT DATE (DD-MM-YYYY) 12/03/2017		2. REPORT TYPE Abstract		3. DATES COVERED (From - To) 12/03/2017-12/07/2017	
4. TITLE AND SUBTITLE Evaluation of a Tool to Predict 90-Day Readmission or Death Following Hospitalization for COPD				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Capt Patlovany, Alexander S				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) 59th Clinical Research Division 1100 Willford Hall Loop, Bldg 4430 JBASA-Lackland, TX 78236-9908 210-292-7141				8. PERFORMING ORGANIZATION REPORT NUMBER 17490	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) 59th Clinical Research Division 1100 Willford Hall Loop, Bldg 4430 JBASA-Lackland, TX 78236-9908 210-292-7141				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.					
13. SUPPLEMENTARY NOTES American Society of Health-System Pharmacists Midyear Clinical Meeting and Exhibition, Orlando, FL, 3-7 Dec 2017					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Clarice Longoria
					19b. TELEPHONE NUMBER (Include area code) 210-292-7141



Evaluation of a Tool to Predict 90-day Readmission or Death Following Hospitalization for COPD

Capt Alexander S Patloway, PharmD^a, Annabel L Schumaker, PharmD^b
^aSan Antonio Military Medical Center, JBSA Fort Sam Houston, TX ^bDepartment of Pharmacy, Brooke Army Medical Center, JBSA Fort Sam Houston



BACKGROUND

COPD exacerbations are one of the most common reasons for hospital admission with approximately one-third of patients requiring readmission within 90 days^{1,2}. At the University of California San Francisco Medical Center, a study found that clinicians have difficulty identifying patients at high risk for readmission. In a comparison between provider groups, no group accurately predicted who would be readmitted³. Several predictive models exist for COPD; however, they were developed primarily to determine risk of death (ADO⁴ and BODEX⁵) or health status (DOSE⁶) rather than hospital readmission. PEARL was developed as a predictive tool for 90-day readmissions or death in patients discharged following an admission for an acute exacerbation of COPD⁷.

An effective predictive tool for identifying patients at high risk for readmission or death within 90 days would allow clinicians to target high risk patients with early interventions. Early interventions may translate into better overall patient health and better use of limited healthcare resources⁸.

PURPOSE

The PEARL (Previous admissions, Extended Medical Research Council Dyspnoea Scale (eMRCd), Age, Right-sided heart failure, Left-sided heart failure) tool has previously been validated to predict 90-day readmission or death after admission for a COPD exacerbation using the extended Medical Research Council Dyspnoea (eMRCd) score. The purpose of this study is to evaluate the predictive ability PEARL replacing the eMRCd with the modified Medical Research Council (mMRC) dyspnoea scale. SAMMC uses mMRC rather than eMRCd as a validated measure of dyspnea⁹ which is the dyspnea score used with PEARL. It is unknown if the PEARL tool modified with mMRC still provides predictive value.

METHODS

- This retrospective cohort study will use San Antonio Military Medical Center (SAMMC) admission data for the 18 month period from 1 Jan 2016 to 30 Jun 2017.
- The target population is adults over 18 years of age with a diagnosis of COPD who have received care one of the medical center facilities.
- The study has been approved by the Institutional Review Board.
- An electronic medical record *ad hoc* report will identify patients admitted with a primary diagnosis of acute exacerbation of COPD.
- The following data will include the PEARL indices, demographic data, and outcomes data.
- A modified PEARL score will be calculated using mMRC scores of 0, 1, 2, and 3 (replacing eMRCd scores of 1, 2, 3, and 4 respectively); mMRC scores of 4 will be assessed as eMRCd 5a in one calculation and as 5b in a second calculation.
- Chi-square will be used to compare PEARL risk assignment (low, intermediate, or high) with the combined endpoint of readmission or death without readmission at both 90 days and at 30 days.
- Imputation will be used to handle missing data.

PEARL indices	eMRCd	mMRC
Previous admissions	1 - Breathless with strenuous exercise 2 - Breathless when hurrying on level or walking up slight hill 3 - Walks slower than peers or stops walking at own pace	0 - Breathless with strenuous exercise 1 - Breathless when hurrying on level or walking up slight hill 2 - Walks slower than peers or stops walking at own pace
Age	4 - Stops after 100m or for a few minutes on level 5a - independent in washing/dressing 5b - dependent in washing/dressing	3 - Stops after 100m or for a few minutes on level 4 - too breathless to leave house and house or breathless when dressing/undressing
Right-sided heart failure	Too breathless to leave house and:	
Left-sided heart failure		

RESULTS

- An admission report was run with data from 1 Jan 2016 through 30 Jun 2017.
- 410 admissions were found to have a primary diagnosis of acute exacerbation of COPD.
- Data is currently being extracted from outpatient and inpatient medical records.

DISCUSSION

Pending results

CONCLUSION

Pending results

REFERENCES

1. Healthcare Commission. Clearing the air: A national study of chronic obstructive pulmonary disease. Commission for Healthcare Audit and Inspection, 2006.
2. Roberts CM, et al. *Thorax*. 2002;57:137-41.
3. Allauden N, et al. *JAMA Intern Med*. 2016;176(4):484-493.
4. Puhan MA, et al. *Lancet*. 2009;374:704-11.
5. Soler-Cataluna JJ, et al. *Respir Med* 2009;13:692-9.
6. Jones RC, et al. *Am J Respir Crit Care Med*. 2009;180:1189-95.
7. Echevarria C, et al. *Thorax*. 2017;72:686-693.
8. Vestbo J, et al. *Am J Respir Crit Care Med*. 2013;187:347-65
9. Casanova C, et al. *Chest*. 2015;148(1):159-168.

DISCLOSURES

Financial: Alexander Patloway and Annabel Schumaker declare no conflicts of interest, real or apparent, and no financial interests in any company, product, or service mentioned in this poster, including grants, employment, gifts, stock holdings, and honoraria.

Disclaimer: The views expressed herein are those of the author(s) and do not reflect the official policy or position of Brooke Army Medical Center, the U.S. Army Medical Department, the U.S. Army Office of the Surgeon General, the Department of the Army, the Department of the Air Force and Department of Defense or the U.S. Government.