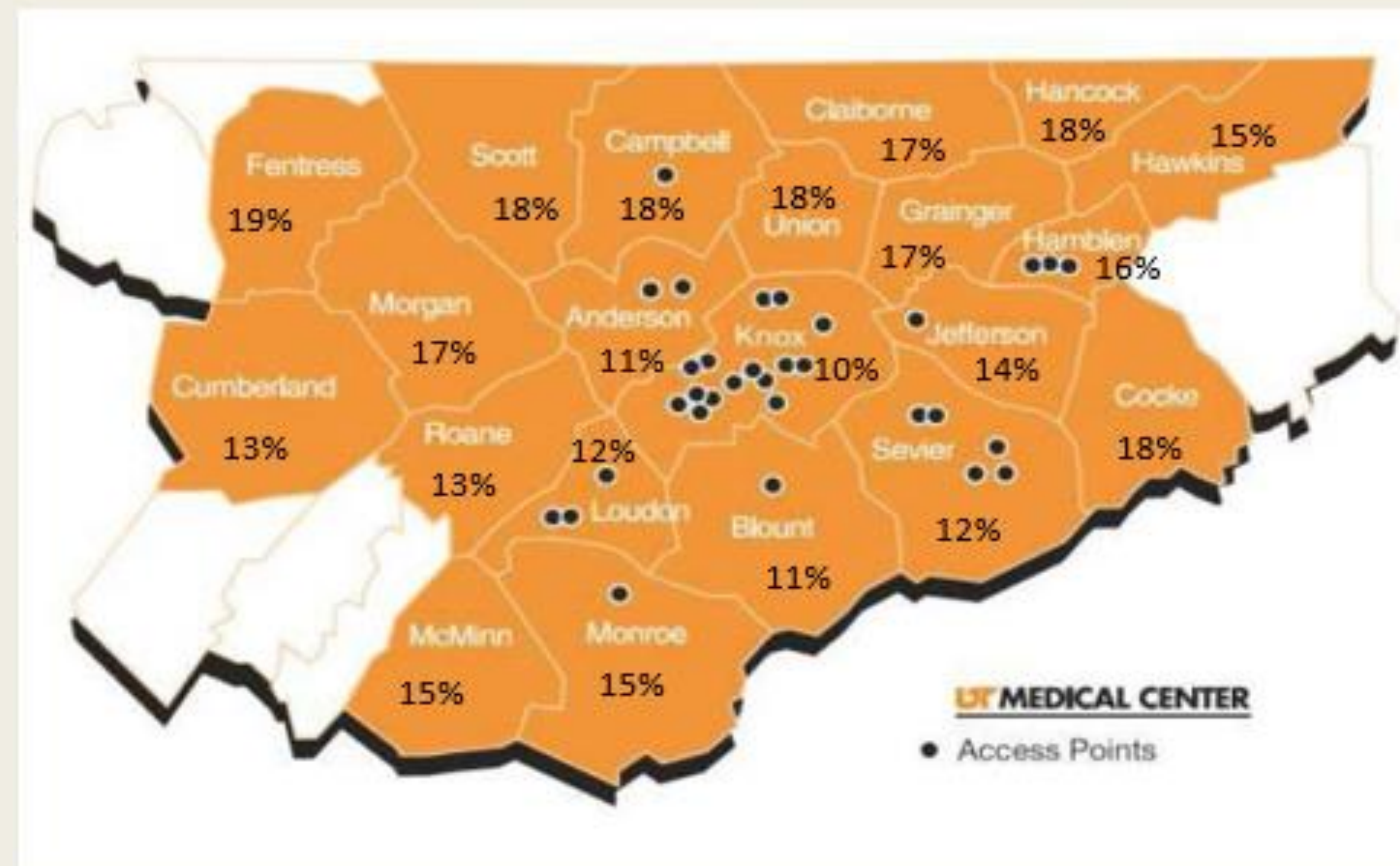


Beyond the Basics: An Assessment of Printed Patient Education Materials in Appalachia

Kelsey Leonard, MSIS, AHIP; Jennifer Russomanno, MPH; Sandy Oelschlegel, MLIS, AHIP; Emily Pollard, BS; R. Eric Heidel, PhD
 University of Tennessee Graduate School of Medicine, University of Tennessee Medical Center
 Knoxville, TN

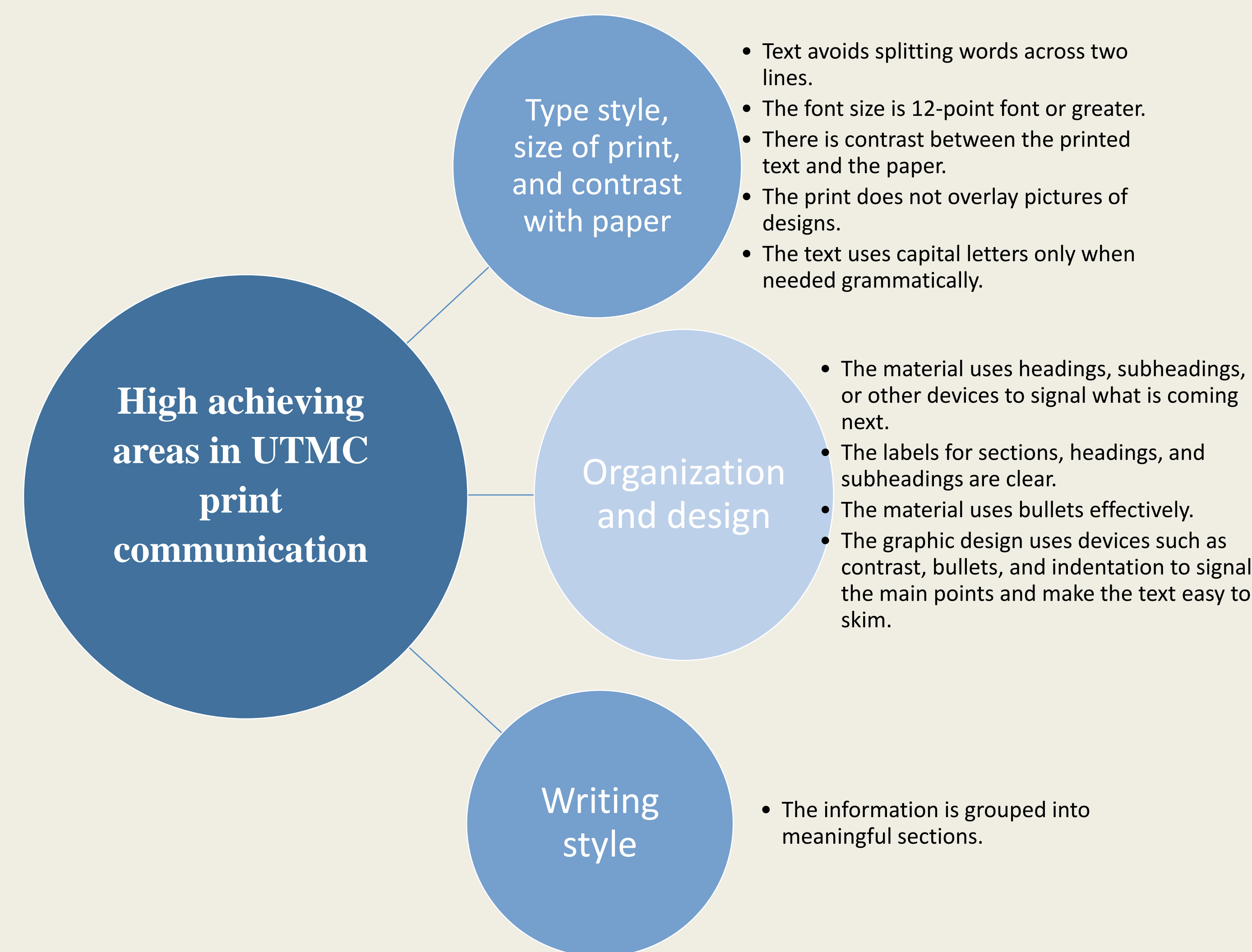
Background: Americans read at an average level of the 8th to 9th grade, with 1 of 5 people reading at the 5th grade level. In Tennessee, 13% of the adult population and 69% of twelfth graders have below basic or basic literacy. This project targeted patients at a 609-bed academic medical center located in the Appalachian region of East Tennessee. Nearly 30% of adults living in Appalachia are considered “functionally illiterate.” A task force at the University of Tennessee Medical Center (UTMC) formed to implement a targeted health literacy initiative that would serve as a catalyst for improving health literacy in our healthcare system.



Percentage of population who lack basic prose literacy by county in the 21 county region

Objective: To assess patient education materials currently distributed at UTMC, researchers used the Health Literacy Environment of Hospitals and Health Centers (HLEHH) Print Communication Rating and the Simple Measure of Gobbledygook (SMOG).

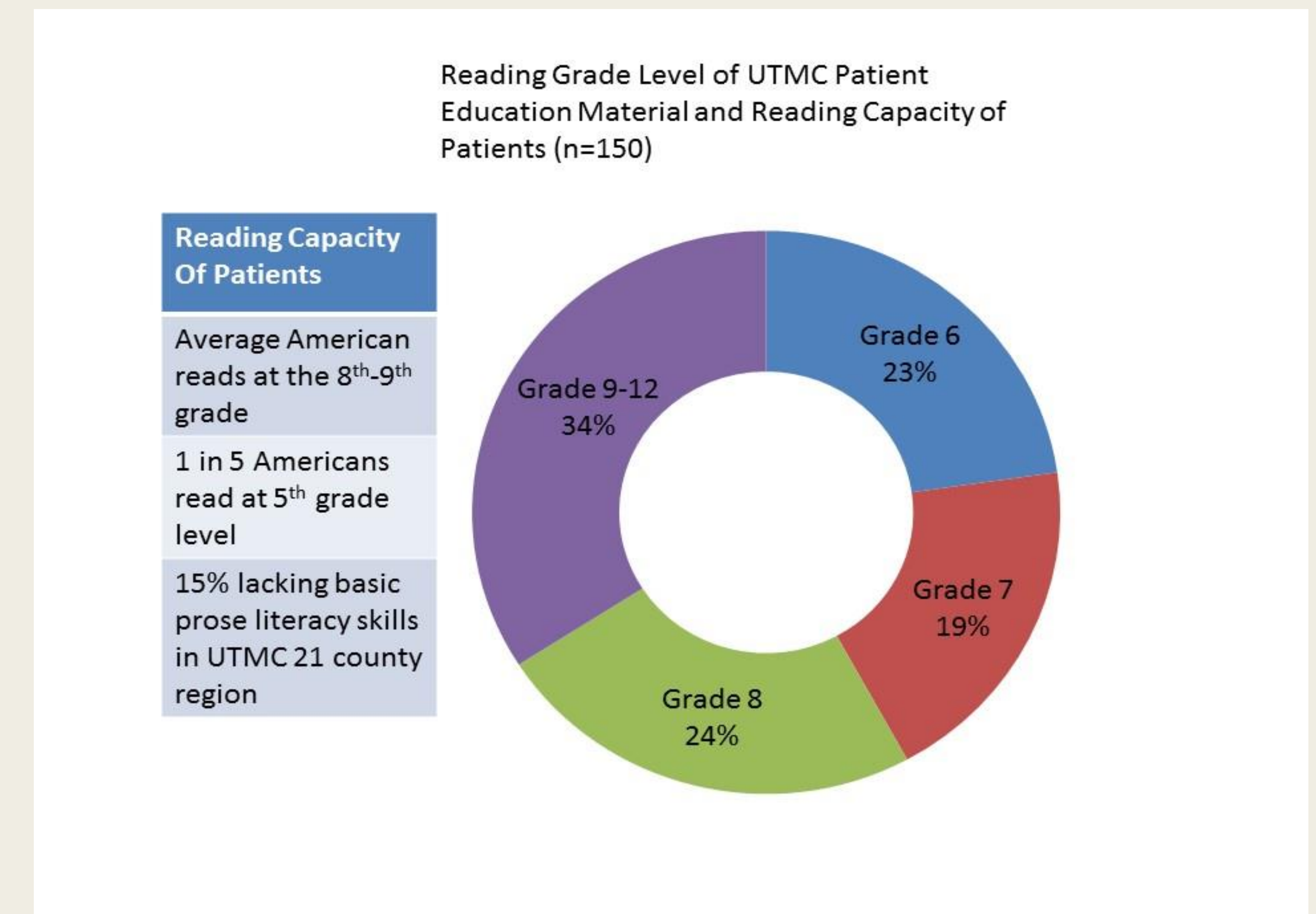
Methods: SMOG measured grade level while the 24-question HLEHH Print Communication Rating measured an array of health literacy assessments. 150 of the most used patient education materials distributed to patients at UTMC were each assessed by three reviewers. Intraclass correlation coefficients (ICC) were calculated for inter-rater reliability. Means and standard deviations were reported for SMOG and HLEHH for all print communications. The relationship between SMOG and HLEHH was analyzed using Pearson’s r correlation.



Results: Excellent inter-rater reliability was found for SMOG, ICC = .95. For the 150 documents assessed, SMOG produced a mean grade reading level of 9.6 (SD = 1.3). The Intraclass Correlation Coefficient for the HLEHH was .67. The HLEHH Print Communication Rating, produced a mean score of 53.94 (SD = 5.86). There was a statistically significant negative correlation between SMOG and HLEHH, $r = -.51$, $p < .001$. Using the aggregate rating scale provided by HLEHH, this score falls in the low range of the highest possible rating “continue to monitor and eliminate health literacy-related barriers.”

Usage	Document Title	Document ID #	SMOG
8061	General Anesthesia, Adult, Care After	1	10.7
3970	HF Zone Sheet- English 04-2013 (Custom)	2	6.3
3339	Heart-Healthy Eating Plan, Easy-to-Read	3	8.7
3145	CPR, Infant	4	10.7
3092	WC Home Care Guidelines English 2014 (Custom)	5	7
2858	Groin Site Care 2013 (Custom)	6	8.7
2849	Postpartum Depression and Baby Blues	7	11
2783	Surgical Site Infections FAQs - SHEA	8	10.3
2651	Abdominal Pain, Adult	9	10

Examples of Patient Education Reviewed



Conclusion: The aggregate score for the HLEHH assessment fell within the low end of the highest rating for print communication. However, results of our SMOG analysis concluded that patient education materials distributed by UTMC are above the average grade reading level of the American majority. Researchers reviewed each individual question in the HLEHH print communication section to determine where opportunities exist to improve specific areas of patient education materials. Plans are in place to determine the best practices and present these opportunities to medical center administration.

References:

Doak C, Doak LG, Root JH. The literacy problem. In Teaching Patients With Low Literacy Skills. 2 ed. Philadelphia, PA: J.B. Lippincot Company; 1996:1-8.

McLaughlin, G. Harry. SMOG Grading: A New Readability Formula. *Journal of Reading*. 1969;12(8): 639-46.

National Center for Educational Statistics. State and County Estimates of Low Literacy. <https://nces.ed.gov/naal/estimates/StateEstimates.aspx>.

Rudd RE, Anderson JE. The Health Literacy Environment of Hospitals and Health Centers. Boston, MA: National Center of the Study of Adult Learning and Literacy; 2006.

Wallace LS, Lennon ES. American Academy of Family Physicians patient education materials: Can patients read them? *Family Med*. Sep 2004;36(8):571-574.