Current Strategies for Decreasing Disparities in Orthopaedic Care: A Systematic Review

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INTRODUCTION:

Healthcare disparities in the United States lead to nearly $35 billion in excess health expenditures annually and can include increased risks of surgical complications and mortality among at-risk patients. However, these disparities have yet to be clearly elucidated within the field of orthopaedic surgery. Moreover, minority populations receive poor trauma care and increased complications after spine surgical and joint replacement surgeries. The purpose of this study is to investigate current disparities in orthopaedics and provide strategies to decrease these discrepancies to provide equitable medical care. In addition, we aim to provide a comprehensive list of healthcare disparities studied in relation to orthopaedic care, with emphasis on the least represented subtopics in the field. Comparing orthopaedics versus non-orthopaedics health disparities research will further clarify what additional studies can be done to help narrow the gap in addressing these disparities.

METHODS:

The recommendations outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) were used to conduct this systematic review. All searches were done in the PubMed database with the following filters applied: English, published in the last five years (2017 - 2022), full text article, and indexed in MEDLINE.

This review was conducted in three parts: a general search of all of PubMed, a search within orthopaedics, and a culmination of additional searches to represent non-orthopaedics. A total of 3,125 publications resulted. The authors agreed on the following subtopics to manually categorize the results from each search: Education, Income/Socioeconomic Status, Insurance, Language, Location/Communities, Race/Ethnicity, Geriatrics, Sex/Gender/Sexuality, Practitioner/Student Focused, Telemed/Resources, Transportation, and Weight/Obesity. To focus on solution-oriented sources, an additional search was conducted with the added keyword Solutions. A total of 692 sources were included, and 2,433 (duplicates and off-topic) excluded.

This categorization allowed for assessment of the representation of each subtopic within the general literature, orthopaedics, and non-orthopaedics. The number of papers from each subtopic were summated and compared. Sources with solutions addressing the most obvious disparities in the literature will be used to help guide discussion for filling those gaps in the field of orthopaedics.

RESULTS:

Preliminary data (see Table 1 below) shows that the top 3 least represented subtopics are surprisingly the same in both orthopaedic and non-orthopaedic health disparities literature: Transportation, Language, and Weight/Obesity. These results underscore the need for educational interventions to improve patient follow-up care in these areas not only in orthopaedic settings, but healthcare as a whole.

DISCUSSION AND CONCLUSION:

Transportation: Our review of the literature has demonstrated that the lack of access to personal vehicles or robust public transit infrastructure produces worse health outcomes among patients reporting lower socioeconomic status. These transportation disparities impose a unique array of challenges for orthopaedic care – including assessment of recovery, rehabilitation, and complication prevention. Potential solutions that can be applied to orthopaedic care include implementation of the Non-Emergency Medical Transportation program, a federally funded project that offers coordinated transportation services to eligible-persons; including rides to and from medical appointments, vouchers for gasoline, and reimbursement for bus/taxi fare.

Weight/Obesity: Studies have demonstrated that obesity is associated with higher rates of distal extremity injuries, surgical complications, and contributes to soft-tissue damage and osteoarthritis. Preliminary review demonstrates that higher rates of orthopaedic complications are associated with higher rates of obesity, which has been shown to be more stratified to lower socioeconomic populations. To target this issue, overweight patients should be consulted more often about their weight and offered resources for weight loss regimens.

Language: Disparities based on language demonstrate larger error rates, leading to higher readmission rates in the hospital setting as well as lower healthcare utilization in the outpatient setting. The issues that arise from these language barriers are clear: the solutions are not as straightforward due to the wide diversity of both the patient populations and the different health systems. Overall, addressing the problem cannot be a one-size-fits-all approach because of the wide variation of medical contexts. The most straightforward and cost effective solution that exists currently is to ensure that the medical team is aware of the language interpreting services available to them. Additionally, there is currently research being conducted on electronic and phone based interpreting services to evaluate for their efficacy in patient care.

Table 1

Orthopaedics vs. Non-Orthopaedics Subtopic Representation in PubMed
Subtopic (# of results)

Orthopaedics		**Non-Orthopaedics**		**Overall**	
Top 3 Most Represented	**Top 3 Least Represented**	**Top 3 Most Represented**	**Top 3 Least Represented**	**Top 3 Most Represented**	**Top 3 Least Represented**
Race/Ethnicity (37)	Weight/ Obesity (0)	Race/Ethnicity (261)	Transportation (4)	Race/Ethnicity (298)	Transportation (5)
Insurance (22)	Transportation (1)	Telemed/ Resources (89)	Language (6)	Telemed/ Resources (95)	Language (9)
Income/Socio-economic Status (13)	Language (3)	Location/ Communities (74)	Weight/ Obesity (10)	Location/ Communities (81)	Weight/ Obesity (10)