

Does healthcare setting influence outcomes following shoulder arthroplasty?

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INTRODUCTION

- Australian Healthcare relies on the coexistence of *Private* and *Public* Settings
- 43.5% of the population has private health insurance¹
- This is disproportionate to the two-thirds of Arthroplasty operations that are performed in the private system²
- Hip and Knee arthroplasty has higher rates of revision in the private³ – *but what about shoulders?*
- The incidence of Shoulder Arthroplasty is rapidly growing due to improved implant design and surgical technique
- Outcomes are multifactorial – *but does healthcare setting influence patient results?*

AIMS

Compare Private and Public Settings for:

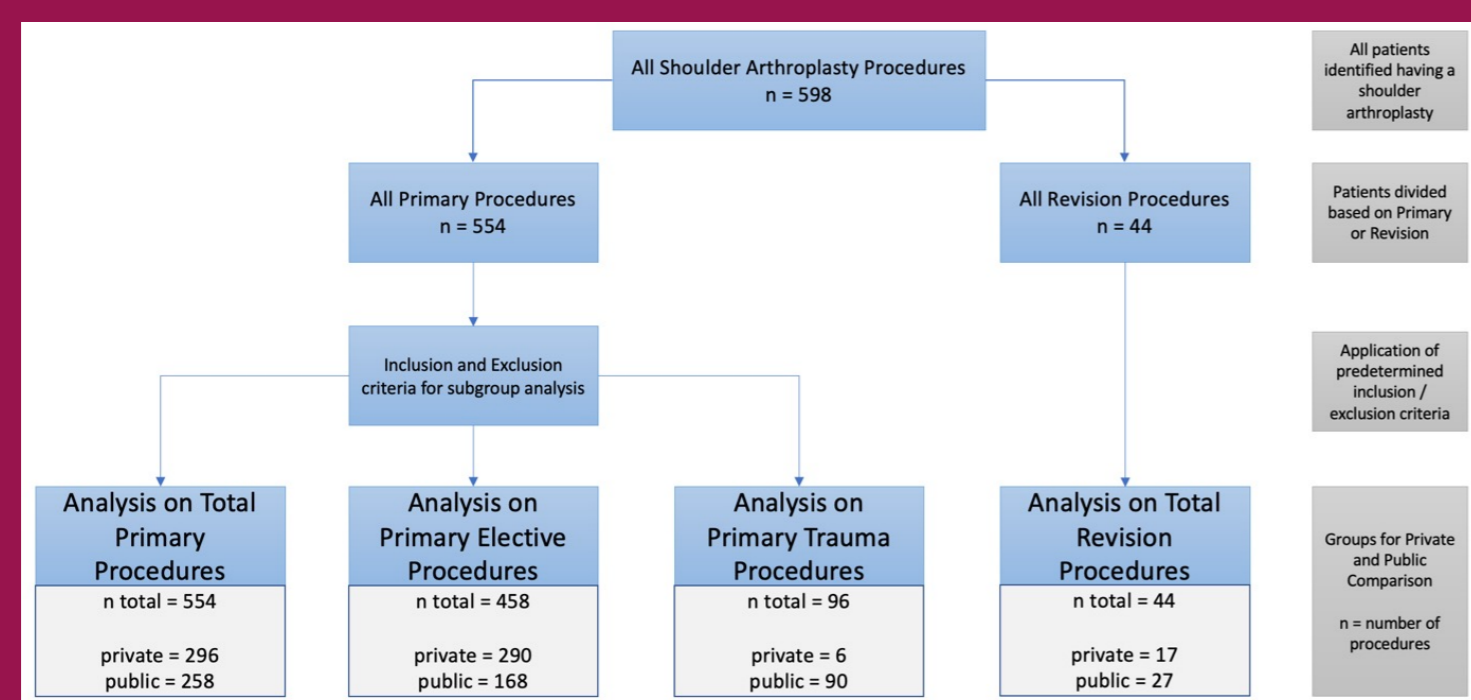
- Incidence of shoulder arthroplasty
- Patient and Operative Demographics
- Revision Surgery (Primary Outcome)
- Functional Measures (Secondary Outcome)

METHOD

- Retrospective cohort analysis on all shoulder arthroplasty procedures between 2004 – 2019 within the Geelong region
- Divided into Private and Public settings
- Sub-divided into Elective and Trauma
- Primary Outcome compared cumulative revision rate and survival analysis calculated the hazard ratio by setting
- Secondary Outcomes compared pre-operative scores and 12-month post-operative scores for

Range of Motion (ROM): Flexion, Abduction, External and Internal rotation

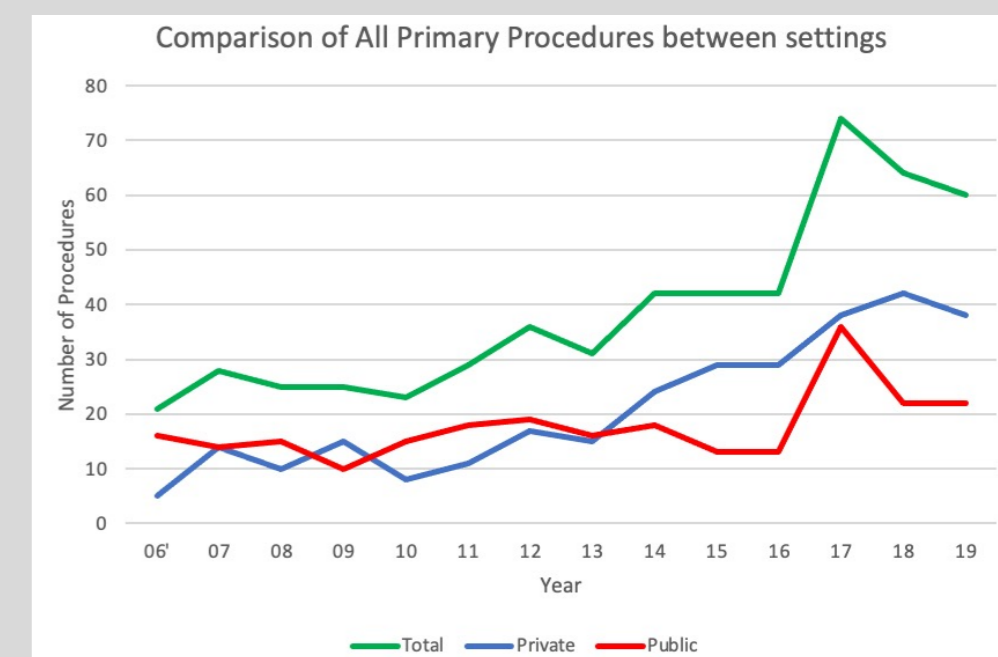
Patient Reported Outcome Measures (PROMs): QuickDASH and Oxford Shoulder



RESULTS

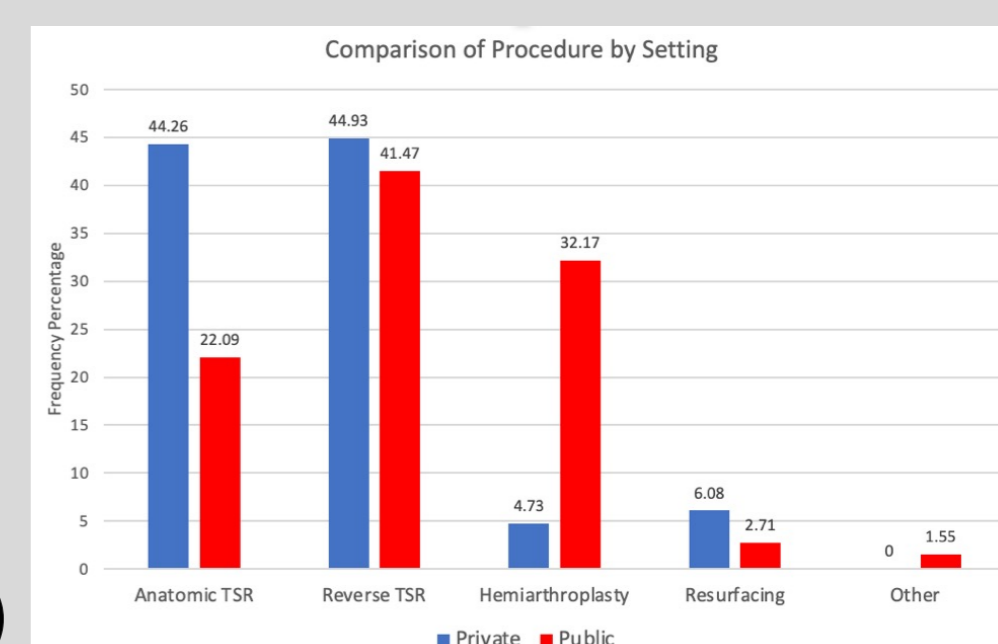
1. Incidence

- 554 Primary Procedures
- 296 Private; 258 Public
- 185.7% increase (total)
- 98% of Private were elective compared to 65.1% of Public



2. Demographics

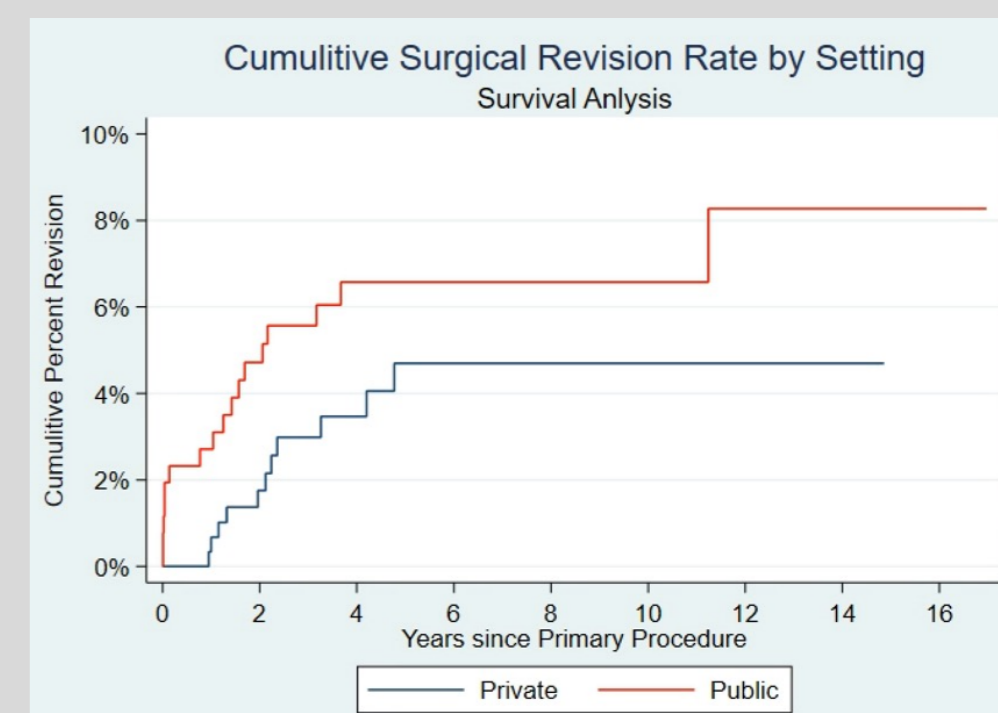
- More females in public (74.4%) compared to private (63.2%)
- No difference Age, BMI, CCI
- Higher ASA in Public (p = 0.002)
- Significant differences in operative indication and procedure (p<0.001)



	Private	Public
Fracture (Acute)	2.0%	34.1%
Hemiarthroplasty	4.7%	32.2%

3. Revision Surgery

- 11 (3.7%) Private
- 17 (6.6%) Public
- HR 1.70 (0.80-3.64; p = 0.17)



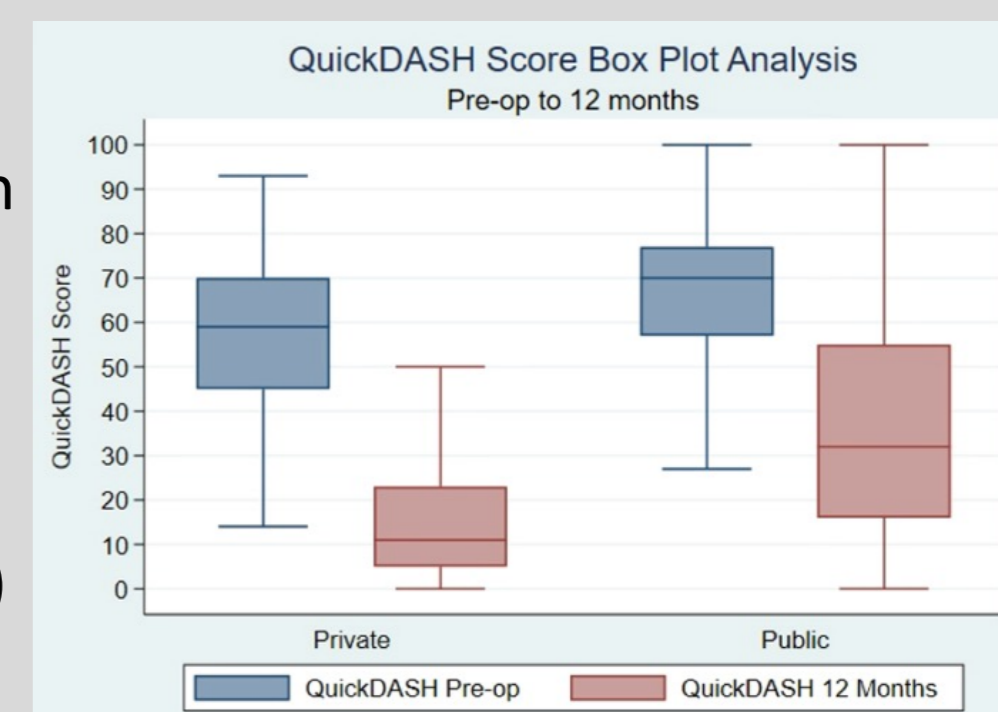
4. Functional Measures

ROM

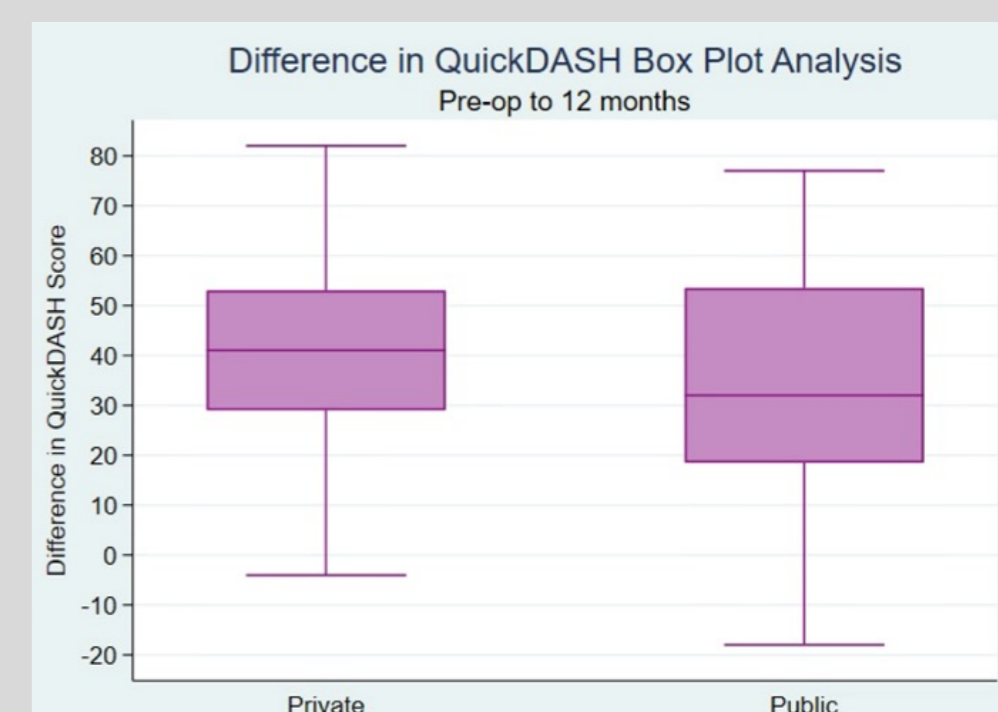
- Greater ROM pre-op and post-op in the private (p<0.001)

PROMs

- Better functional outcomes post-operatively in the private (p<0.001)
- But *no difference* between settings comparing pre and post scores



	Private (AVG ± SD)	Public (AVG ± SD)
QuickDASH		
Pre-op	58.1 ± 16.7	66.3 ± 16.3
Post-op	15.8 ± 14.6	35.6 ± 24.5
Difference	40.7 ± 20.1	32.0 ± 27.2
Oxford Score		
Pre-op	19.1 ± 8.7	17.6 ± 7.6
Post-op	42.6 ± 6.2	34.3 ± 12.2
Difference	22.1 ± 8.9	18.4 ± 12.8



DISCUSSION

- 63.3% of elective procedures are performed in the private, similar to the National distribution
- Trauma surgery predominately performed in the public
- No difference in revision surgery rates, but 6 occurred in the public before 12-months compared to 1 in the private
- Better outcomes for ROM and PROMs in the private but equal improvement between settings – *would earlier patient identification / intervention resolve this?*

CONCLUSION

- Healthcare setting does not appear to influence shoulder arthroplasty revision rate
- Differences demonstrated in recorded functional measures may be related to better baseline pre-operative status seen in the private, with the post-operative patient improvement equal in both settings
- Targeting early access to care programs may be an option to help reduce these differences

REFERENCES

- APRA: 2020. Private Health Insurance Membership Trends December 2019 (released February 2020). Statistics. Australian Prudential Regulation Authority, Canberra.
 - AOANJRR. Australian Orthopaedic Association National Joint Replacement Registry. Hip, Knee & Shoulder Arthroplasty: 2020 Annual Report, Adelaide; AOA, 2020: 1-474.
 - Harris I, Cuthbert A, Lorimer M, de Steiger R, Lewis P, Graves SE. Outcomes of hip and knee replacement surgery in private and public hospitals in Australia. ANZ journal of surgery. 2019
- ASA: American Society of Anaesthesiologists Score; CCI: Charlson Comorbidity Index; BMI: Body Mass Index; HR: Hazard Ratio