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Short Communication

Public perceptions on elective surgical funding

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The cost of healthcare provision is increasing globally and many countries are seeking to address the appropriateness of surgical interventions with particular emphasis on nonurgent care. Health economics and provision of care is influenced by societal, institutional and patient perspectives with models based on different principles.¹

The Irish 'Health Service Executive' (HSE) provides healthcare to its citizens for a nominal fee, irrespective of the cost of the treatment provided. The total expenditure of the HSE was €21.1bn in 2017 (7.2% of GDP), an 11.8% increase from 2012.² This nominal fee is waived for patients who hold a medical card, which is provided to the elderly, disabled and socially deprived. Private hospitals and clinics are also available to those with health insurance or sufficient private funds. In 2018, 32.4% of the population held a medical card and 43.4% held private insurance.³

Structured interviews were held with service users ($n = 312$) over a 12-month period to gather opinions on funding of surgical procedures. We outline the influence of socioeconomic factors on attitudes to healthcare funding. We illustrate how socioeconomics and private insurance status influence funding proposals and opinions. Among non-paying service users there appears to be a belief that

Abbreviations: HSE, Health Service Executive; GDP, Gross Domestic Product.

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Table 1
Patient demographics (n = 312).

Variable	n (%)
Gender	
• Male	137 (44)
• Female	172 (55)
Age	
• 18–24	72 (23)
• 25–34	52 (17)
• 35–44	62 (20)
• 45–54	69 (22)
• 55–64	39 (13)
• 65+	18 (6)
Marital status	
• Married/living as married	138 (45)
• Widowed	6 (2)
• Divorced	15 (5)
• Separated	14 (5)
• Single	131 (43)
Employment	
• Employed	166 (54)
• Unemployed	73 (24)
• Student	43 (14)
• Other	65 (22)
Education	
• No formal education	12 (4)
• Primary	11 (4)
• Secondary	106 (35)
• Technical/Vocational	37 (12)
• Post-secondary	103 (34)
• Postgraduate or higher	33 (11)
Gross income (€)	
• <12,000	54 (19)
• 12,000–30,000	64 (22)
• 30,000–60,000	80 (28)

(continued on next page)

Table 1 (continued)

Variable	n (%)
• 60,000–90,000	50 (17)
• 90,000–120,000	15 (5)
• 120,000+	2 (1)
• No income	6 (2)
• Do not know	16 (6)
Health insurance	
• Medical card	122 (43)
• Private health insurance	97 (34)
• Self-funded	51 (18)
• Other	17 (6)

Table 2

Logistic regression results: Likelihood of Patients to use their own Savings for a Plastic Surgery.

Variable	β	S.E.	Wald	df	Sig.	OR
Gender (Male)	.291	.530	.301	1	.583	1.338
Age (As compared to '65+yrs')						
• 18–24	–22.278	10,361.377	.000	1	.998	.000
• 25–34	–21.118	10,361.377	.000	1	.998	.000
• 35–44	–20.324	10,361.377	.000	1	.998	.000
• 45–54	–20.825	10,361.377	.000	1	.998	.000
• 55–64	–20.526	10,361.377	.000	1	.998	.000
Marital status (As compared to 'Single')						
• Married	.093	.924	.010	1	.920	1.098
• Widowed	18.053	14,961.267	.000	1	.999	6924.25
• Divorced	–2.290	1.329	2.967	1	.085	.101
• Separated	–3.722	1.464	6.464	1	.011	.024
Employment (As compared to 'Other')						
• Employed	–0.969	1.510	.412	1	.521	.380
• Unemployed	–0.988	1.517	.424	1	.515	.372
• Student	–1.488	1.417	1.103	1	.294	.226

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Table 2 (continued)

Variable	β	S.E.	Wald	df	Sig.	OR
Household Composition (As compared to 'Other')						
• 1 adult, 0 children	−0.294	1.232	.057	1	.811	.745
• 1 adult, ≥ 1 child	.010	1.248	.000	1	.994	1.010
• 2 adults, 0 children	−2.947	.970	9.231	1	.002	.052
• 2 adults, ≥ 1 child	−2.125	.953	4.971	1	.026	.119
Education (As compared to 'Postgraduate or higher')						
• No formal education	−3.163	1.526	4.295	1	.038	.042
• Primary	−0.919	1.612	.325	1	.569	.399
• Secondary	−0.536	.865	.384	1	.535	.585
• Technical/Vocational	−0.402	1.003	.161	1	.688	.669
• Post-secondary	.285	.827	.119	1	.730	1.330
Gross income (As compared to 'Do not know')						
• <12,000	−0.109	1.223	.008	1	.929	.897
• 12,000–30,000	.335	1.174	.081	1	.775	1.398
• 30,000–60,000	−0.324	1.265	.065	1	.798	.724
• 60,000–90,000	−1.412	1.333	1.121	1	.290	.244
• 90,000–120,000	−0.094	1.783	.003	1	.958	.911
• 120,000+	16.174	40,192.970	.000	1	1.000	10,580.68
• No income	18.149	15,943.511	.000		.999	762,313.24
Health insurance (As compared to 'Other')						
• Medical card	.133	1.138	.014	1	.907	1.142
• Private health insurance	.630	1.238	.259	1	.611	1.878
• Self-funded	−0.157	1.255	.016	1	.900	.855

publicly funded hospitals should provide elective, cosmetic procedures. This belief is not shared by insured and self-funded users.

In select interview questions, respondents were asked to respond on a 5-point Likert scale. To ensure informed answers were given, respondents were asked what their understanding was of each listed procedure. Further explanations were given if the nature of the procedure was not understood. Chi-Squared tests were used to investigate the associations between patients' health cover and their likelihood to use their own savings for a plastic surgery procedure.

Data analysis was performed using SPSS software (IBM Corp., Version 26). Logistic regression analysis was conducted to determine whether patient socioeconomic factors significantly predicted patients' likelihood to use their own savings for a given plastic surgery procedure. Chi-Squared tests of

independence were carried out to examine the relationship between patients' medical card status and who ought to fund a given list of procedures.

In total, 312 responses were analysed. Demographics and socioeconomic factors are summarised in Table 1. Examining the views of medical card holders, we found that this cohort strongly believed elective and cosmetic procedures ought to be funded by the HSE when compared with respondents who held private health insurance.

There was a significant association between medical card status and the funding of breast augmentations χ^2 (2, $n = 259$)=11.729, $p=.003$), breast reductions χ^2 (2, $n = 256$)=7.127, $p=.028$), abdominoplasties χ^2 (2, $n = 259$)=8.455, $p=.015$), abdominoplasties after birth χ^2 (2, $n = 251$)=8.669, $p=.013$), facelifts χ^2 (2, $n = 258$)=7.012, $p=.030$), pinnoplasties χ^2 (2, $n = 253$)=14.391, $p=.001$ and blepharoplasties χ^2 (2, $n = 258$)=6.531, $p=.038$). A logistic regression analysis showed socioeconomic factors influenced the likelihood of patients using their own savings for a plastic surgery procedure χ^2 ($p=.024$) (Table 2).

The Covid-19 pandemic has caused a significant adverse effect on the delivery of elective care in major hospitals.⁴ Patient perceptions on healthcare economics are heavily influenced by their socioeconomic status. Our cohort of interviewees demonstrates a fair distribution of gender, age groups, socioeconomic status and health insurance status and avoids skewing of the results. A systematic review of 30 studies⁵ on patient's perspectives of healthcare economics has shown that ability to afford healthcare significantly affects ones' perception of how healthcare systems ought to be financially structured.

Our data shows that patients with a medical card (43%) believe that many of the non-urgent elective procedures should be funded publicly. This would bolster the strength of association between holding a medical card and the view that these elective procedures should be publicly funded. To understand the exact reasoning behind these opinions would require additional qualitative research, so we can only speculate as to why certain opinions are held.

The majority of those surveyed (>70%) believe that hernia repair, varicose vein surgery, cholecystectomy, knee replacements, excision of skin cancers and investigations for potential cancers should be performed in the public setting. This reveals that the public are well informed about the appropriateness and urgency of certain surgical procedures. The public's view to surgery for skin cancer and investigations for cancer was the most favourable with 74.6% and 77.2% respectively believing that these procedures should take place in a tertiary referral center. Only 38.5% of respondents believed that breast reductions should be covered by the HSE and this figure rose to 56.4% for patients undergoing breast reconstruction.

Overall, this study shows that the service users can discriminate between urgent and nonurgent care and that views may be influenced by socioeconomic and type of health cover held. To our knowledge patients' perspective on what elective procedures ought to be funded and who should pay for them has not been published.

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Declaration of Competing Interest

None declared

Ethical approval

Not required

References

1. Eisenberg JM. Clinical economics. A guide to the economic analysis of clinical practices. *JAMA*. 1989;262(20):2879–2886.
2. Statistical yearbook of Ireland 2019 - health [Internet]. 2019. Available from: <https://www.cso.ie/en/releasesandpublications/ep/p-syi/statisticalyearbookofireland2019/soc/he/>.

3. Health in Ireland - key trends 2019 [Internet]. Government of Ireland. 2019 [cited 27 December 2019]. Available from: <https://www.gov.ie/en/publication/f1bb64-health-in-ireland-key-trends-2019/>.
4. Hamidian Jahromi A, Arnautovic A, Konofaos P. Impact of the COVID-19 pandemic on the education of plastic surgery trainees in the United States. *JMIR Med Educ.* 2020;6(2):e22045.
5. Tai BB, Bae YH, Le QA. A systematic review of health economic evaluation studies using the patient's perspective. *Value Health.* 2016;19(6):903–908.