Social Values and Child Health Priorities: Empirical Evidence for Paediatric Cancer Drug Policy

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INTRODUCTION

- Preferences of members of the public are now recognized as important inputs into health care priority setting
- Knowledge of preferences for health care resource allocation for adult and pediatric health services is scant
- Evidence of the impact of moral deliberation on preferences for health care resource allocation is lacking
- Our study sought to generate robust evidence on public values relevant to health care priority-setting and technology assessment in Canada
- **Question**: What are the public's values and preferences for health care resource allocation among adults and children?

OBJECTIVES AND AIMS

Objective: To generate evidence of public values and priorities related to health care resource allocation among adults and children

Aim 1: Understand the direction and strength of societal preferences for health resource allocation between children and adults for disparate treatment scenarios

Aim 2: Assess the impact of a moral reasoning exercise on the expression of such preferences

Aim 3: Identify sociodemographic factors that significantly impact the expression of societal preferences on health resource allocation between children and adults

Aim 4: Test the divergence of participant preferences for children or adults from an assumption of neutrality

Aim 5: Characterize principles that most influenced participants' allocative decisions

METHODS

Design: Stated preference survey of health resource allocation between adults and children, clinical vignettes, VAS preference scores

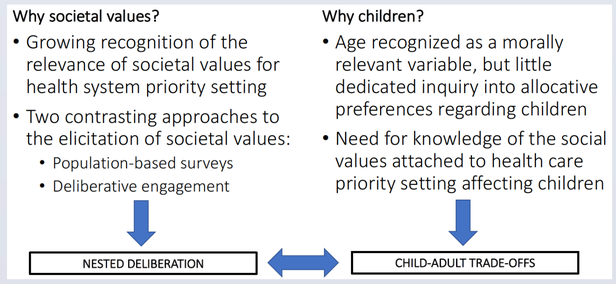
Setting: Canadian general community

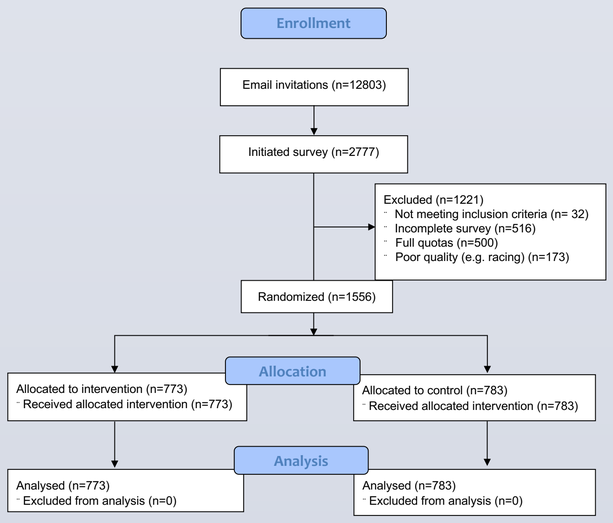
Participants: Representative population-based sample of 1,556 Canadian adults

Intervention: Randomization to a moral reasoning intervention (n=773) or a control group (n=783)

Main Outcome Measures:

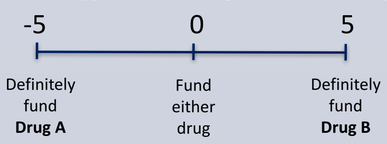
- Primary: difference in mean preference scores by group, scenario, and demographics
- Secondary: differences in neutral versus preferential allocation; proportion selecting each allocation principle in intervention group





Drug A	Drug B
A new therapy is available for patients with Acute Child Malignancy.	A new therapy is available for patients with Acute Adult Malignancy.
Patients are 10 years old, on average.	Patients are 40 years old, on average.
With this treatment, patients are cured of their cancer and can expect to live to average life expectancy (80 years).	With this treatment, patients are cured of their cancer and can expect to live to normal life expectancy (80 years).
Without the therapy, the disease causes death within 6 months.	Without the therapy, the disease causes death within 6 months.

The health system can only afford to fund one of the two therapies at present. Which drug should it fund? Please slide the bar to any point on the scale to show your strength of support for funding one of the therapies.

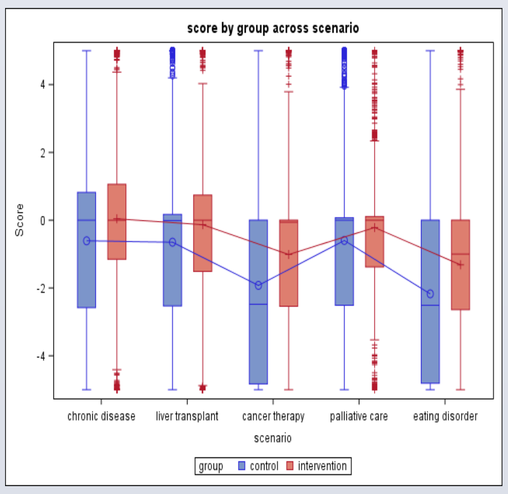


RESULTS

- Multiple regression analyses demonstrated a consistent aggregate preference by participants to allocate scarce health system resources to children
- Exposure to the moral reasoning exercise weakened but did not eliminate allocative preference for children, as compared to control
- Younger respondent age and parenthood = greater preference for children
- Top three principles: treat equally (54.3-63.9%), relieve suffering (39.6-66.1%), and rescue those at risk of dying (37-40.8%)

Variable	Estimate	Standard Error	T value	P value
Intervention	0.72	0.14	5.40	<0.0001
Scenario				<0.0001
• Liver transplant vs chronic disease drug	-0.02	0.11	-0.16	0.87
• Cancer therapy vs chronic disease drug	-1.30	0.11	-11.78	<0.0001
• Palliative care vs chronic disease drug	0.05	0.11	0.41	0.68
• Eating disorders treatment vs chronic disease drug	-1.53	0.11	-13.89	<0.0001
Group and scenario interaction				0.0021
• Intervention vs control and liver transplant vs chronic disease drug	-0.18	0.16	-1.16	0.25
• Intervention vs control and cancer therapy vs chronic disease drug	0.22	0.16	1.42	0.16
• Intervention vs control and palliative care vs chronic disease drug	-0.31	0.16	-2.00	0.05
• Intervention vs control and eating disorders vs chronic disease drug	0.17	0.16	1.11	0.27
Ontario (vs other regions)	0.02	0.10	0.23	0.82
Age categories				<0.0001
• 35 – 44 vs 18-34	0.35	0.14	2.39	0.02
• 45 – 54 vs 18-34	0.54	0.14	3.92	<0.0001
• 55+ vs 18-34	0.71	0.14	5.06	<0.0001
Female	0.12	0.09	1.30	0.19
English	-0.28	0.12	-2.32	0.02
Education: Some college or higher	0.04	0.13	0.29	0.77
Full-time employment	-0.04	0.11	-0.39	0.70
Median-to-high income (vs low income)	-0.40	0.20	-1.99	0.05
Good-to-excellent health (vs fair or poor)	0.11	0.16	0.69	0.49
Married or living with partner (vs single or divorced)	0.06	0.10	0.55	0.58
One or more children (i.e. parenthood)	-0.40	0.11	-3.73	0.0002

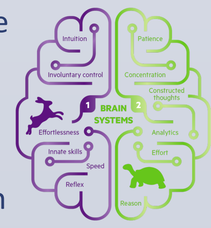
Scenario	Intervention		Control		Difference		
	Mean	95% CI	Mean	95% CI	Estimate	95% CI	P value
Chronic disease	0.25	(-0.03, 0.53)	-0.47	(-0.76, -0.18)	0.72	(0.46, 0.99)	<0.0001
Liver transplant	0.05	(-0.23, 0.34)	-0.49	(-0.78, -0.20)	0.54	(0.28, 0.80)	<0.0001
Cancer therapy	-0.83	(-1.11, -0.54)	-1.77	(-2.06, -1.48)	0.94	(0.68, 1.21)	<0.0001
Palliative care	-0.02	(-0.30, 0.27)	-0.43	(-0.72, -0.14)	0.41	(0.15, 0.67)	0.0021
Eating disorder treatment	-1.11	(-1.39, -0.82)	-2.01	(-2.30, -1.71)	0.90	(0.63, 1.16)	<0.0001



	Odds ratio	95% CI: Lower, Upper		p value
Control				
• Liver transplant (vs chronic disease)	0.994	0.859	1.151	0.9379
• Cancer therapy (vs chronic disease)	0.774	0.623	0.919	0.0033
• Palliative care (vs chronic disease)	1.258	1.053	1.504	0.0116
• Eating disorder treatment (vs chronic disease)	0.488	0.399	0.596	<0.0001
Intervention				
• Liver transplant (vs chronic disease)	1.011	0.891	1.146	0.8685
• Cancer therapy (vs chronic disease)	1.000	0.864	1.158	0.99
• Palliative care (vs chronic disease)	1.286	1.10	1.502	0.0016
• Eating disorder treatment (vs chronic disease)	0.761	0.655	0.884	0.0004
Scenario-specific				
• Chronic disease: Intervention (vs control)	1.485	1.208	1.826	0.0002
• Liver transplant: Intervention (vs control)	1.510	1.228	1.857	<0.0001
• Cancer therapy: Intervention (vs control)	1.919	1.552	2.373	<0.0001
• Palliative care: Intervention (vs control)	1.518	1.241	1.858	<0.0001
• Eating disorders treatment: Intervention (vs control)	2.317	1.839	2.920	<0.0001

WHAT THIS STUDY ADDS

- Evidence of a significant preference by participants to allocate health care resources to children, but one attenuated by exposure to a range of ethical principles to guide decision-making
- Strong support for humanitarian principles – equal treatment, relief of suffering, and rule of rescue – to guide health resource allocation
- Indication of the importance of ethical deliberation and incorporation of societal values in policy reforms to achieve value-based health care



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