

Figure S1. Changes in median scores overall between rounds 2-3

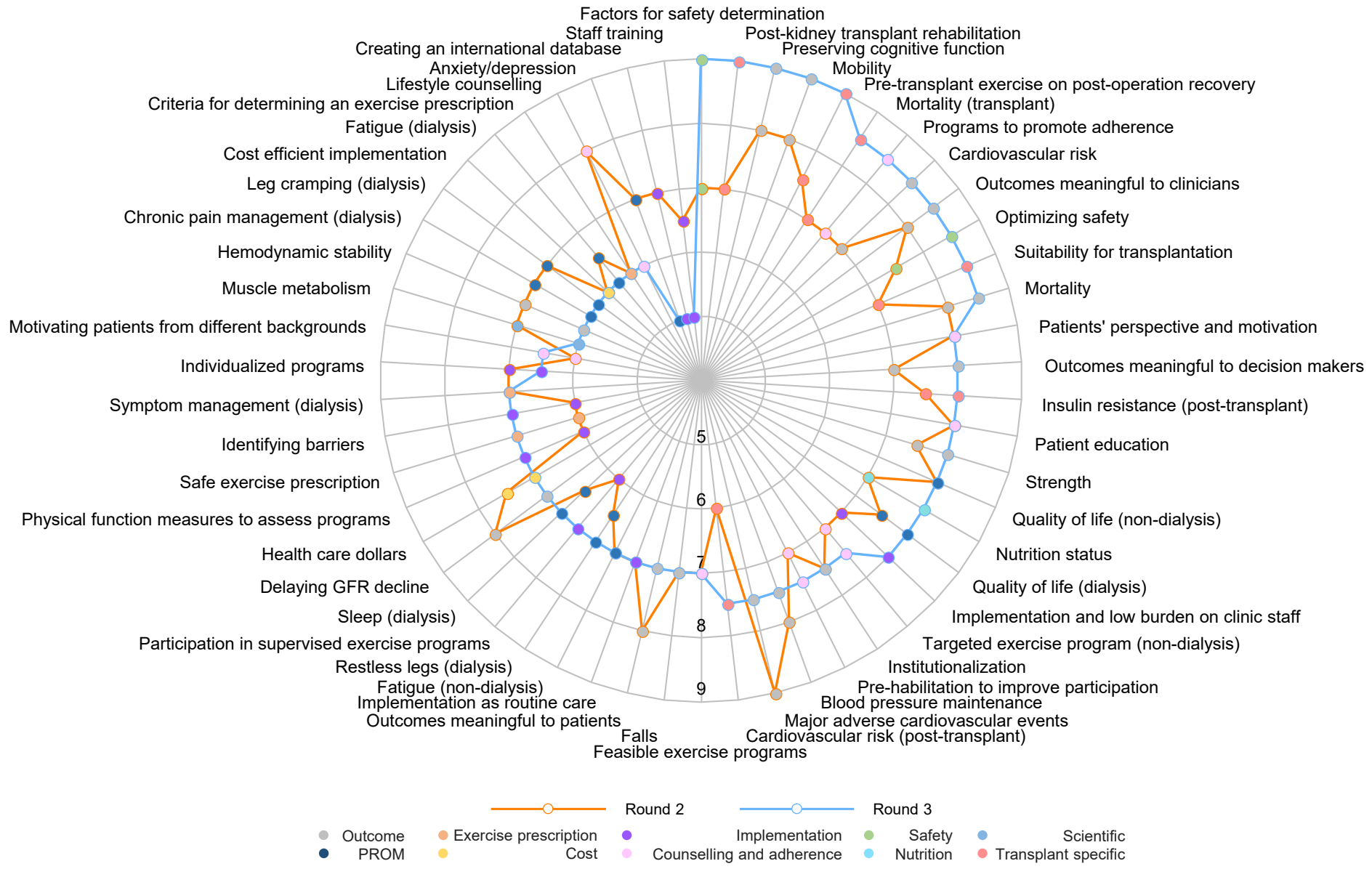


Figure S2. Changes in median scores for patients between rounds 2-3

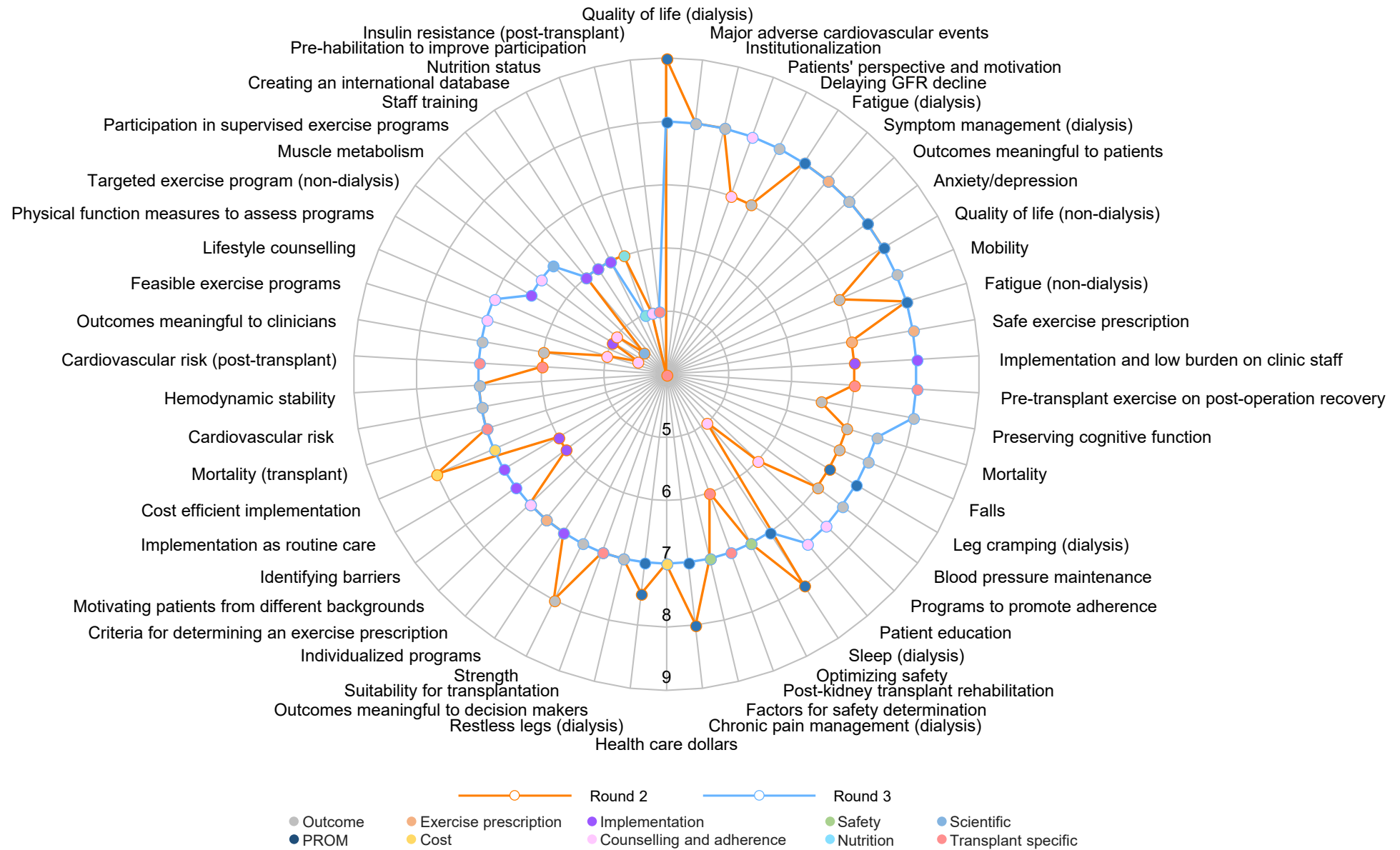


Figure S3. Changes in median scores for policy makers between rounds 2-3

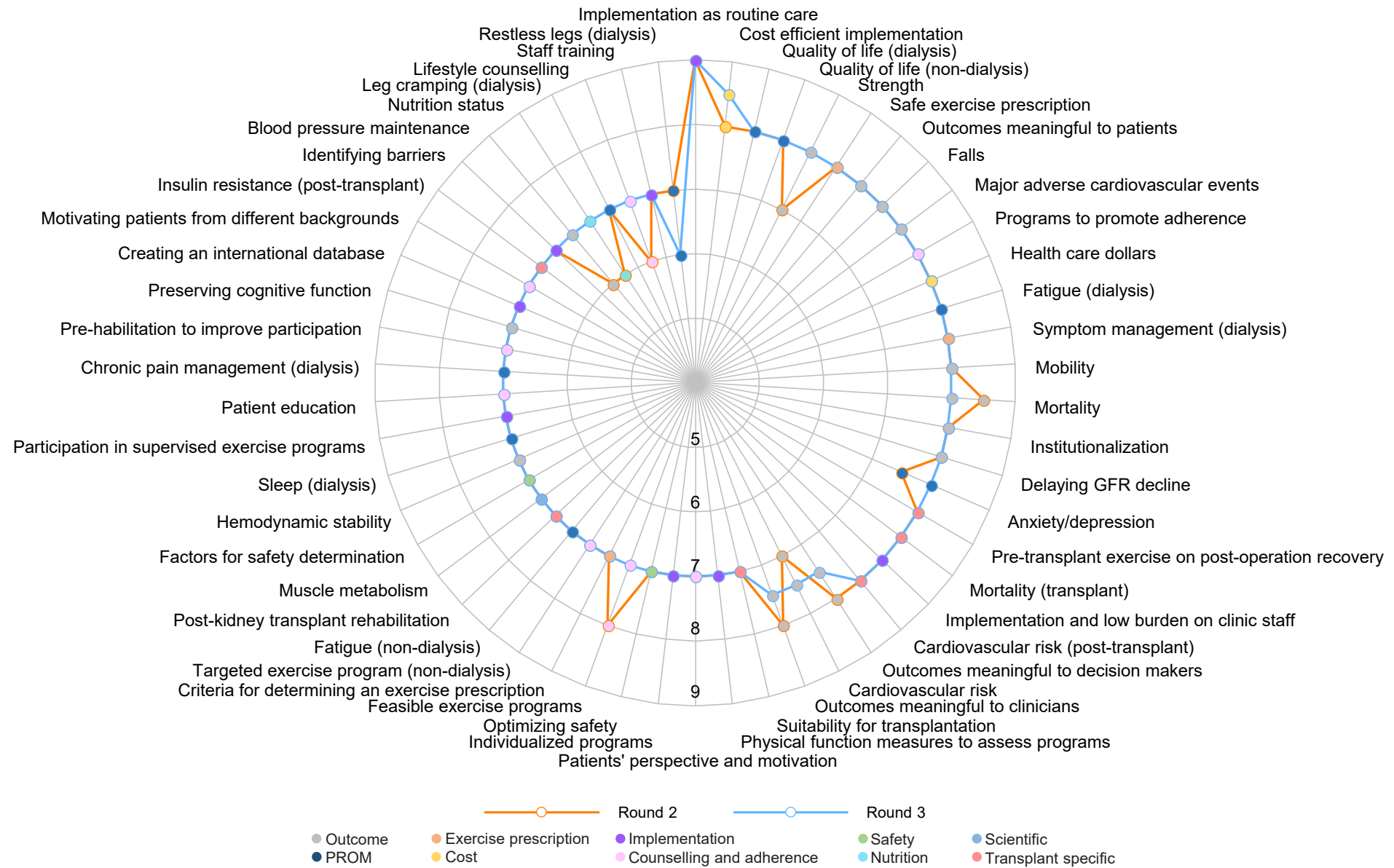


Figure S4. Changes in median scores for researchers between rounds 2-3

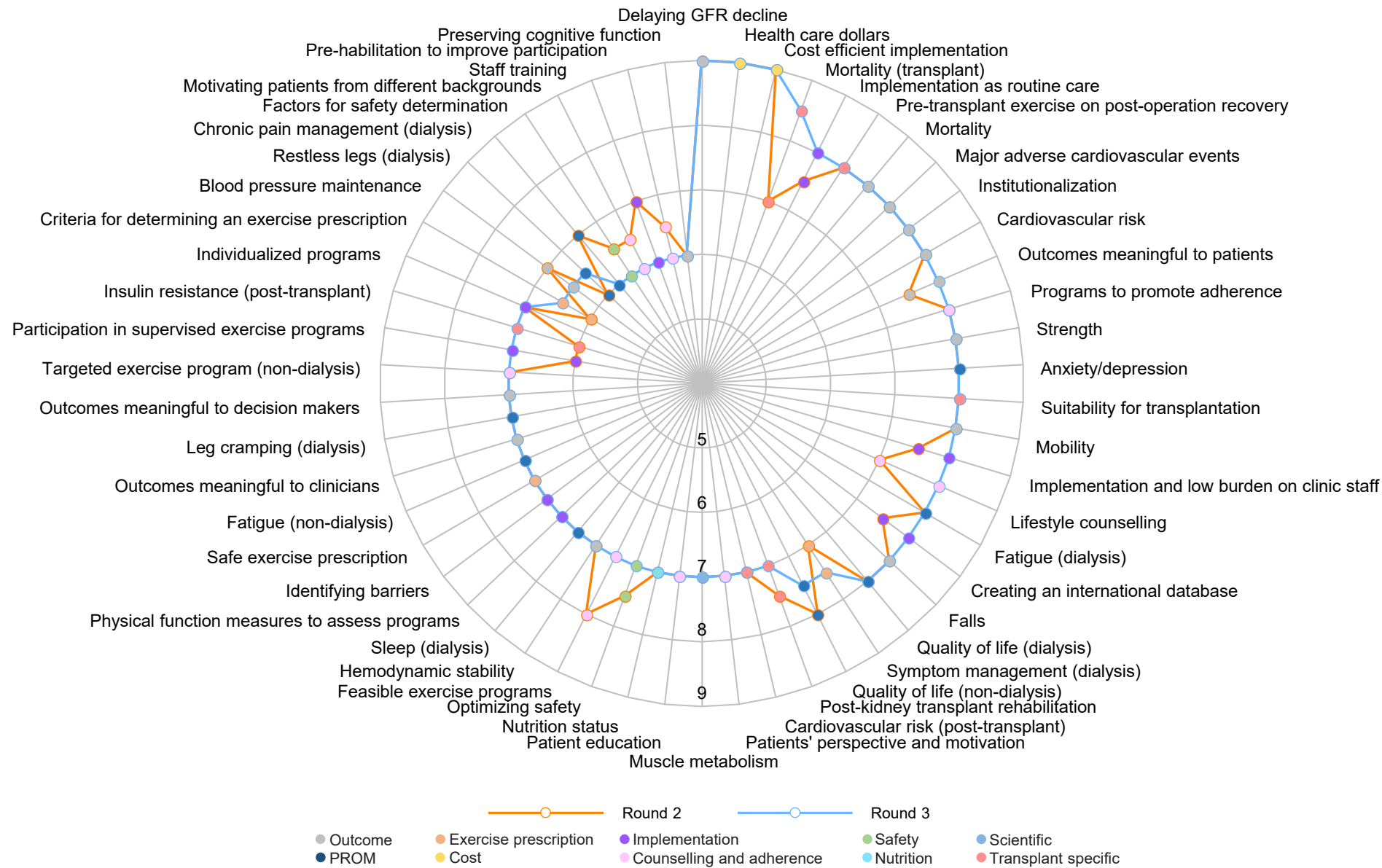


Figure S5. Changes in median scores for clinicians between rounds 2-3

Table S1. Geographic location of the respondents

		Round 1 n=70	Round 2 n=68	Round 3 n=60
North America	Canada	27 (38.6)	29 (42.6)	25 (41.7)
	United states	13 (18.6)	14 (20.6)	12 (20.0)
	Mexico	2 (2.9)	1 (1.5)	1 (1.7)
Europe	United	8 (11.4)	7 (10.3)	5 (8.3)
	Italy	2 (2.9)	1 (1.5)	1 (1.7)
	Portugal	2 (2.9)	2 (2.9)	2 (3.3)
	Greece	2 (2.9)	2 (2.9)	2 (3.3)
	France	2 (2.9)	1 (1.5)	1 (1.7)
	Denmark	1 (1.4)	1 (1.5)	1 (1.7)
	Belgium	1(1.4)	1 (1.5)	1 (1.7)
	Brazil	1 (1.4)	1 (1.5)	1 (1.7)
Oceania	New Zealand	1 (1.4)	1 (1.5)	1 (1.7)
	Australia	6 (8.6)	5 (7.4)	5 (8.3)
South America	Spain	1 (1.4)	1 (1.5)	1 (1.7)
Asia	South Korea	1 (1.4)	1 (1.5)	1 (1.7)

Table S2. Questions received in Round 1 that were eliminated

Omitted questions:

- Are leg cramps related to kidney disease?

- How come I only meet people who have CKD and are on dialysis at the (.....) program? Why are the people that aren't on dialysis in the program?

- Are there better dialysis chairs?

- Will Divalproex Sodium affect the kidneys?

- Is there a better needle that would help nurses to insert centrally?

- Will different renal function parameters be required at different CKD stages and renal replacement therapy modalities?

- Exercise for life participation in dialysis?

Table S3. Questions in categories

Patient reported outcomes
<ul style="list-style-type: none"> • Can exercise be used to alleviate restless legs in patients who require dialysis? • Does exercise improve quality of life in patients who require dialysis? • Does exercise improve quality of life in non-dialysis CKD patients? • Does exercise decrease fatigue in non-dialysis CKD patients? • Does exercise decrease fatigue in patients who require dialysis? • How does exercise affect anxiety and depression in patients at all stages of CKD, including dialysis? • How does exercise affect sleep in patients who require dialysis? • How does exercise affect chronic pain in patients who require dialysis? • Does exercise reduce leg cramping in patients who require dialysis?
Clinical outcomes:
<ul style="list-style-type: none"> • What are the effects of exercise on mortality in patients at all stages of CKD, including dialysis? • Can early introduction of exercise in CKD patients delay initiation of dialysis/slow GFR decline? • To what extent can exercise impact the likelihood of falls in patients at all stages of CKD, including dialysis? • How can exercise reduce the risk of institutionalization in patients at all stages of CKD, including dialysis? • What are the effects of exercise on the loss of muscle and strength in patients at all stages of CKD, including dialysis? • How can exercise affect mobility in patients at all stages of CKD, including dialysis? • Can exercise reduce changes in blood pressure in patients at all stages of CKD, including dialysis? • What is the effect of exercise in delaying gray and white matter deterioration and preserving cognitive function in patients at all stages of CKD, including dialysis? • How does exercise during dialysis affect hemodynamic stability? • Does increased physical activity or exercise decrease cardiovascular risk in patients at all stages of CKD, including dialysis? (E.g. blood pressure, lipids, calcium in cardiac arteries) • Does increased physical activity affect the occurrence of major adverse cardiac events (e.g. heart attacks, strokes) in patients at all stages of CKD, including dialysis? • How does exercise affect heart rate variability in patients who require dialysis? • What exercise-related outcomes are meaningful to patients? • What exercise-related outcomes are meaningful to clinicians? • What exercise related outcomes are meaningful to decision makers?
Exercise prescription
<ul style="list-style-type: none"> • What is the optimal exercise prescription (intensity, type) that is both safe and effective for patients at all stages of CKD, including dialysis? • What type(s) of exercise interventions (e.g. dose, intensity, mode, length of program) are most efficacious for improving symptoms such as pain, depression, cramping, weakness, and fatigue in patients who require dialysis? • When resistance and aerobic exercises are performed in the same session, does resistance training interfere with aerobic training adaptations? • How can we incorporate exercising the upper body (e.g. upper torso, arms, neck, shoulders) during dialysis? • What criteria can be used to individually prescribe exercises for dialysis patients? • For a patient on hemodialysis, is exercise during dialysis better than exercise not during dialysis? • What are the physiological effects of high intensity interval training (HIIT) during cycling on hemodialysis?
Cost

<ul style="list-style-type: none"> • Does regular exercise within the CKD population save health care dollars? (E.g. hospital admissions, length of stay, re-admissions, etc.) • How can we implement exercise in a dialysis unit setting in a cost-efficient way? (E.g. medical insurance coverage, funding, etc.)
Implementation <ul style="list-style-type: none"> • What types of supervised exercise programs (e.g. individual or group) promote patient participation? • How can we make exercise a standard component of care for patients at all stages of CKD, including dialysis? • How can nurses or the dialysis clinic staff be trained to deliver an exercise program? • How can we implement exercise programs in clinics with minimal additional burden on clinic staff? • What barriers are present in preventing patients at all stages of CKD, including dialysis from exercising? (E.g. inequitable access to exercise options, knowledge deficits of health care providers, etc.) • Which physical function measures are the most valid, feasible and reliable in assessing the efficacy of an exercise program for patients at all stages of CKD, including dialysis? • How can we implement an individualized physical activity or exercise program? For example, a program that allows patients to be active within their energy level. • How can we combine exercise with other interventions (e.g. testosterone, growth hormone therapies) in order to prevent the muscle loss present in patients with CKD? • How can we create an international database on exercise in CKD?
Counselling and adherence <ul style="list-style-type: none"> • What is the best way to educate CKD patients about the importance of exercise? (E.g. how to council patients, improve patient access to information, etc.) • How can we motivate CKD patients from other cultural backgrounds (e.g. the indigenous population) to exercise? • What exercise programs are feasible and sustainable for dialysis patients, allowing a high level of adherence in the long term? (I.e. the role of guidance and accountability on adherence and patient encouragement) • How can we create an exercise program that targets non-dialysis CKD patients and allows them to continue exercising in the long term? • How often do lifestyle and exercise get addressed by doctors during consultations with CKD patients? How can we prioritize lifestyle counselling at the system level? • Does technology to monitor physical activity/heart rate improve exercise adherence? • What types of programs or interventions are effective and feasible for increasing the uptake of exercise in patients at all stages of CKD, including dialysis? • What type of pre-habilitation should be considered in order to improve exercise participation among patients at all stages of CKD, including dialysis? (E.g. depression counselling, nutrition counselling, physical therapy, etc.) • What is the patients' perspective on exercise and what factors would motivate patients at all stages of CKD to exercise?
Safety and risks <ul style="list-style-type: none"> • What is the best way to educate CKD patients about the importance of exercise? (E.g. how to council patients, improve patient access to information, etc.) • How can we motivate CKD patients from other cultural backgrounds (e.g. the indigenous population) to exercise? • What exercise programs are feasible and sustainable for dialysis patients, allowing a high level of adherence in the long term? (I.e. the role of guidance and accountability on adherence and patient encouragement)
Nutrition <ul style="list-style-type: none"> • How can we leverage nutritional interventions to enhance the beneficial effects of exercise in patients at all stages of CKD, including dialysis? (E.g. protein intake on muscle maintenance, reducing inflammation nutritionally, etc.) • How does exercise affect nutrition status of CKD patients?
Mechanistic science

<ul style="list-style-type: none"> • What is the relationship between blood lactate and patient frailty (mild, moderate, severe) in functional exercise testing in patients with end stage renal disease? • How does exercise affect renal bone disease and bone metabolism in patients at all stages of CKD, including dialysis? (E.g. the effect of exercise on phosphorus levels) • How does exercise affect muscle metabolism and therefore markers of muscle quality in patients at all stages of CKD, including dialysis?
Dialysis specific
<ul style="list-style-type: none"> • How does exercise during dialysis affect hemodialysis efficiency? • Does taking part in exercise affect the life of a hemodialysis patients' fistula? • Does the sedentary time imposed by hemodialysis sessions and overnight peritoneal dialysis sessions negatively impact muscle mass and physical function? • Does the dialysis modality influence physical activity levels? For example, are patients on home dialysis therapies more active than unit-based dialysis? Are there differences in physical activity levels between patients undergoing peritoneal dialysis and home hemodialysis?
Transplant specific
<ul style="list-style-type: none"> • Can exercise interventions increase suitability for and access to kidney transplantation (e.g. promote weight loss) in patients referred for evaluation? • Can exercise interventions before kidney transplant improve surgical outcomes (e.g. graft function, expedite improvements in GFR) and post-operation recovery? • What is the effect of an intensive post-kidney transplant rehabilitation program on patients who have been on dialysis for many years? • What is the effect of exercise training on insulin resistance in patients with a renal transplantation? • What is the effect of exercise on mortality among the transplant population? • What is the effect of exercise on cardiovascular risk in transplanted patients? • How does exercise benefit transplant donors?

Table S4. Round 3, mean and median scores, proportion of participants scoring outcomes as 7-9, and missing responses

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
1	What exercise-related outcomes are meaningful to patients?	7.7 (1.1)	7.8 (1.0)	7.8 (1.2)	7.6 (1.0)	7.2 (1.8)	8 (7,9)	8 (7,9)	8 (7,9)	8 (7,8)	7 (7,9)	85.7	88.5	84.6	81.8	83.3	5	2	1	0	2
2	How can exercise reduce the risk of institutionalization in patients at all stages of CKD, including dialysis?	7.6 (1.4)	7.6 (1.5)	7.8 (1.1)	7.9 (1.2)	7.2 (2.2)	8 (7,9)	8 (7,9)	8 (7,9)	8 (7,9)	7.5 (7,9)	86.2	88.9	85.7	81.8	83.3	3	1	0	0	2
3	What are the effects of exercise on mortality in patients at all stages of CKD, including dialysis?	7.6 (1.5)	7.7 (1.4)	7.9 (1.0)	7.2 (1.8)	7.2 (2.6)	8 (7,9)	8 (7,9)	8 (7,9)	7.5 (7,8)	8.5 (5,9)	82.5	81.5	92.9	80.0	66.7	4	1	0	1	2
4	How can exercise affect mobility in patients at all stages of CKD, including dialysis?	7.6 (1.4)	7.7 (1.2)	7.4 (1.4)	7.5 (0.9)	7.4 (2.6)	8 (7,9)	8 (7,9)	8 (6,9)	8 (7,8)	9 (7,9)	81.7	89.3	64.3	81.8	85.7	1	0	0	0	1
5	Can exercise interventions before kidney transplant improve surgical outcomes (e.g. graft function, expedite improvements in	7.5 (1.7)	7.4 (1.5)	8.1 (1.0)	7.3 (1.8)	7.2 (3.5)	8 (7,9)	8 (7,8)	8 (7,9)	8 (6,8)	9 (8,9)	83.9	84.6	92.9	72.7	80.0	5	2	0	0	3

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
	GFR) and post-operation recovery?																				
6	What is the patients' perspective on exercise and what factors would motivate patients at all stages of CKD to exercise?	7.4 (1.2)	7.3 (1.4)	7.4 (1.1)	7.7 (0.9)	7.6 (1.7)	7.5 (7,8)	7 (6,8)	7 (7,8)	8 (7,8)	8 (7,9)	76.8	70.4	76.9	90.9	80.0	5	1	1	0	3
7	What is the effect of an intensive post-kidney transplant rehabilitation program on patients who have been on dialysis for many years?	7.3 (1.3)	7.1 (1.2)	7.6 (1.2)	7.2 (1.1)	7.6 (2.6)	7 (7,8)	7 (7,8)	7 (7,9)	7 (7,7)	9 (8,9)	79.2	77.8	83.3	77.8	80.0	8	1	2	2	3
8	Does exercise improve quality of life in patients who require dialysis?	7.7 (1.5)	8.1 (1.2)	7.0 (1.9)	8.1 (0.7)	7.2 (2.6)	8 (8,9)	8 (8,9)	8 (5,9)	8 (8,9)	8 (8,8)	83.1	89.3	57.1	100	83.3	2	0	0	0	2
9	Does increased physical activity affect the occurrence of major adverse cardiac events (e.g. heart attacks, strokes) in patients at all stages of CKD, including dialysis?	7.7 (1.4)	7.8 (1.6)	7.8 (1.1)	7.9 (0.9)	7.0 (1.7)	8 (7,9)	8 (7.5,9)	8 (7,9)	8 (7,9)	7.5 (5,8)	84.5	82.1	92.3	90.9	66.7	3	0	1	0	2

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
10	How can we make exercise a standard component of care for patients at all stages of CKD, including dialysis?	7.7 (1.5)	8.0 (1.5)	8.2 (1.0)	6.8 (1.0)	7.1 (2.2)	8 (7,9)	9 (8,9)	8 (8,9)	7 (6,8)	7 (6,9)	81.0	85.2	92.3	63.6	71.4	3	1	1	0	1
11	Can early introduction of exercise in CKD patients delay initiation of dialysis/slow GFR decline?	7.7 (1.8)	7.5 (1.9)	8.5 (0.8)	7.7 (1.1)	6.3 (2.9)	8 (7,9)	8 (7,9)	9 (8,9)	8 (7,8)	7 (6,8)	83.3	84.6	100	77.8	50.0	7	2	1	2	2
12	Does regular exercise within the CKD population save health care dollars? (e.g. hospital admissions, length of stay, re-admissions, etc.)	7.6 (1.7)	7.7 (1.3)	8.4 (0.8)	7.2 (1.7)	6.1 (3.2)	8 (7,9)	8 (7,9)	9 (8,9)	7 (6,9)	7 (4,9)	83.1	85.2	100	72.7	57.1	2	1	0	0	1
13	What are the effects of exercise on the loss of muscle and strength in patients at all stages of CKD, including dialysis?	7.6 (1.4)	7.9 (0.9)	7.6 (1.1)	6.9 (1.7)	7.3 (2.6)	8 (7,8.5)	8 (7,9)	8 (7,8)	7 (6,8)	8 (6,9)	85.0	96.4	78.6	72.7	71.4	1	0	0	0	1
14	Does exercise improve quality of life in non-dialysis CKD patients?	7.6 (1.5)	8.0 (1.0)	6.9 (1.9)	7.5 (1.2)	7.3 (2.4)	8 (7,9)	8 (7,9)	7.5 (5,9)	8 (7,8)	8 (5,9)	78.3	89.3	57.1	81.8	71.4	1	0	0	0	1

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
15	What exercise programs are feasible and sustainable for dialysis patients, allowing a high level of adherence in the long term? (e.g. the role of guidance and accountability on adherence and patient encouragement)	7.6 (1.4)	7.7 (1.1)	7.7 (1.4)	6.8 (1.5)	7.7 (2.0)	8 (7,9)	8 (7,9)	8 (7,9)	7.5 (5,8)	8.5 (7,9)	82.1	88.9	76.9	70.0	83.3	5	1	1	1	2
16	To what extent can exercise impact the likelihood of falls in patients at all stages of CKD, including dialysis?	7.5 (1.4)	7.8 (0.9)	7.2 (1.9)	7.1 (1.4)	7.3 (1.9)	8 (7,8)	8 (7,8)	8 (6,8)	7.5 (6,8)	7 (6,9)	83.1	96.4	71.4	70.0	71.4	2	0	0	1	1
17	What type(s) of exercise interventions (e.g. dose, intensity, mode, length of program) are most efficacious for improving symptoms such as pain, depression, cramping, weakness, and fatigue in patients who require dialysis?	7.4 (1.4)	7.7 (1.3)	7.3 (1.3)	7.6 (0.7)	5.8 (2.7)	8 (6,8)	8 (6,9)	7.5 (6,8)	8 (7,8)	7 (3,7)	72.7	70.4	66.7	90.9	60	6	1	2	0	3

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
18	What is the effect of exercise on mortality among the transplant population?	7.4 (1.6)	7.3 (1.7)	7.8 (1.5)	6.8 (0.8)	7.8 (1.9)	8 (7,9)	8 (7,9)	8.5 (6.5,9)	7 (7,7)	8.5 (8,9)	78.2	77.8	75.0	80.0	83.3	6	1	2	1	2
19	Can exercise interventions increase suitability for and access to kidney transplantation (e.g. promote weight loss) in patients referred for evaluation?	7.4 (1.4)	7.5 (1.1)	7.5 (1.3)	7.0 (1.7)	7.3 (2.7)	8 (7,8)	7 (7,8)	8 (6,9)	7 (6,8)	8.5 (7,9)	75.9	85.2	64.3	63.6	83.3	3	1	0	0	2
20	Does increased physical activity or exercise decrease cardiovascular risk in patients at all stages of CKD, including dialysis? (e.g. blood pressure, lipids, calcium in cardiac arteries)	7.3 (1.4)	7.3 (1.3)	7.8 (1.2)	6.7 (1.7)	7.7 (2.0)	8 (7,8)	7.5 (7,8)	8 (7,9)	7 (7,8)	8.5 (7,9)	81.4	78.6	85.7	81.8	83.3	2	0	0	0	2
21	How can we optimize the safety of exercise programs in order to include patients who are at high risk but would benefit from exercise?	7.3 (1.4)	7.3 (1.2)	7.1 (1.7)	7.4 (1.4)	7.5 (2.1)	7 (6,8)	7 (6,8)	7 (6,8)	7 (7,8)	8.5 (6,9)	73.7	74.1	61.5	90.9	66.7	4	1	1	0	2

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
22	How can we implement exercise programs in clinics with minimal additional burden on clinic staff?	7.2 (1.9)	7.3 (1.7)	7.4 (1.8)	7.4 (1.6)	6.0 (3.4)	8 (6,9)	8 (6,9)	8 (6,9)	8 (7,9)	8 (4,8)	73.2	74.1	69.2	81.8	60.0	5	1	1	0	3
23	Does exercise decrease fatigue in patients who require dialysis?	7.4 (1.3)	7.7 (1.2)	7.3 (1.3)	7.6 (1.2)	6.0 (1.2)	8 (7,8)	8 (7,9)	8 (6,8)	8 (7,9)	6 (6,7)	77.6	82.1	71.4	90.9	40.0	3	0	0	0	3
24	How does exercise affect anxiety and depression in patients at all stages of CKD, including dialysis?	7.3 (1.5)	7.4 (1.3)	7.6 (1.6)	7.6 (1.0)	6.0 (2.3)	8 (7,8)	8 (7,8)	8 (6,9)	8 (7,8)	5 (4,8)	78.3	89.3	71.4	81.8	42.9	1	0	0	0	1
25	What is the optimal exercise prescription (intensity, type) that is both safe and effective for patients at all stages of CKD, including dialysis?	7.4 (1.3)	7.8 (1.4)	7.0 (1.3)	7.4 (.8)	6.0 (1.4)	8 (6,8)	8 (7,9)	7 (6,8)	8 (7,8)	7 (5,7)	72.7	77.8	58.3	81.8	60.0	6	1	2	0	3
26	Does exercise decrease fatigue in non-dialysis CKD patients?	7.1 (1.1)	7.2 (1.0)	6.9 (1.2)	7.4 (1.3)	7.0 (1.3)	7 (7,8)	7 (7,8)	7 (6,8)	8 (7,8)	7 (7,7)	76.3	78.6	57.1	90.9	83.3	2	0	0	0	2

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
27	What exercise related outcomes are meaningful to decision makers?	7.1 (1.4)	7.3 (1.4)	6.7 (1.2)	7.1 (1.6)	7.6 (1.7)	7 (6,8)	7.5 (6,8)	7 (6,7)	7 (5,9)	8 (7,9)	67.3	69.2	53.8	72.7	80.0	6	2	1	0	3
28	What exercise-related outcomes are meaningful to clinicians?	7.1 (1.4)	7.2 (1.4)	6.8 (1.3)	6.5 (1.4)	7.7 (2.0)	7 (6,8)	7.5 (6,8)	7 (6,7)	7 (6,8)	8.5 (7,9)	67.9	73.1	61.5	54.5	83.3	5	2	1	0	2
29	What types of programs or interventions are effective and feasible for increasing the uptake of exercise in patients at all stages of CKD, including dialysis?	7.1 (1.4)	7.3 (1.2)	7.1 (1.7)	6.4 (1.4)	7.3 (1.5)	7 (6,8)	7 (6,8)	7 (6,8)	7 (5,7)	7 (7,9)	68.4	70.4	61.5	63.6	83.3	4	1	1	0	2
30	What is the best way to educate CKD patients about the importance of exercise? (e.g. how to counsel patients, improve patient access to information, etc.)	6.9 (1.5)	6.9 (0.9)	7.2 (1.3)	6.4 (2.2)	7.3 (2.3)	7 (6,8)	7 (6,7)	7 (6,8)	7.5 (4,8)	8 (7,9)	67.9	63.0	69.2	70.0	83.3	5	1	1	1	2
31	How can we implement exercise in a dialysis unit setting in a cost efficient way? (e.g. medical	7.6 (1.7)	8.0 (1.5)	8.2 (1.3)	6.8 (1.7)	6.0 (1.6)	8 (7,9)	8.5 (8,9)	9 (7,9)	7 (5,8)	6 (5,7)	78.2	88.5	92.3	54.5	40.0	6	2	1	0	3

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
	insurance coverage, funding, etc.)																				
32	What factors must be taken into consideration when deciding which patients are safe to start and continue an exercise program? (e.g. age, frailty, cardiovascular comorbidities, etc.)	6.9 (1.5)	6.9 (1.1)	6.4 (1.7)	7.2 (1.4)	7.8 (2.4)	7 (6,8)	7 (6,8)	6 (5,8)	7 (7,8)	9 (8,9)	61.4	59.3	38.5	81.8	83.3	4	1	1	0	2
33	How can we create an exercise program that targets non-dialysis CKD patients and allows them to continue exercising in the long term?	6.9 (1.5)	7.2 (1.3)	6.7 (1.9)	5.9 (1.5)	7.5 (1.4)	7 (6,8)	7 (7,8)	7 (5,8)	6.5 (4,7)	7.5 (6,9)	66.1	77.8	53.8	50.0	66.7	5	1	1	1	2
34	How does exercise affect nutrition status of CKD patients?	6.5 (1.8)	6.4 (1.8)	7.2 (1.4)	5.5 (1.8)	7.3 (2.1)	7 (5,8)	7 (5,8)	7 (6,8)	5 (4,7)	8 (5,9)	51.7	51.9	53.8	36.4	71.4	3	1	1	0	1
35	What is the effect of exercise on cardiovascular risk in transplanted patients?	7.1 (1.8)	7.1 (1.9)	7.5 (1.3)	6.6 (1.2)	6.8 (2.8)	7 (6,8)	8 (6,8)	7 (6,9)	7 (6,7)	7.5 (6,9)	67.9	74.1	69.2	60.0	50.0	5	1	1	1	2

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
36	How does exercise affect sleep in patients who require dialysis?	7.0 (1.5)	6.9 (1.4)	7.1 (1.8)	7.5 (0.8)	6.4 (2.5)	7 (7,8)	7 (6,8)	7 (7,8)	7 (7,8)	7 (7,8)	78.9	74.1	78.6	90.9	80.0	4	1	0	0	3
37	Which physical function measures are the most valid, feasible and reliable in assessing the efficacy of an exercise program for patients at all stages of CKD, including dialysis?	7.1 (1.4)	7.4 (1.1)	7.0 (1.7)	6.6 (1.2)	6.0 (2.0)	7 (6,8)	7 (6,8)	7 (5,9)	6.5 (6,7)	7 (5,7)	67.3	74.1	61.5	50.0	75.0	9	1	1	3	4
38	How can we implement an individualized physical activity or exercise program? For example, a program that allows patients to be active within their energy level.	7.0 (1.6)	7.3 (1.3)	6.6 (2.0)	6.9 (1.6)	6.7 (2.1)	7 (6,8)	7 (6,9)	7 (5,8)	7 (6,8)	6.5 (5,9)	63.2	66.7	53.8	72.7	50.0	4	1	1	0	2
39	What is the effect of exercise in delaying gray and white matter deterioration and preserving cognitive function in patients at all	6.6 (1.8)	6.8 (1.5)	6.0 (1.8)	6.2 (2.4)	7.6 (2.2)	7 (5,8)	7 (6,8)	6 (5,7)	8 (3,8)	9 (7,9)	63.0	71.4	33.3	66.7	80.0	7	0	2	2	3

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
	stages of CKD, including dialysis?																				
40	What is the effect of exercise training on insulin resistance in patients with a renal transplantation?	6.5 (1.6)	6.6 (1.3)	6.6 (1.3)	5.1 (2.0)	7.4 (2.1)	7 (6,7)	7 (6,8)	7 (6,7)	5 (3,7)	8 (7,9)	58.5	59.3	57.1	42.9	80.0	8	1	0	4	3
41	How often do lifestyle and exercise get addressed by doctors during consultations with CKD patients? How can we prioritize lifestyle counselling at the system level?	6.4 (2.0)	6.2 (1.9)	7.3 (1.5)	6.3 (2.1)	5.4 (2.7)	7 (5,8)	7 (5,8)	8 (6,9)	7 (5,8)	6 (5,7)	55.4	51.9	61.5	63.6	40.0	5	1	1	0	3
42	What barriers are present in preventing patients at all stages of CKD, including dialysis from exercising? (e.g. inequitable access to exercise options, knowledge deficits of health care providers, etc.)	6.6 (1.8)	6.6 (1.8)	7.0 (1.7)	6.9 (1.6)	5.8 (2.8)	7 (6,8)	7 (6,8)	7 (6,8)	7 (5,8)	7 (4,8)	59.6	59.3	61.5	54.5	66.7	4	1	1	0	2

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
43	What criteria can be used to individually prescribe exercises for dialysis patients?	6.9 (1.3)	7.3 (1.1)	6.7 (1.5)	6.9 (1.1)	6.0 (1.4)	7 (6,8)	7 (6,8)	6.5 (6,7.5)	7 (6,8)	6 (6,6)	60.0	70.4	50.0	63.6	20	6	1	2	0	3
44	How does exercise affect muscle metabolism and therefore markers of muscle quality in patients at all stages of CKD, including dialysis?	6.8 (1.6)	7.0 (1.3)	7.4 (1.1)	5.5 (2.1)	6.5 (1.4)	7 (6,8)	7 (6,8)	7 (7,8)	6.5 (3,7)	6 (6,7)	63.2	66.7	78.6	50.0	33.3	4	1	0	1	2
45	How does exercise affect chronic pain in patients who require dialysis?	6.8 (1.4)	6.9 (1.4)	6.4 (1.7)	7.2 (1.1)	6.2 (1.5)	7 (6,8)	7 (6,8)	6 (6,8)	7 (7,8)	6 (6,7)	60.7	63.0	46.2	81.8	40.0	5	1	1	0	3
46	How can we create an international database on exercise in CKD?	6.5 (2)	6.8 (1.9)	7.2 (1.9)	5.4 (1.7)	5.2 (1.5)	7 (5,8)	7 (5,9)	8 (7,9)	6 (4,7)	5 (5,6)	55.4	63.0	76.9	27.3	20.0	5	1	1	0	3
47	What type of pre-habilitation should be considered in order to improve exercise participation among patients at all stages of CKD, including dialysis? (e.g. depression counselling,	6.5 (1.5)	6.9 (1.3)	6.2 (0.9)	5.3 (1.9)	7.2 (1.9)	6 (6,8)	7 (6,8)	6 (6,6)	5 (4,7)	7.5 (6,9)	48.2	59.3	23.1	40.0	66.7	5	1	1	1	2

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
	nutrition counselling, physical therapy, etc.)																				
48	How does exercise during dialysis affect hemodynamic stability?	6.8 (1.5)	6.9 (1.5)	7.1 (1.3)	6.6 (1.5)	6.2 (2.0)	7 (6,8)	7 (6,8)	7 (6,8)	7 (6,8)	6 (6,8)	64.8	69.2	61.5	70.0	40.0	7	2	1	1	3
49	What types of supervised exercise programs (e.g. individual or group) promote patient participation?	6.8 (1.5)	6.9 (1.4)	6.7 (2.1)	6.9 (1.3)	6.6 (1.5)	7 (6,8)	7 (6,8)	7 (5,9)	6 (6,8)	7 (6,7)	60.3	70.4	53.8	45.5	57.1	3	1	1	0	1
50	Can exercise reduce changes in blood pressure in patients at all stages of CKD, including dialysis?	6.6 (1.8)	6.5 (1.8)	6.6 (1.8)	7.0 (1.2)	7.0 (2.6)	7 (6,8)	7 (6,8)	6.5 (6,8)	7.5 (6,8)	7.5 (7,9)	56.1	51.9	50.0	60.0	83.3	4	1	0	1	2
51	Does exercise reduce leg cramping in patients who require dialysis?	6.5 (1.7)	6.2 (1.6)	6.8 (1.8)	7.1 (1.7)	6.2 (1.8)	7 (6,8)	7 (6,7)	7 (6,8)	7.5 (6,8)	6 (5,8)	56.4	55.6	53.8	70.0	40.0	6	1	1	1	3

		Mean (SD)					Median (IQR)					Proportion of scores ranked 7-9					Number of missing responses				
Rank order	Question	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients	Overall	Researchers	Clinicians	Policy makers	Patients
52	How can we motivate CKD patients from other cultural backgrounds (e.g. the indigenous population) to exercise?	6.6 (1.9)	6.7 (1.9)	6.2 (2.2)	6.9 (1.5)	6.7 (2.3)	7 (6,8)	7 (6,8)	6 (5,8)	7 (6,8)	6.5 (6,9)	53.6	57.7	38.5	63.6	50.0	5	2	1	0	2
53	Can exercise be used to alleviate restless legs in patients who require dialysis?	6.2 (1.7)	6.0 (1.6)	5.9 (2.0)	7.1 (0.9)	6.6 (2.3)	7 (5,7)	6 (5,7)	6.5 (4,7)	7 (7,7)	7 (6,8)	55.6	48.0	50.0	80.0	60.0	7	3	0	1	3
54	How can nurses or the dialysis clinic staff be trained to deliver an exercise program?	6.1 (2.0)	6.2 (2.3)	6.2 (1.7)	6.3 (1.2)	4.4 (2.4)	6 (5,7.5)	7 (5,8)	6 (5,7)	6 (6,7)	5 (3,6)	44.6	59.3	30.8	36.4	20.0	5	1	1	0	3

SD = standard deviation, IQR= interquartile range

Table S5. 28 questions as critically important using the secondary outcome (> 70% of the scores ranked 7–9 and < 15% of scores ranked 1–3)

Question	Proportion of scores ranked 7-9				
	Overall	Researchers	Clinicians	Policy makers	Patients
How can exercise reduce the risk of institutionalization in patients at all stages of CKD, including dialysis?	86.2	88.9	85.7	81.8	83.3
What exercise-related outcomes are meaningful to patients?	85.7	88.5	84.6	81.8	83.3
What are the effects of exercise on the loss of muscle and strength in patients at all stages of CKD, including dialysis?	85.0	96.4	78.6	72.7	71.4
Does increased physical activity affect the occurrence of major adverse cardiac events (e.g. heart attacks, strokes) in patients at all stages of CKD, including dialysis?	84.5	82.1	92.3	90.9	66.7
Can exercise interventions before kidney transplant improve surgical outcomes (e.g. graft function, expedite improvements in GFR) and post-operation recovery?	83.9	84.6	92.9	72.7	80.0
Can early introduction of exercise in CKD patients delay initiation of dialysis/slow GFR decline?	83.3	84.6	100	77.8	50.0
Does exercise improve quality of life in patients who require dialysis?	83.1	89.3	57.1	100	83.3
Does regular exercise within the CKD population save health care dollars? (e.g. hospital admissions, length of stay, re-admissions, etc.)	83.1	85.2	100	72.7	57.1
To what extent can exercise impact the likelihood of falls in patients at all stages of CKD, including dialysis?	83.1	96.4	71.4	70.0	71.4
What are the effects of exercise on mortality in patients at all stages of CKD, including dialysis?	82.5	81.5	92.9	80	66.7

Question	Proportion of scores ranked 7-9				
	Overall	Researchers	Clinicians	Policy makers	Patients
What exercise programs are feasible and sustainable for dialysis patients, allowing a high level of adherence in the long term? (e.g. the role of guidance and accountability on adherence and patient encouragement)	82.1	88.9	76.9	70.0	83.3
How can exercise affect mobility in patients at all stages of CKD, including dialysis?	81.7	89.3	64.3	81.8	85.7
Does increased physical activity or exercise decrease cardiovascular risk in patients at all stages of CKD, including dialysis? (e.g. blood pressure, lipids, calcium in cardiac arteries)	81.4	78.6	85.7	81.8	83.3
How can we make exercise a standard component of care for patients at all stages of CKD, including dialysis?	81.0	85.2	92.3	63.6	71.4
What is the effect of an intensive post-kidney transplant rehabilitation program on patients who have been on dialysis for many years?	79.2	77.8	83.3	77.8	80.0
How does exercise affect sleep in patients who require dialysis?	78.9	74.1	78.6	90.9	80.0
Does exercise improve quality of life in non-dialysis CKD patients?	78.3	89.3	57.1	81.8	71.4
How does exercise affect anxiety and depression in patients at all stages of CKD, including dialysis?	78.3	89.3	71.4	81.8	42.9
What is the effect of exercise on mortality among the transplant population?	78.2	77.8	75.0	80.0	83.3
How can we implement exercise in a dialysis unit setting in a cost-efficient way? (e.g. medical insurance coverage, funding, etc.)	78.2	88.5	92.3	54.5	40.0
Does exercise decrease fatigue in patients who require dialysis?	77.6	82.1	71.4	90.9	40.0
What is the patients' perspective on exercise and what factors would motivate patients at all stages of CKD to exercise?	76.8	70.4	76.9	90.9	80.0

Question	Proportion of scores ranked 7-9				
	Overall	Researchers	Clinicians	Policy makers	Patients
Does exercise decrease fatigue in non-dialysis CKD patients?	76.3	78.6	57.1	90.9	83.3
Can exercise interventions increase suitability for and access to kidney transplantation (e.g. promote weight loss) in patients referred for evaluation?	75.9	85.2	64.3	63.6	83.3
How can we optimize the safety of exercise programs in order to include patients who are at high risk but would benefit from exercise?	73.7	74.1	61.5	90.9	66.7
How can we implement exercise programs in clinics with minimal additional burden on clinic staff?	73.2	74.1	69.2	81.8	60.0
What type(s) of exercise interventions (e.g. dose, intensity, mode, length of program) are most efficacious for improving symptoms such as pain, depression, cramping, weakness, and fatigue in patients who require dialysis?	72.7	70.4	66.7	90.9	60.0
What is the optimal exercise prescription (intensity, type) that is both safe and effective for patients at all stages of CKD, including dialysis?	72.7	77.8	58.3	81.8	60.0