

Supplemental Table 1. Summary of evidence from the literature review

Reference	Population	Study	N	Factors and effects	OR (95%CI) if available
<b>Lifestyle</b>					
Abrams 2018	Women with SUI, UUI, MUI, obese or overweight.	Review, 4 studies. LS: Weight loss		Weight loss of 5% -> - reduction of UI symptoms, - decrease pad test loss - higher quality of life	
Wyman 2014	Men and women with UUI, smokers.	RCT. LS: Smoking	N = 57	Abstinence→ - Reduction urinary frequency	
Wells 2014	Women with UUI.	RCT. LS: Caffeine intake	N = 11	Decrease intake of caffeine→ - Reduction of frequency and urgency of UI	
<b>Behavioral training for UI (PFMT or bladder training), predictors of success unless stated otherwise</b>					
Burgio 2003	Women with SUI, UUI, MUI	3 RCTs. Behavioral training.	N = 258	Predominantly UUI (N = 198): - Lower frequency of UI episodes - Previous surgery of UI, previous treatment with medication - Lower educational level Predominantly SUI (N = 60): - No previous treatment for UI - <10 incontinence episodes per week	
Cammu 2006	Women with SUI.	Prospective cohort. Behavioral training.	N = 447	<i>Predictors of failure of PFMT</i> - ≥2 leakage episodes per day - chronic use of psychotropic medication - baseline positive stress test	
Kim 2011	Women with SUI, UUI, MUI	RCT. Behavioral training.	N = 127	- Compliance to treatment - BMI reduction	OR 1.13 (1.02-1.29) OR 0.78 (0.60-0.96)
Dumoulin 2010	Women with SUI	RCT. Behavioral training.	N = 57	- baseline lower PFM passive force - baseline greater PFM endurance	OR 0.50 (0.301-0.830) OR 1.02 (1.003-1.037)
Hendriks 2010	Women with SUI.	Prospective cohort. Behavioral training.	N = 267	<i>Predictors of poor outcome PFMT</i> - More severe stress UI - POP-Q stage >II - poor outcome previous physiotherapy intervention - prolonged second stage of labor - BMI>30 - high psychological distress - poor physical health	OR 0.09 (0.03-0.21) OR 0.10 (0.01-1.05) OR 0.05 (0.01-0.32) OR 0.17 (0.05-0.56) OR 0.28 (0.08-0.94) OR 0.29 (0.11-0.89) OR 0.32 (0.11-0.87)
Yoo 2011	Women with SUI, UUI, MUI.	Retrospective cohort. Behavioral training	N = 86	- Change of average tonic contraction of PFM	OR 1.66 (1.015-2.721)
Schaffer 2012	Women with SUI or MUI.	RCT. Behavioral training or pessary	N = 446	- postmenopausal status - higher educational level - no previous UI surgery	OR 2.52 (1.29- 4.95) OR 1.61 (1.01-2.55) OR 3.15 (1.04-9.53)
<b>mHealth</b>					
Lindh 2016	Women with SUI.	RCT. Behavioral training (PFMT) via internet or brochure	N = 169	- higher age - regular performance of PFMT after 1 year	OR 1.06 (1.02-1.10) OR 2.32 (1.04-5.20)
Nystrom 2017	Women with SUI.	Cohort from RCT. Behavioral training (PFMT) via app.	N = 61	- higher expectations of treatment effect - weight control (per kg gained) - self-rated improvement of PFM strength	OR 11.38 (2.02-64.19) OR 0.44 (0.24-0.79) OR 35.54 (4.96-254.61)
Vitacca 2015	COPD patients	Review of telemonitoring outcomes from RCTs	46 RCTs	- higher age - worse severity of disease and more frequent exacerbations - limited community support - home care not widely available	Not applicable

Behavioral training = Pelvic Floor Muscle Training and/or bladder training. Abbreviations: SUI = Stress urinary incontinence, UUI = Urgency urinary incontinence, MUI = Mixed urinary incontinence, LS = Lifestyle change.

**Supplemental Table 2. Complete list of candidate predictors and selected predictors for successful UI treatment by care-as-usual and eHealth**

Candidate predictors	Related to conservative management and/or eHealth	Literature and/or expert opinion	Available in data	Selected *with expected interaction treatment
Age	both	both	yes	Yes*
Educational level	Conservative management	literature	yes	Yes*
Smoking	Conservative management	literature	-	-
Caffeine consumption	Conservative management	literature	yes	-
Body Mass Index (BMI)	Conservative management	literature	yes	Yes
Limited care available/ lower mobility of patient	eHealth	literature	yes	-
Poor physical health status	Conservative management	literature	yes	Yes
Self-efficacy	eHealth	Expert	-	-
Being a caregiver to a sick spouse or parent	eHealth	Expert	yes	-
Having a job	eHealth	Expert	yes	-
Social support	eHealth	Expert	-	-
UI: severity	Both	literature	yes	Yes
UI: frequency	Conservative management	literature	yes	-
UI: type	Conservative management	Both	yes	Yes*
UI: duration of symptoms	Conservative management	Expert	yes	Yes*
UI impact on quality of life	Conservative management	Expert	yes	Yes*
Menopausal state	Conservative management	literature	yes	Yes
Vaginal births	Conservative management	literature	yes	Yes
Pelvic floor muscle function at baseline	Conservative management	literature	yes	Yes
Prolapse according to POPQ system	Conservative management	literature	yes	-
Sense of pelvic floor muscles	Conservative management	Expert	-	-
Expectations of treatment	eHealth	literature	-	-
Adherence to treatment	Both	Both	-	-
Duration of treatment	Conservative management	literature	-	-
Previous treatment	Conservative management	literature	yes	Yes*
Previous experience with smartphone or tablet (digital) usage	eHealth	Expert	-	-
eHealth literacy	eHealth	Expert	-	-
Follow-up yes or no	eHealth	Expert	yes	-
Recruitment method (GP or (social) media)	eHealth	Expert	Yes	Yes*

Abbreviations: UI = urinary incontinence

**Supplemental Table 3. Inclusion frequencies of the regression coefficients from 500 bootstrap samples**

Variable	Bootstrap	
	inclusion frequency (%)	95% confidence intervals
Intercept		7.21 to 7.89
Treatment type, App (-0.5) or CAU (0.5)*	100	-0.69 to 0.51
Age, yrs*	25	-0.03 to 0.02
Educational level, lower (-0.5) or higher (0.5)*	23	-0.52 to 0.763
UI Severity <sub>at baseline</sub>	100	0.43 to 0.74
Impact of UI on Quality of Life *	96	0.03 to 0.14
Age*Treatment type	80	0.01 to 0.10
Educational level*Treatment type	94	0.44 to 2.99
Impact on Quality of life*Treatment type	62	0.01 to 0.14

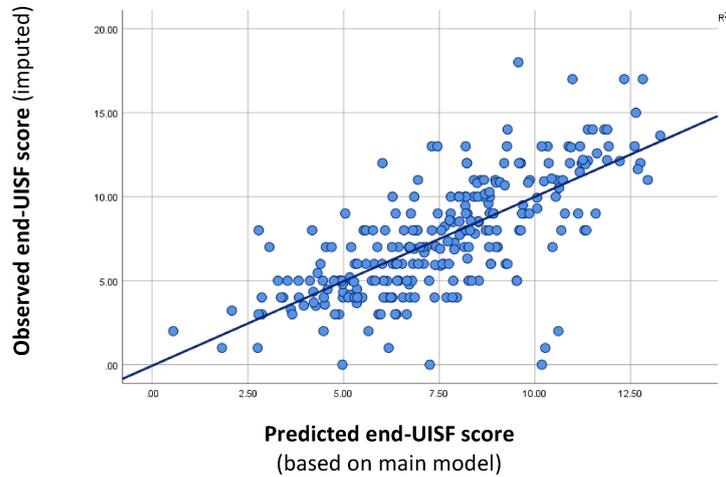
\*Treatment type and the main effects of the interactions (Age, Educational level, Impact on quality of life) were fixed in the backward selection procedure. CAU = care-as-usual, UI = urinary incontinence

**Supplemental Table 4. Comparison baseline characteristics of patients with and without a clinically relevant Personalized advantage index (PAI larger than minimal clinically relevant difference of 1.58 points).**

	Characteristic	Total (n = 262)	PAI >1.58 (n = 55)	PAI <1.58 (n = 207)
<b>Prognostic Factors</b>	Severity UI at baseline*	9.9 ± 3.3	10.7 ± 3.4	9.7 ± 3.2
	Body mass index (kg/m <sup>2</sup> )*	27.8 ± 5.3	28.2 ± 5.1	27.6 ± 5.4
	Postmenopausal status, yes	123 (47.1%)	32 (58.2%)	91 (44.2%)
	Vaginal births, ≥1	216 (82.8%)	42 (76.4%)	174 (84.1%)
	Pelvic floor muscle function			
	Normal activity	84 (32.1%)	12 (21.8%)	72 (34.5%)
	Overactive	44 (16.8%)	11 (20.0%)	33 (15.9%)
Underactive	134 (50.8%)	32 (58.2%)	101 (48.8%)	
	General physical health status*	74 ± 20	73 ± 21	74 ± 20
<b>Modifiers</b>	Age, (years)	52.2 ± 11.6	54.1 ± 14.9	51.8 ± 10.6
	Educational level, higher*	107 (52.7%)	23 (56.1%)	84 (51.9%)
	Duration of UI (years)*	7 (4-14)	7 (4-14)	7 (4-14)
	UI impact on Quality of life*	33.6 ± 8.0	35.9 ± 9.9	33.0 ± 7.4
	Type of UI			
	Stress	180 (68.7%)	30 (54.5.4%)	150 (72.5%)
	Urgency	82 (31.3%)	25 (45.4%)	57 (27.5%)
	Previous physical therapy for UI, yes	66 (25.3%)	10 (18.2%)	56 (27.2%)
	Recruitment type			
	General practitioner	152 (58%)	33 (60.0%)	119 (57.5%)
Lay press or social media	110 (42%)	22 (40.0%)	88 (42.5%)	

Prognostic factors predict outcomes irrespective of treatment type. Modifiers predict outcomes dependent on the treatment (modifier). Values are presented as means ± standard deviation, percentages, or medians (interquartile range). \*N was lower: missing data of one baseline assessment, three baseline questionnaires, and educational level were assessed at follow-up. Abbreviations: ICIQ-UISF, International Consultation on Incontinence Modular Questionnaire Urinary Incontinence Short Form; ICIQ-LUTSqol, ICIQ lower urinary tract symptoms quality of life; UI, urinary incontinence.

**Supplemental Figure 1.** Calibration slope of observed versus predicted end-UISF scores (prediction based on the main model).



The calibration intercept is at -0.06 and the calibration slope is 1.01.

**Supplemental Figure 2.** Scatterplot of observed versus predicted end-UISF scores (predicted score of treatment received in the trial)

