Supplemental Figure Legends

Supplemental Figure 1. Effect of non-calcium-based phosphate binders on change in serum phosphate

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on serum phosphate (mg/dL) at last measurement

Supplemental Figure 2. Effect of non-calcium-based phosphate binders on change in urinary phosphate

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on urinary phosphate at last measurement

(Units for urinary phosphate: * mg/day; # mmol/L; & mmol/day; % 24hr phosphate:creatinine mg/g; $ spot urine phosphate:creatinine ratio mg/mg)

Supplemental Figure 3a. Effect of non-calcium phosphate binders on change in serum calcium

Forest plot showing the effect of non-calcium phosphate binders compared to placebo on serum calcium (mg/dL) at last measurement

Supplemental Figure 3b. Effect of non-calcium-based phosphate binders on change in serum calcium

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on serum calcium (mg/dL) at last measurement

Supplemental Figure 4a. Effect of non-calcium phosphate binders on change in kidney function (estimated glomerular filtration rate)

Forest plot showing the effect of non-calcium phosphate binders compared to placebo on eGFR (ml/min/1.73^2) at last measurement

Supplemental Figure 4b. Effect of non-calcium-based phosphate binders on change in kidney function (estimated glomerular filtration rate)

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on eGFR (ml/min/1.73^2) at last measurement

Supplemental Figure 5. Effect of non-calcium-based phosphate binders on change in parathyroid hormone (PTH)

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on PTH (pg/mL) at last measurement

Supplemental Figure 6a. Effect of non-calcium-based phosphate binders on change in c-terminal fibroblast growth factor-23 (cFGF23)

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on cFGF23 (RU/mL) at last measurement

Supplemental Figure 6b. Effect of non-calcium-based phosphate binders on change in intact fibroblast growth factor-23 (iFGF23)

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on iFGF23 (pg/mL) at last measurement

Supplemental Figure 7. Effect of non-calcium-based phosphate binders on change in pulse wave velocity (PWV)

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on PWV (m/s) at last measurement

Supplemental Figure 8. Effect of non-calcium-based phosphate binders on change in vascular calcification

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on vascular calcification scores at last measurement

Supplemental Figure 9. Effect of non-calcium-based phosphate binders on mortality

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on mortality

Supplemental Figure 10. Effect of non-calcium-based phosphate binders on cardiovascular events

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on cardiovascular events

Supplemental Figure 11a. Effect of non-calcium-based phosphate binders on nausea

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo on nausea

Supplemental Figure 11b. Effect of non-calcium-based phosphate binders on nausea

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on nausea

Supplemental Figure 12. Effect of non-calcium-based phosphate binders on constipation

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on constipation

Supplemental Figure 13a. Effect of non-calcium-based phosphate binders on diarrhea

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo on diarrhea

Supplemental Figure 13b. Effect of non-calcium-based phosphate binders on diarrhea

Forest plot showing the effect of non-calcium-based phosphate binders compared to placebo or no study treatment on diarrhea

Supplemental Figure 14. Effect of non-calcium phosphate binders on cessation of study medication

Forest plot showing the effect of non-calcium phosphate binders compared to placebo on cessation of study medication during the trial

Supplemental Tables

Supplemental Table 1: Search Strategy

1. (non calcium adj3 phosphate binder*).mp.
2. (phosphate binder* not calcium).mp.
3. 1 or 2
4. phosphate binder*.mp.
5. 4 not 3
6. lanthanum carbonate.mp.
7. Lanthanum/
8. sevelamer hydrochloride.mp. or Sevelamer/
9. ((calcium adj2 magnesium) and binder*).mp.
10. bixalomer.mp.
11. colestilan.mp.
12. (iron and binder*).mp.
13. sucroferric oxyhydroxide.mp.
14. ferric citrate.mp.
15. ((aluminium or aluminum) and binder*).mp.
16. nicotinamide.mp. or Niacinamide/
17. phosphate.mp.
18. 16 and 17
19. 1 or 2 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 18
20. 4 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 18
21. exp renal insufficiency, chronic/ or kidney failure, chronic/
22. chronic kidney disease.mp.
23. chronic renal failure.mp.
24. 21 or 22 or 23
25. renal replacement therapy/ or exp renal dialysis/ or hemodiafiltration/ or hemodialysis, home/ or peritoneal dialysis/ or kidney transplantation/
26. renal dialysis.mp.
27. Renal Dialysis/
28. renal transplant*.mp.
29. renal allograft.mp.
30. exp Dialysis/ or dialysis.mp.
31. (hemodialysis or haemodialysis).mp.
32. 25 or 26 or 27 or 28 or 29 or 30 or 31
33. 20 and 24
34. 33 not 32

Supplemental Table 2: GRADE Summary of Evidence for non-calcium-based phosphate binders vs placebo

Number of studies (and participants)	**Limitations (Risk of Bias)**	**Indirectness of patients, intervention and comparator**	**Inconsistency**	**Imprecision**	**Other considerations**	**Quality of evidence**
Serum phosphate (follow-up 3-24 months)						
12 studies (1280 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Urinary phosphate excretion (follow-up 3-24 months)						
8 studies (702 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Serum calcium (follow-up 3-24 months)						
11 studies (1257 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low
Serum PTH (follow-up 3-24 months)						
10 trials (1080 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Serum intact FGF23 (follow-up 3-24 months)						
8 trials (937 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Small study bias Industry funded trials	⨁OOO Very low
Serum c-terminal FGF23 (follow-up 3-24 months)						
6 trials (694 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
eGFR (follow-up 3-24 months)						
9 trials (930 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Mortality (3-24 months)						

13 trials (1479 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Cardiovascular events (3-24 months)						
7 trials (873 participants)	Serious limitations	No serious indirectness	Serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Pulse wave velocity (10-24months)						
3 trials (333 participants)	Very serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Vascular Calcification (9-24 months)						
3 trials (183 participants)	Very serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Cessation of medications (3-24 months)						
10 trials (1086 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Nausea (3-24 months)						
9 trials (1244 participants)	Serious limitations	No serious indirectness	No serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁⨁O Moderate
Diarrhea (3-12 months)						
8 trials (962 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Constipation (3-12 months)						
8 trials (900 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low

Abbreviations: eGFR, estimated glomerular filtration rate; FGF23, fibroblast growth factor 23; PTH, parathyroid hormone

Supplemental Table 3: Summary of GRADE findings – Non-calcium-based phosphate binders compared to combined placebo or no study medication

Outcomes	**Illustrative Comparative Outcomes**		**Relative effect (95% confidence interval)**	**Number of participants (studies)**	**Certainty of evidence (GRADE)**	**Comments**
	Effect non-calcium-based phosphate binders	**Risk with placebo or no study treatment***				
Serum phosphate ***(mg/dL)*** ***(3-24 months)***	The measure of mean serum phosphate was 0.29 mg/dL lower than the placebo group	The mean serum phosphate was 4.23 mg/dL	-0.49 – -0.10	1596 (15)	⨁⨁OO Due to risk of bias and inconsistency	Considerable heterogeneity (I^2= 85%)
Urinary phosphate excretion ***(SMD)*** ***(3-24 months)***	The measure of mean urinary phosphate excretion was 0.61 standard units lower than with placebo	The mean urinary phosphate was 423.1 standard units	-0.84 – -0.38	964 (10)	⨁⨁OO Due to risk of bias and inconsistency	Different units of urinary phosphate excretion including ratios added to inconsistency of results
Serum PTH ***(pg/dL)*** ***(3-24 months)***	The measure of mean serum PTH was unchanged in comparison to placebo	The mean serum PTH was 125.6 pg/dL	-15.47 – 10.55	1319 (14)	⨁⨁OO Due to risk of bias and inconsistency of results	Some inconsistency in results regarding effect on PTH
Pulse wave velocity	The PWV was unchanged	The mean PWV was 10.2 m/s	-0.46 – 1.05	507 (5)	⨁OOO Due to risk of bias,	3 studies only able to be analysed, with 2 sets of mean values being identical

(m/s) ***(10-24 months)***					imprecision and inconsistency	(likely due to transformation of median to mean for analysis)
Vascular calcification ***(Standard units)*** ***(9-24 months)***	There was a small degree of effect on vascular calcification (Hedge's g=0.29)	High background risk of vascular calcification in CKD depending on stage	0.02 – 0.56	320 (5)	⨁OOO Due to risk of bias, imprecision and inconsistency	Statistically significant ($p<0.01$) Not likely to be of clinical significance. 3 studies only able to be analysed.
Mortality ***(log OR)*** ***(3-24 months)***	There was no significant difference in mortality rate between the two groups (log OR -0.22)	Risk with placebo 2/100 person years	-1.41 – 0.97	1942 (17)	⨁OOO Due to risk of bias, imprecision and inconsistency	Large confidence intervals leading to imprecision. Studies often not powered or had long enough follow-up geared to considerations of mortality
Cardiovascular events ***(log OR)*** ***(3-24 months)***	There was no difference in the risk of cardiovascular events between non-calcium binders and no study treatment (log OR 0.15)	Not estimable	-0.58 – 0.88	1072 (8)	⨁OOO Due to risk of bias, imprecision and inconsistency	Few events and not powered for follow-up

* Calculations for overall weighted means for serum and urinary phosphate, PTH and PWV – sum of weighted placebo means across studies for each variable.

Supplemental Table 4: GRADE Summary of Evidence for non-calcium phosphate binders vs placebo or no study treatment

Number of studies (and participants)	**Limitations (Risk of Bias)**	**Indirectness of patients, intervention and comparator**	**Inconsistency**	**Imprecision**	**Other considerations**	**Quality of evidence**
Serum phosphate (follow-up 3-24 months)						
15 studies (1596 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Urinary phosphate excretion (follow-up 3-24 months)						
10 studies (964 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Serum calcium (follow-up 3-24 months)						
13 studies (1519 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low
Serum PTH (follow-up 3-24 months)						
14 trials (1319 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Serum intact FGF23 (follow-up 3-24 months)						
12 trials (1224 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Small study bias Industry funded trials	⨁OOO Very low
Serum c-terminal FGF23 (follow-up 3-24 months)						
7 trials (854 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
eGFR (follow-up 3-24 months)						
12 trials (1191 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Mortality (3-24 months)						

17 trials (1942 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Cardiovascular events (3-24 months)						
8 trials (1072 participants)	Serious limitations	No serious indirectness	Serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Pulse wave velocity (10-24months)						
5 trials (507 participants)	Very serious limitations	No serious indirectness	Serious inconsistency	Serious imprecision	Industry funded trials	⨁⨁OO Very low
Vascular calcification (9-24 months)						
5 trials (320 participants)	Very serious limitations	No serious indirectness	Serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Cessation of medications (3-24 months)						
10 trials (1086 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low
Nausea (3-24 months)						
10 trials (1350 participants)	Serious limitations	No serious indirectness	No serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁⨁O Moderate
Diarrhea (3-12 months)						
8 trials (962 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Constipation (3-12 months)						
9 trials (1006 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low

Abbreviations: eGFR, estimated glomerular filtration rate; FGF23, fibroblast growth factor 23; PTH, parathyroid hormone

Supplemental Table 5: Summary of GRADE findings – Non-calcium phosphate-lowering therapy compared to placebo

Outcomes	**Illustrative Comparative Outcomes**		**Relative effect (95% confidence interval)**	**Number of participants (studies)**	**Quality of evidence (GRADE)**	**Comments**
	Effect of non-calcium phosphate-lowering therapy	**Risk with placebo***				
Serum phosphate ***(mg/dL)*** ***(3-24 months)***	The measure of mean serum phosphate was 0.3 mg/dL lower than the placebo group	The mean serum phosphate was 4.28 mg/dL	-0.55 – -0.14	1330 (12)	⊕⊕OO Due to risk of bias and inconsistency	Considerable heterogeneity (I^2= 85%)
Urinary phosphate excretion ***(SMD)*** ***(3-24 months)***	The measure of mean urinary phosphate excretion was 0.55 standard units lower.	The mean urinary phosphate was 432.5 standard units	-0.83 – -0.27	753 (8)	⊕⊕OO Due to risk of bias and inconsistency	Different units of urinary phosphate excretion including ratios added to inconsistency of results (I^2=68.3%)
Serum PTH ***(pg/dL)*** ***(3-24 months)***	The measure of mean serum PTH was unchanged	The mean serum PTH was 130.5 pg/dL	-20.21 – 7.16	1131 (11)	⊕OOO Due to risk of bias and inconsistency of results	Some inconsistency in results regarding effect on PTH (I^2=69% with large confidence intervals)
Vascular calcification	There was a suggestion of a moderate	High background risk of	0.17 – 0.77	320 (3)	⊕OOO Due to risk of bias,	Two studies only with a small number of participants

(Standard units) ***(9-24 months)***	increase in vascular calcification with phosphate-lowering medication (Hedge's g=0.47)	vascular calcification in CKD depending on stage			imprecision and inconsistency	
Pulse wave velocity ***(m/s)*** ***(10-24 months)***	There was no difference in pulse wave velocity with phosphate lowering medication	The mean PWV in the placebo group was 10.4m/s	-0.46 – 1.05	333 (3)	⨁OOO Due to some risk of bias, imprecision and inconsistency	Three studies only
Mortality ***(log OR)*** ***(3-24 months)***	There was no significant difference in mortality risk between the two groups (log OR -0.56)	Risk with placebo 2/100 person years	-1.99 – 0.87	1530 (8)	⨁OOO Due to risk of bias, imprecision and inconsistency	Large confidence intervals leading to imprecision. Studies often not powered or had long enough follow-up geared to considerations of mortality
Cardiovascular events ***(3-24 months)***	There was no significant difference in the cardiovascular event risk between the two groups	Not estimable		873 (7)	⨁OOO Due to risk of bias, imprecision and inconsistency	

* Calculations for overall weighted means for serum and urinary phosphate, PTH and PWV – sum of weighted placebo means across studies for each variable

Supplemental Table 6: GRADE Summary of Evidence for non-calcium phosphate-lowering therapy vs placebo

Number of studies (and participants)	**Limitations (Risk of Bias)**	**Indirectness of patients, intervention and comparator**	**Inconsistency**	**Imprecision**	**Other considerations**	**Quality of evidence**
Serum phosphate (follow-up 3-24 months)						
12 studies (1330 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Urinary phosphate excretion (follow-up 3-24 months)						
8 studies (753 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Serum calcium (follow-up 3-24 months)						
11 studies (1308 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low
Serum PTH (follow-up 3-24 months)						
11 trials (1131 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Serum intact FGF23 (follow-up 3-24 months)						
9 trials (988 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Small study bias Industry funded trials	⨁OOO Very low
Serum c-terminal FGF23 (follow-up 3-24 months)						
6 trials (694 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
eGFR (follow-up 3-24 months)						
9 trials (981 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Mortality (3-24 months)						

13 trials (1530 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Cardiovascular events (3-24 months)						
7 trials (873 participants)	Serious limitations	No serious indirectness	Serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Pulse wave velocity (10-24months)						
3 trials (333 participants)	Very serious limitations	No serious indirectness	Serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Vascular calcification (9-24 months)						
3 trials (320 participants)	Very serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Cessation of medications (3-24 months)						
10 trials (1086 participants)	Serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁OO Low
Nausea (3-24 months)						
9 trials (1295 participants)	Serious limitations	No serious indirectness	No serious inconsistency	No serious imprecision	Industry funded trials	⨁⨁⨁O Moderate
Diarrhea						
8 trials (936 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low
Constipation						
8 trials (900 participants)	Serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low

Abbreviations: eGFR, estimated glomerular filtration rate; FGF23, fibroblast growth factor 23; PTH, parathyroid hormone

Supplemental Table 7: Summary of GRADE findings – Non-calcium-based phosphate binders compared to calcium-based phosphate binders[#]

Outcomes	**Illustrative Comparative Outcomes**		**Relative effect (95% confidence interval)**	**Number of participants (studies[&])**	**Certainty of evidence (GRADE)**	**Comments**
	Effect of non-calcium-based phosphate binders	**Risk with calcium-based phosphate binders[*]**				
Serum phosphate ***(mg/dL)*** ***(4-36 months)***	The measure of mean serum phosphate was not lower with non-calcium phosphate binders	The mean serum phosphate was 4.47 mg/dL	-0.35 – 0.22	436 (5)	⨁OOO Due to high risk of bias and very serious inconsistency	Considerable heterogeneity (I^2=79%)
Urinary phosphate excretion ***(SMD)*** ***(4-24 months)***	The measure of mean urinary phosphate excretion was not lower with non-calcium phosphate binders	The mean urinary phosphate was 380.8 standard units	-3.17 – -1.00	152 (3)	⨁OOO Due to high risk of bias and very serious inconsistency	Different units of urinary phosphate excretion including ratios added to inconsistency of results. Considerable heterogeneity (I^2= 97%)
Serum calcium (mg/dL) ***(4-36 months)***	The measure of mean serum calcium was not higher with non-calcium phosphate binders	The mean serum calcium was 9.42 mg/dL	-0.70 – 0.15	436 (5)	⨁OOO Due to high risk of bias and very serious inconsistency	Very serious inconsistency in results regarding effect on non-calcium-based phosphate binders on serum calcium. Considerable heterogeneity (I^2= 96%)

Serum PTH ***(pg/dL)*** ***(4-36 months)***	The measure of mean serum PTH was unchanged	The mean serum PTH was 212.2 pg/dL	-17.58 – 10.97	1131 (5)	⨁OOO Due to high risk of bias and inconsistency of results	Some inconsistency in results regarding effect on PTH
Mortality ***(log OR)*** ***(4-36 months)***	There was no significant difference in mortality rate between non-calcium binders and calcium binders (log OR -0.70)	Risk with placebo 2/100 person years	-1.45 – 0.05	421 (4)	⨁OOO Due to high risk of bias, imprecision and inconsistency	Large confidence intervals, with only one large trial leading to any events being recorded
Vascular calcification ***(Standard units)*** ***(9-24 months)***	There was no apparent difference in vascular calcification with non-calcium or calcium phosphate binders (0.05)	High background risk of vascular calcification in CKD depending on stage	-0.43 – 0.53	120 (2)	⨁OOO Due to risk of bias, imprecision and inconsistency	Two studies only with a small number of participants

The majority for studies had risk of bias for allocation concealment and performance bias
& The calcium-based binder arm of *Block (2012)* included

* Calculations for overall weighted means for serum and urinary phosphate, calcium, PTH and PWV – sum of weighted placebo means across studies for each variable

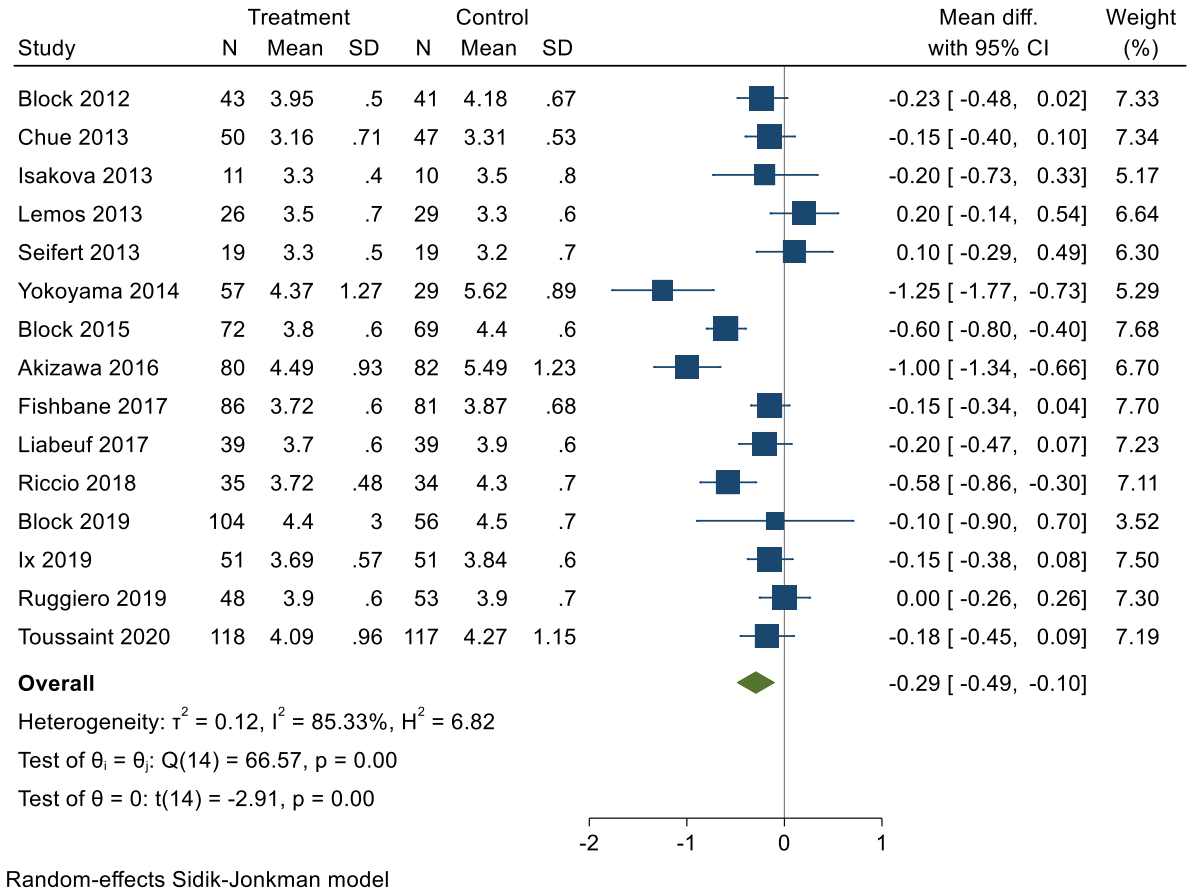
Supplemental Table 8: GRADE Summary of Evidence for non-calcium-based phosphate binders vs calcium-based phosphate binders

Number of studies (and participants)	***Limitations (Risk of Bias)***	***Indirectness of patients, intervention and comparator***	***Inconsistency***	***Imprecision***	***Other considerations***	***Quality of evidence***
Serum phosphate (follow-up 4-36 months)						
5 studies (436 participants)	Very serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low
Urinary phosphate excretion (follow-up 4-24 months)						
3 studies (152 participants)	Very serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low
Serum calcium (follow-up 4-24 months)						
5 studies (436 participants)	Very serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low
Serum PTH (follow-up 4-24 months)						
5 trials (1131 participants)	Very serious limitations	No serious indirectness	Very serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low
eGFR (follow-up 3-24 months)						
3 trials (152 participants)	Very serious limitations	No serious indirectness	Serious inconsistency	No serious imprecision	Industry funded trials	⨁OOO Very low
Mortality (4-24 months)						
4 trials (421 participants)	Very serious limitations	No serious indirectness	Very serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low
Vascular calcification (9-24 months)						
2 trials (120 participants)	Very serious limitations	No serious indirectness	Serious inconsistency	Serious imprecision	Industry funded trials	⨁OOO Very low

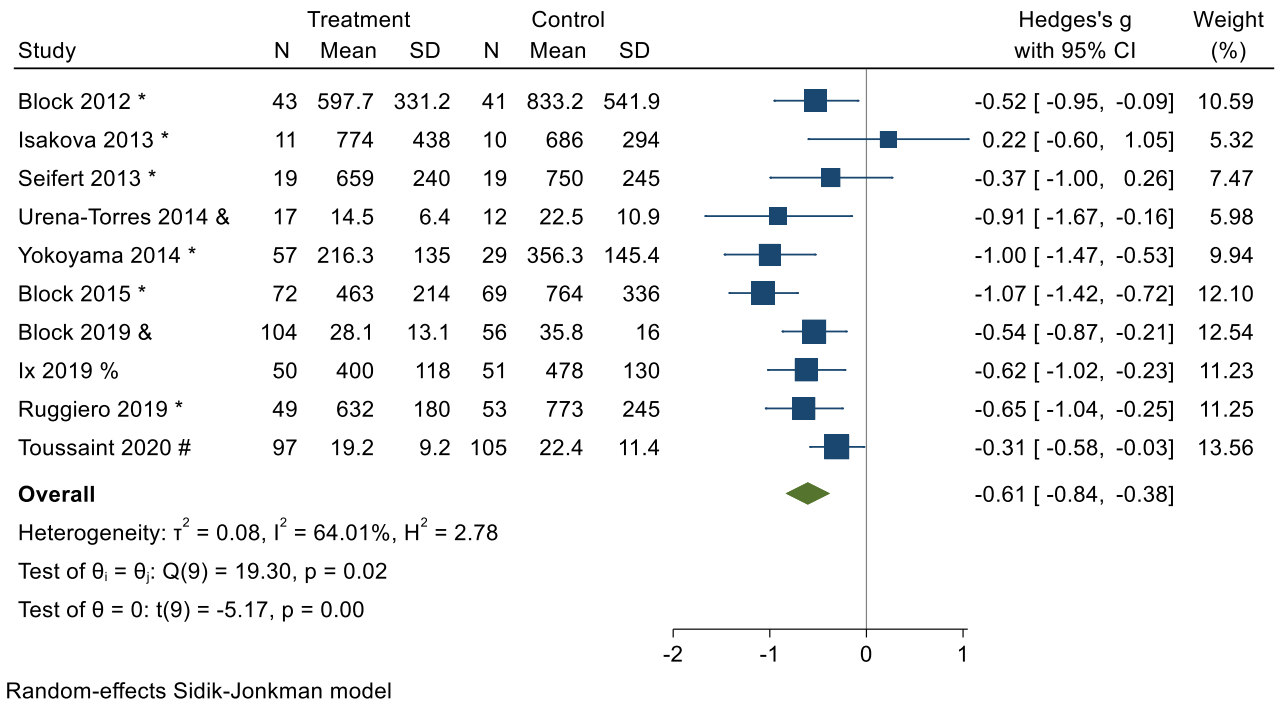
Abbreviations: eGFR, estimated glomerular filtration rate; PTH, parathyroid hormone

Supplemental Figures

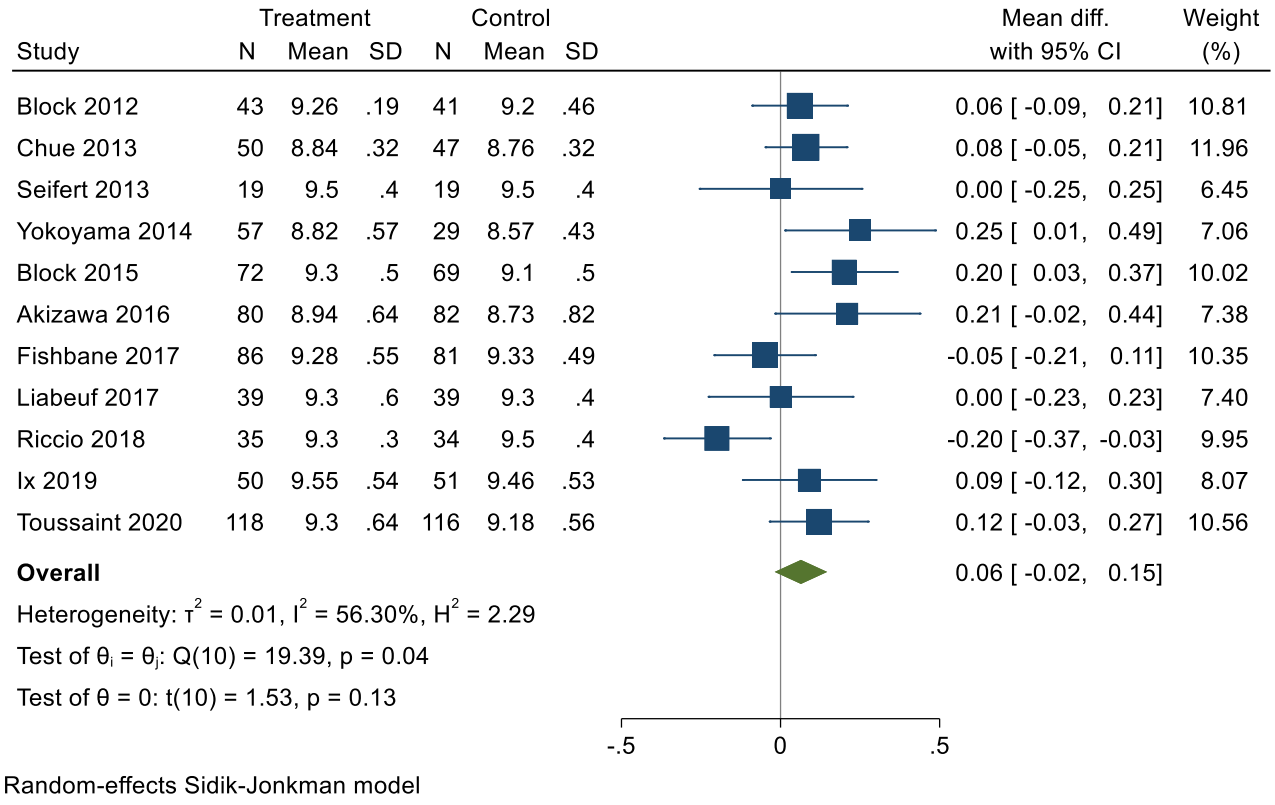
Supplemental Figure 1: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on serum phosphate.



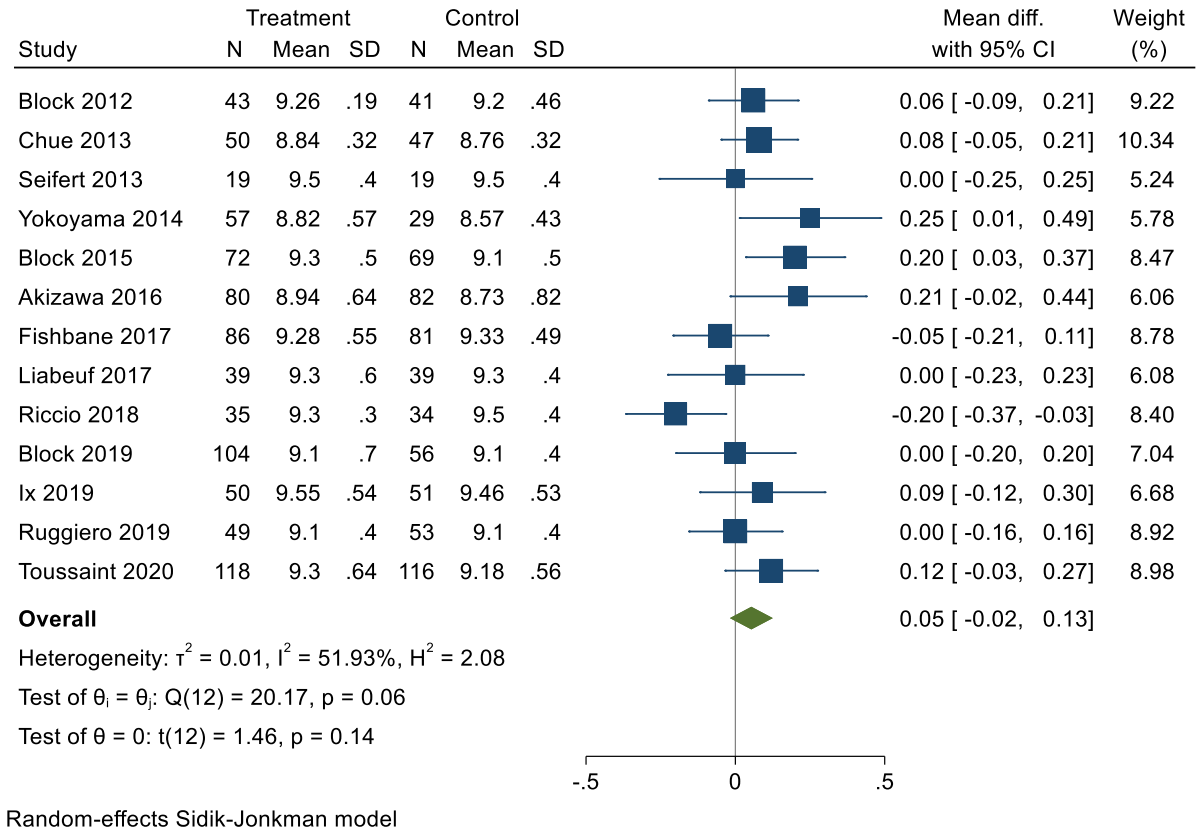
Supplemental Figure 2: Effect of non-calcium phosphate binders compared to placebo or no study treatment on urinary phosphate.



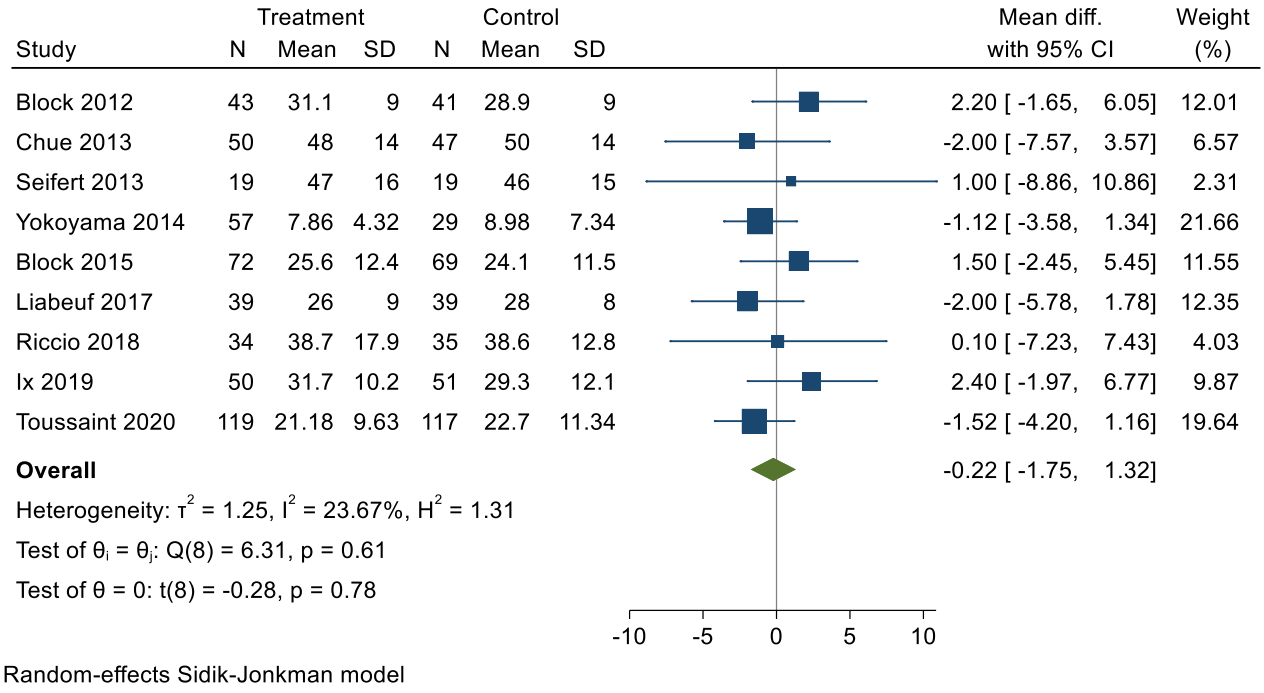
Supplemental Figure 3a: Effect of non-calcium phosphate binder compared to placebo on serum calcium.



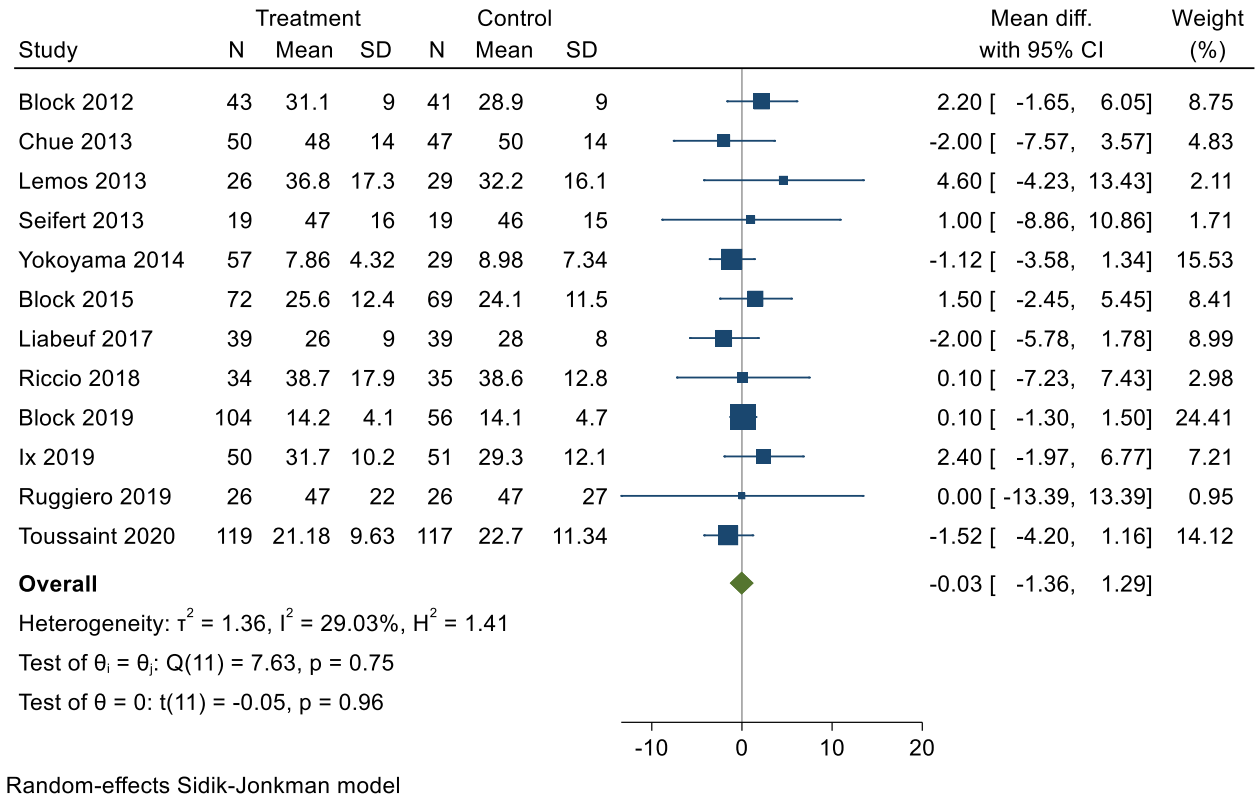
Supplemental Figure 3b: Effect of non-calcium phosphate binders compared to placebo or no study treatment on serum calcium.



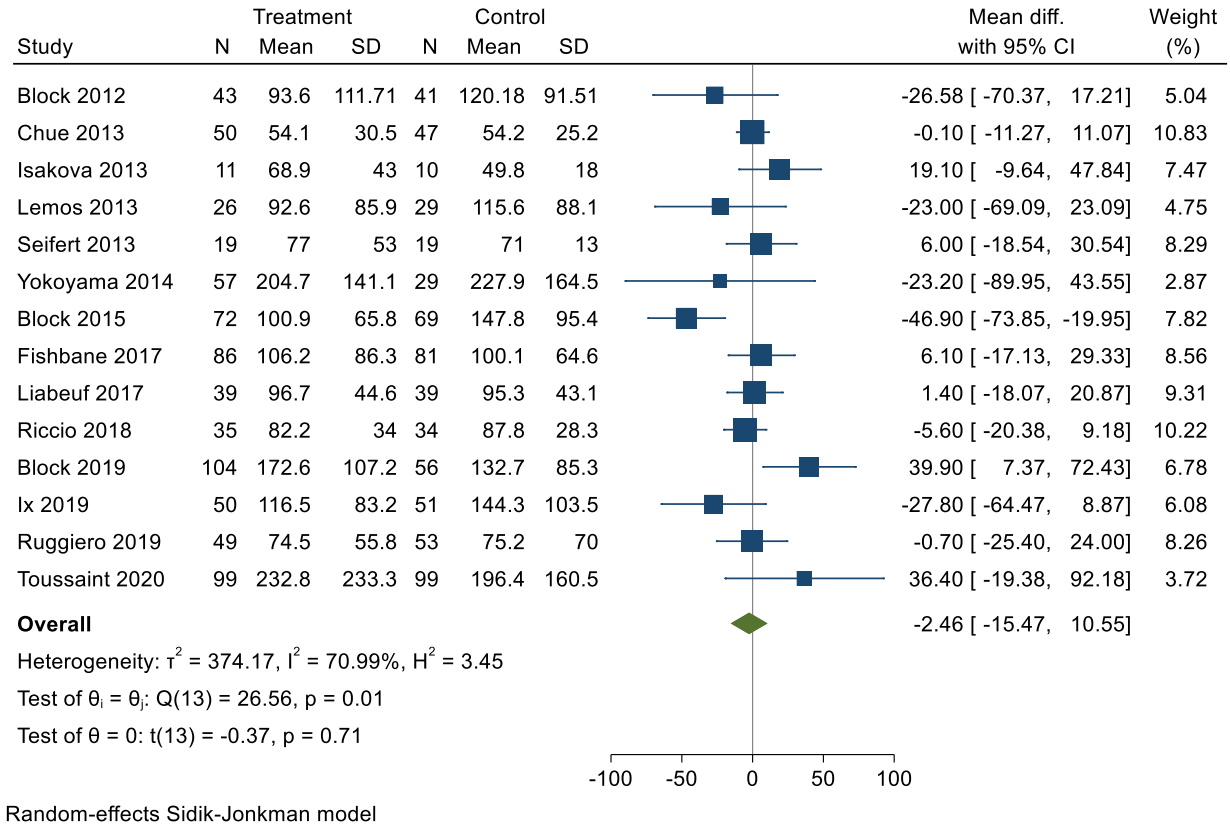
Supplemental Figure 4a: Effect of non-calcium phosphate binders compared to placebo on eGFR.



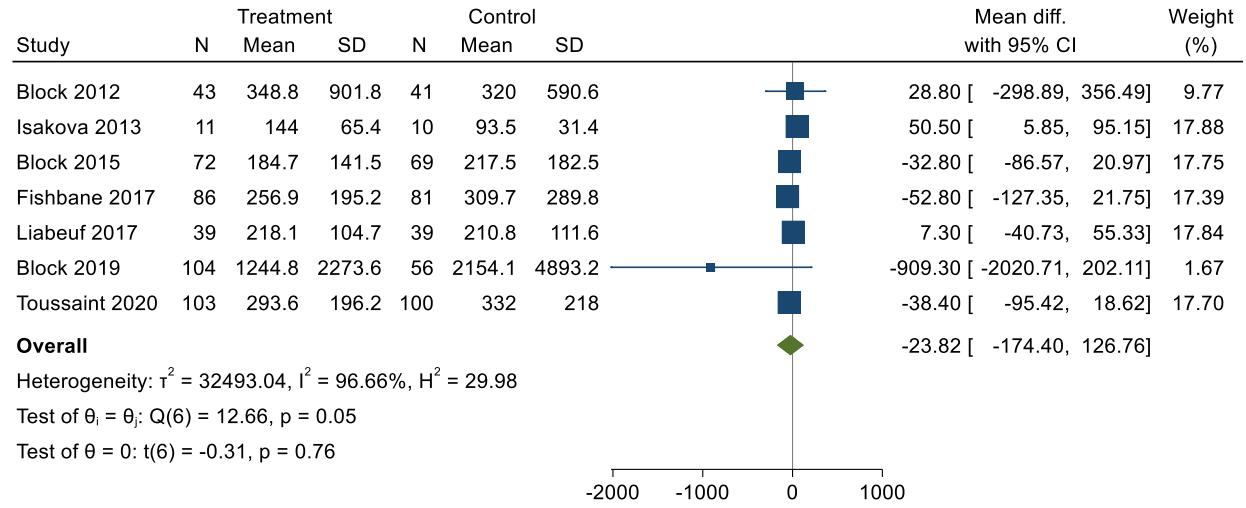
Supplemental Figure 4b: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on eGFR.



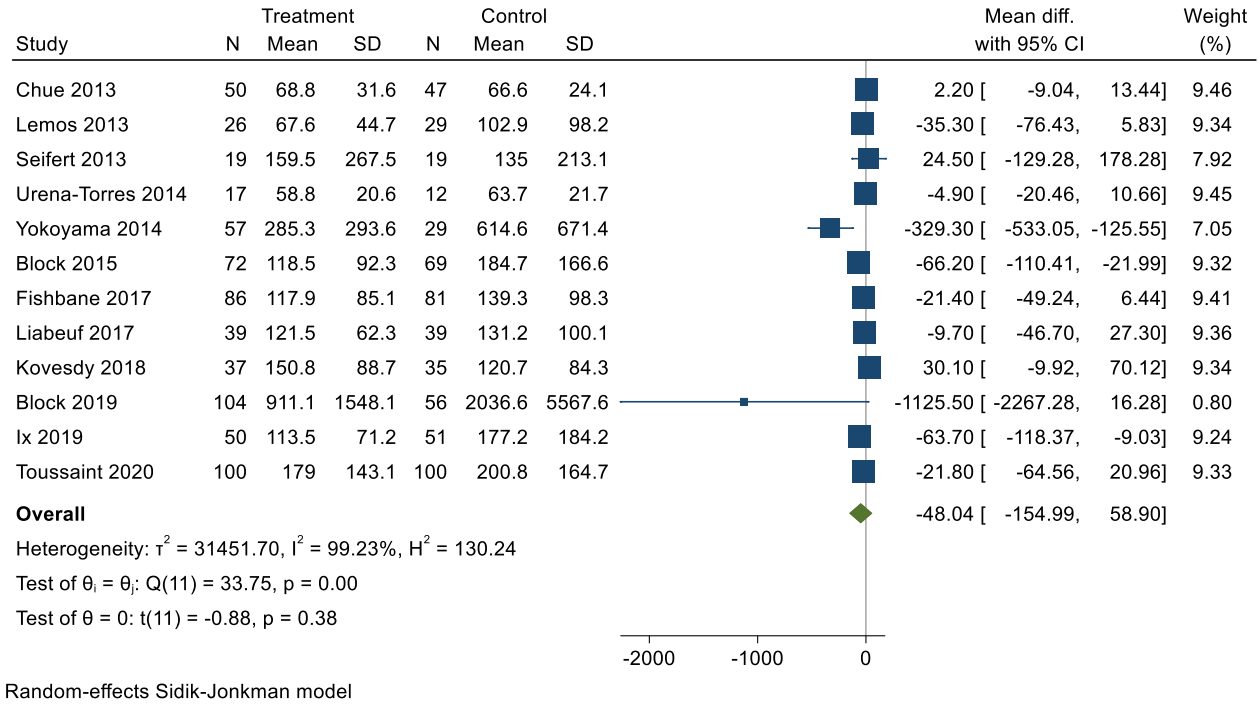
Supplemental Figure 5: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on PTH.



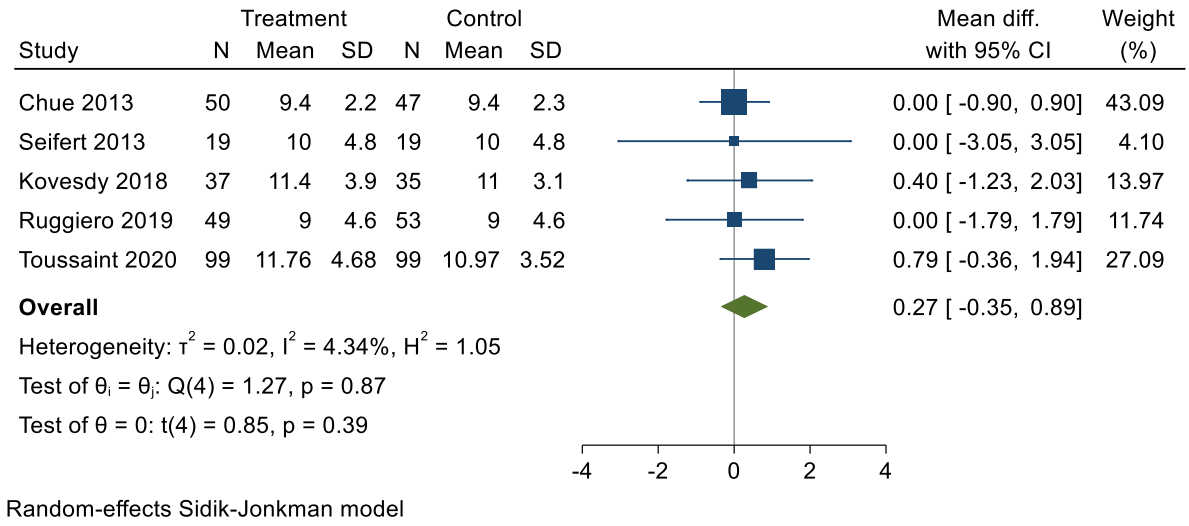
Supplemental Figure 6a: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on cFGF23.



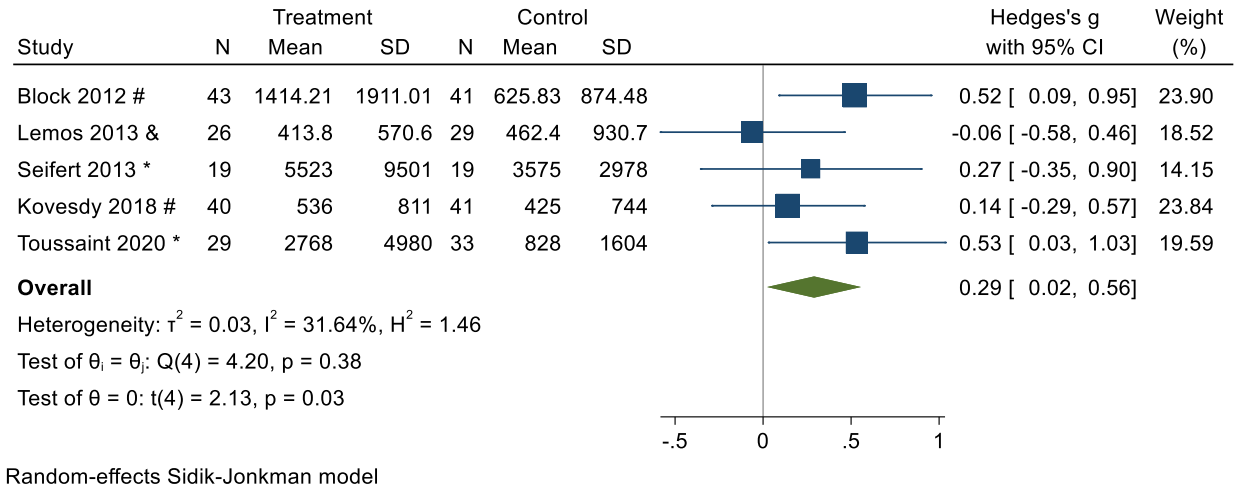
Supplemental Figure 6b: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on iFGF23.



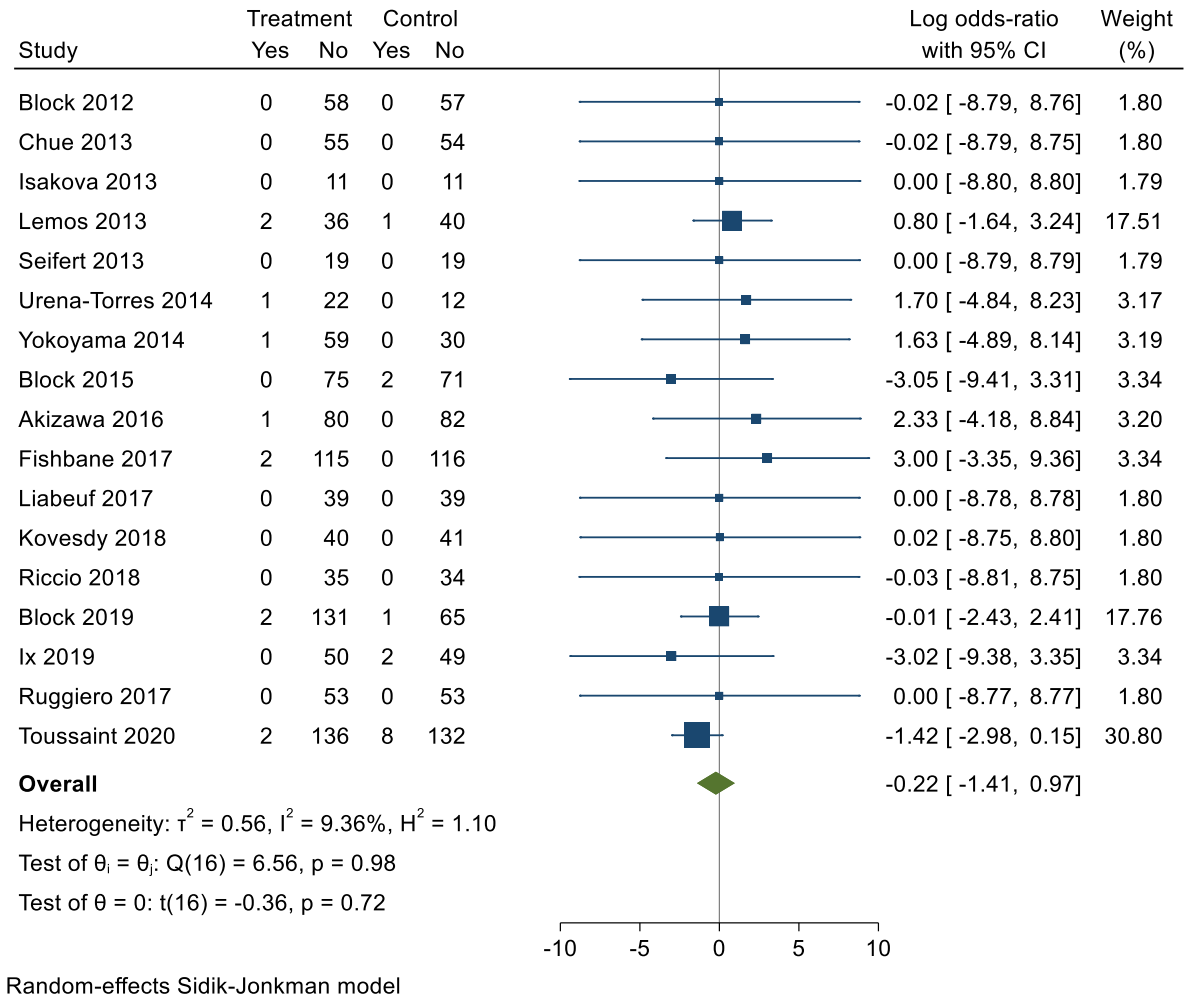
Supplemental Figure 7: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on PWV.



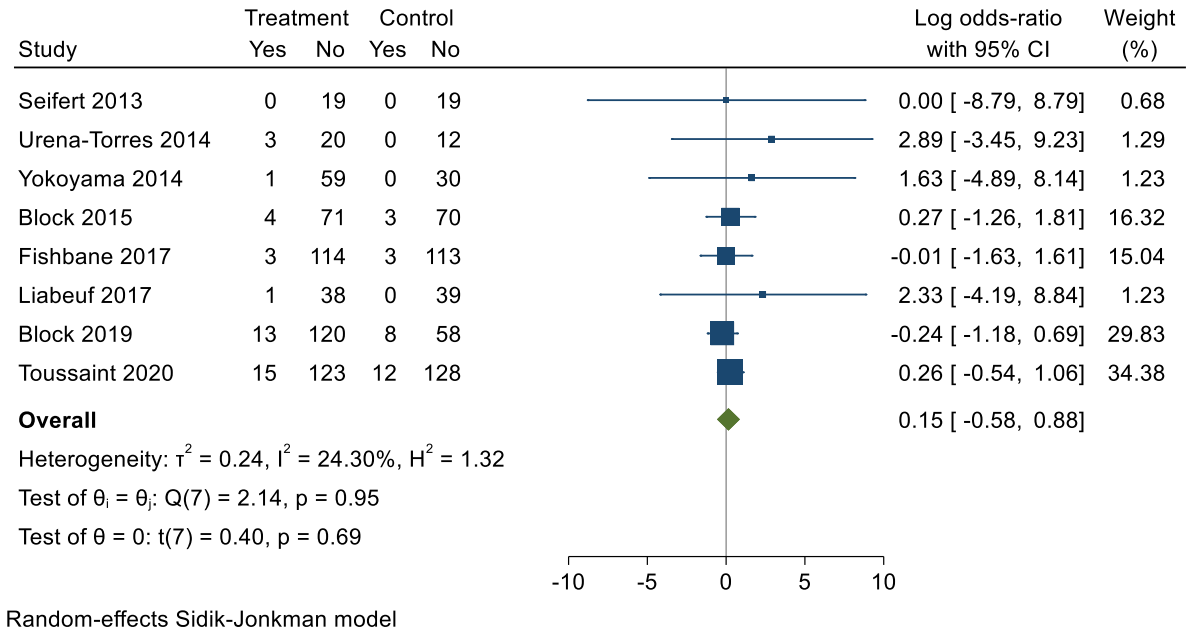
Supplemental Figure 8: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on vascular calcification.



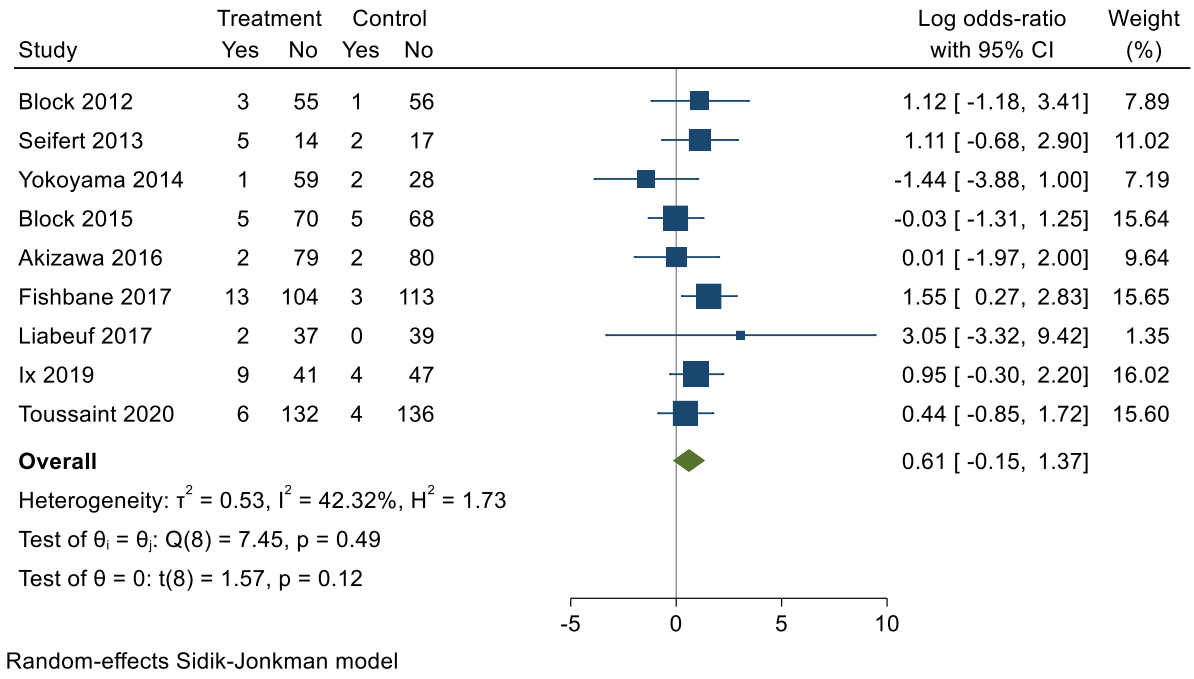
Supplemental Figure 9: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on mortality.



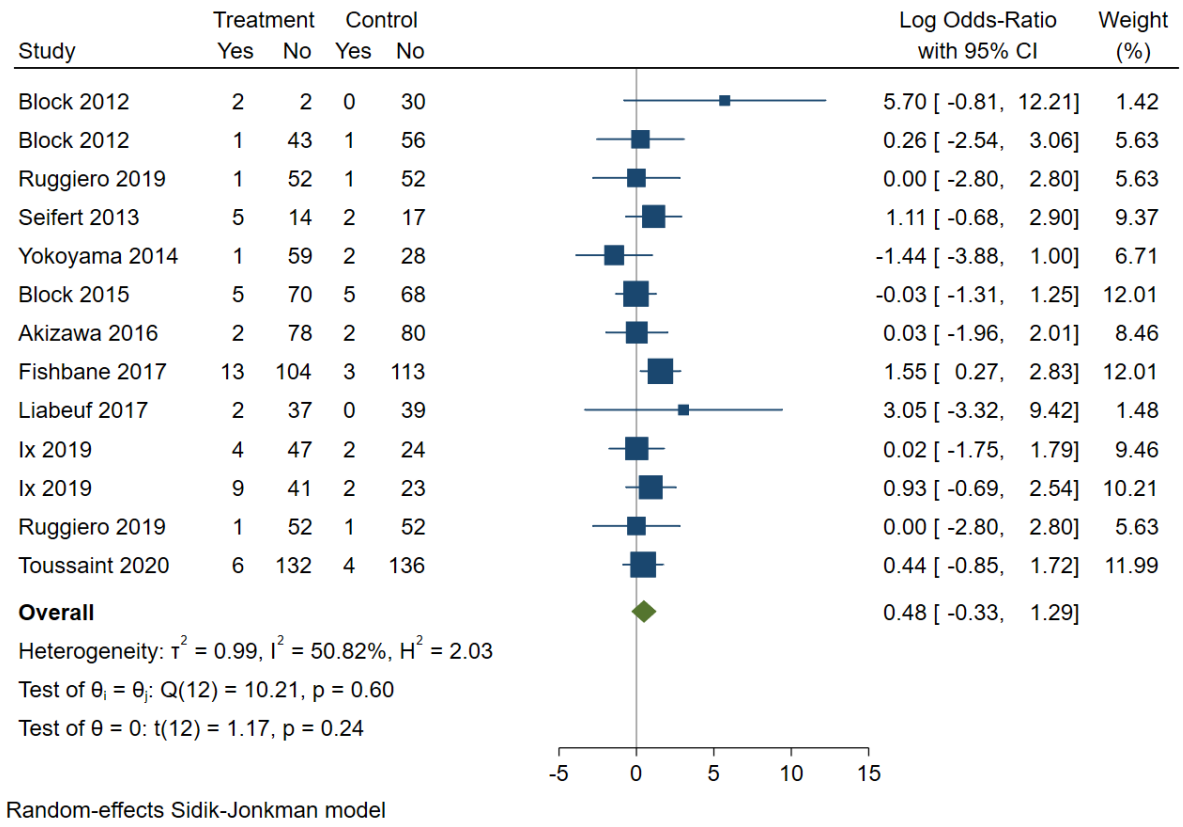
Supplemental Figure 10: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on cardiovascular events.



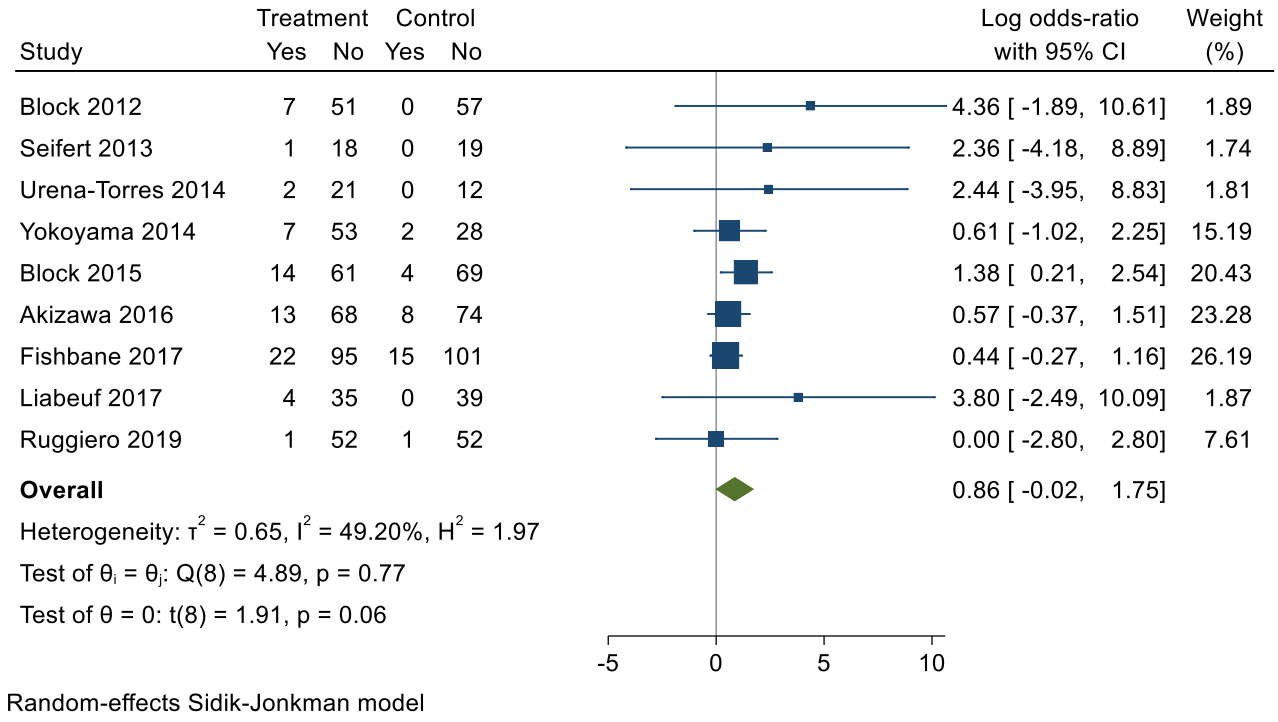
Supplemental Figure 11a: Effect of non-calcium-based phosphate binders compared to placebo on nausea.



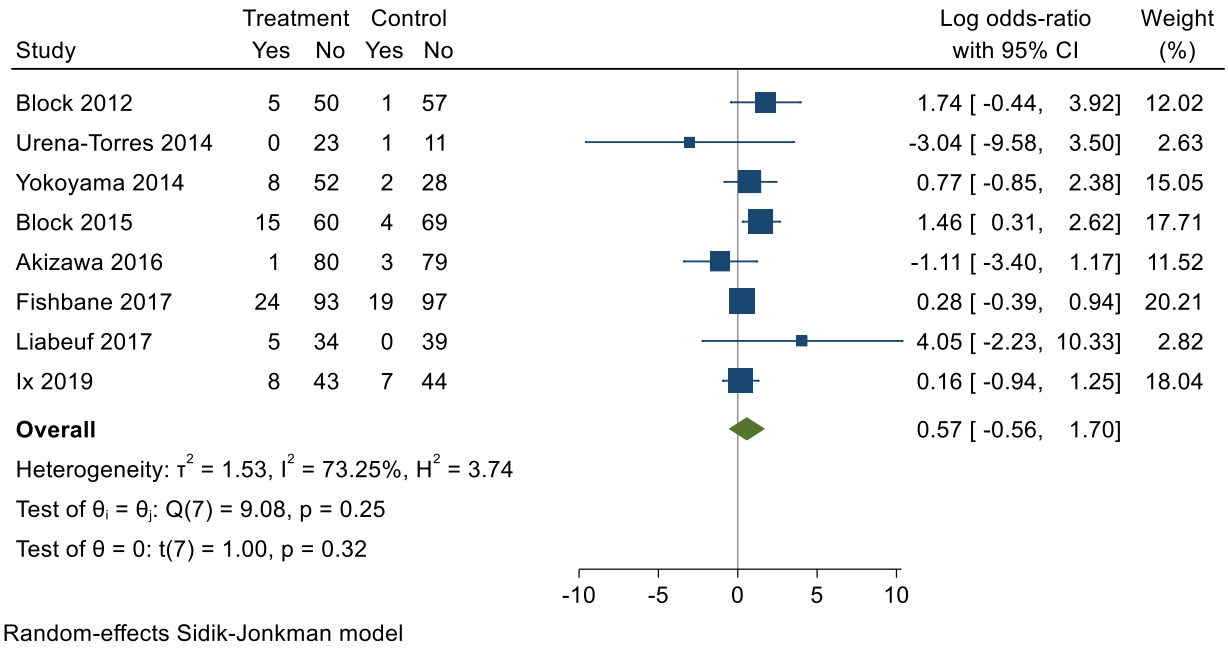
Supplemental Figure 11b: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on nausea.



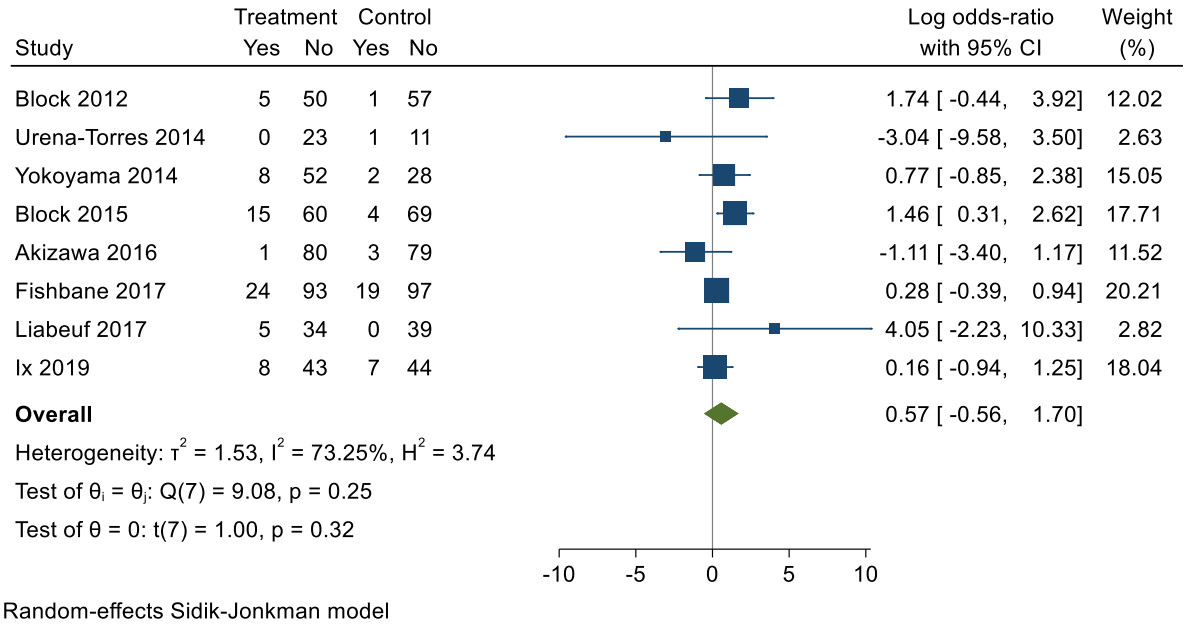
Supplemental Figure 12: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on constipation.



Supplemental Figure 13a: Effect of non-calcium-based phosphate binders compared to placebo on diarrhea.



Supplemental Figure 13b: Effect of non-calcium-based phosphate binders compared to placebo or no study treatment on diarrhea.



Supplemental Figure 14: Effect of non-calcium phosphate binders compared to placebo on cessation of study medication.