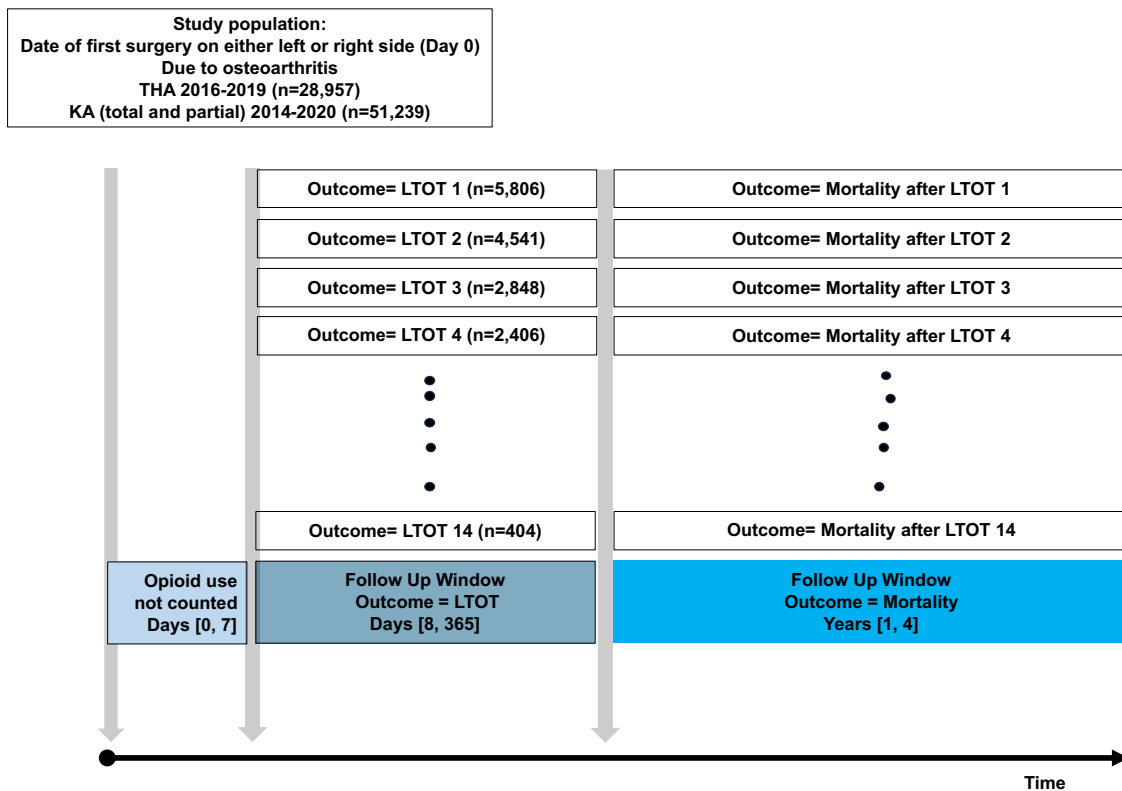


SUPPLEMENTARY DATA

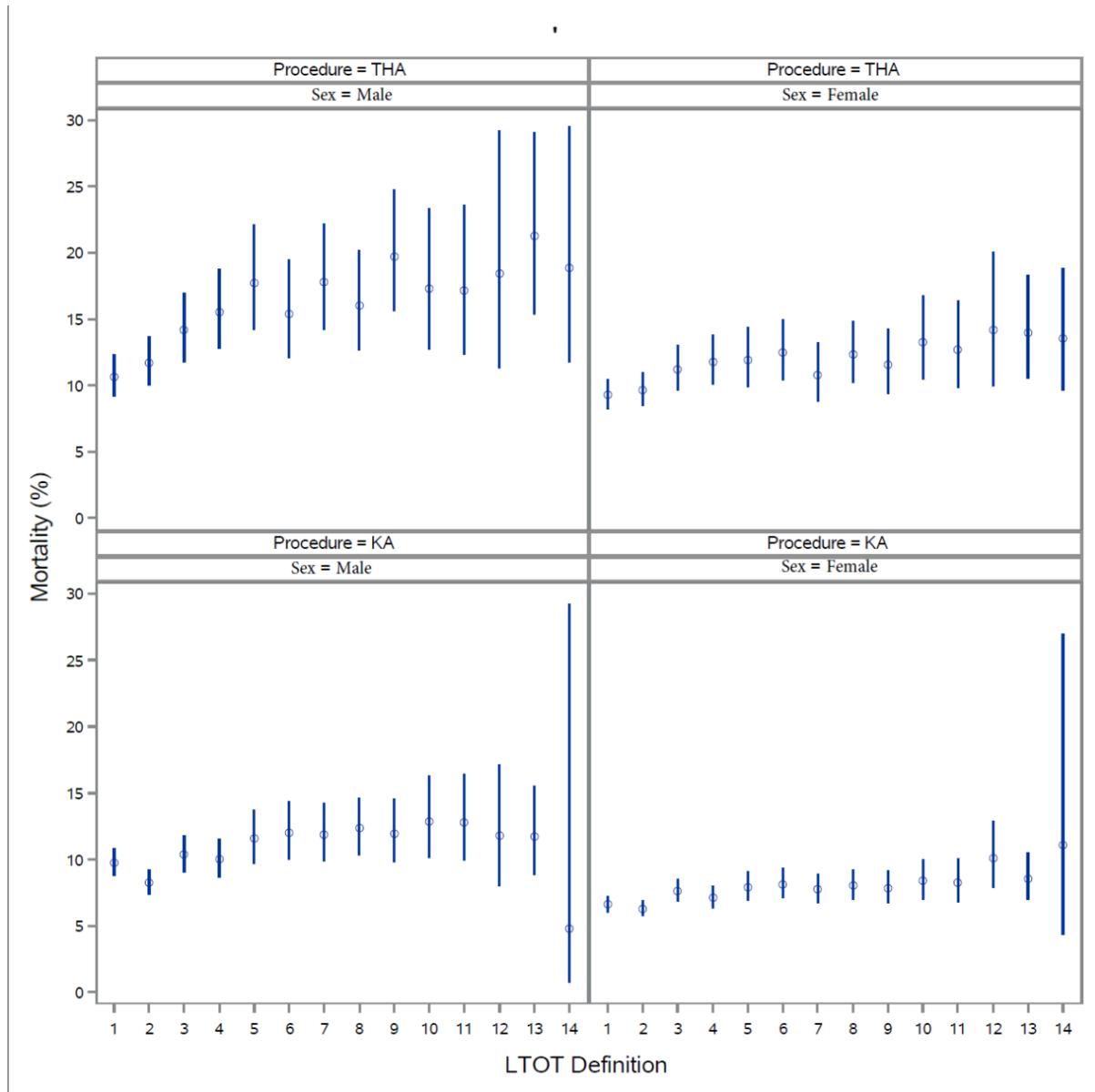
Supplementary Table 1. The Anatomical Classification System codes (ATC) used to identify opioids and oral morphine equivalent (OME) conversion factors used [17]

Drug	ATC	Administration method	Conversion factor
Morphine	N02AA01	Oral	1.0
	N02AA01	Parenteral	3.0
Hydromorphone	N02AA03	Oral	4.0
Oxycodone	N02AA05	Oral	1.5
		Parenteral	3.0
Tramadol	N02AX02	Oral	0.2
Tapentadol	N02AX06	Oral	0.4
Codeine	R05DA04	Oral	0.15
Pethidine	N02AB02	Oral	0.4
Buprenorphine	N02AE01	Parenteral	75
	N02AE01	Sublingual	10
	N02AE01	Transdermal	75
Fentanyl	N02AB03	Sublingual	130
	N02AB03	Transdermal	100

Supplementary Figure 1. Study design. THA: total hip arthroplasty, KA: knee arthroplasty, LTOT: long-term opioid therapy.



Supplementary Figure 2. 4-year mortality in patients fulfilling LTOT definitions in THA and KA patients separately for male and female patients. For abbreviations, see Supplementary Figure 1.



Supplementary Figure 3. 4-year mortality in patients fulfilling LTOT definitions in THA and KA patients separately for patients with low Charlson comorbidity index (CCI). For abbreviations, see Supplementary Figure 1.

