

ONLINE SUPPLEMENTARY DATA

Supplementary Table 1. All-cause 5-year healthcare costs for incident systemic sclerosis patients, systemic sclerosis patients with incident interstitial lung disease, and systemic sclerosis patients with incident pulmonary arterial hypertension (mutually exclusive cohorts).

	Incident SSc N=1,753	SSc with Incident ILD* N=60	SSc with Incident PAH N=21
Mean (SD) Costs	\$93,912 (\$152,282)	\$216,045 (\$374,092)	\$215,538 (\$206,321)
95% CI around the mean	\$86,778- \$101,045	\$119,407- \$312,683	\$121,622- \$309,454
Median (IQR)	\$52,337 (\$28,308- \$101,348)	\$101,889 (\$65,037- \$232,210)	\$157,764 (\$82,136- \$251,131)

*Significantly different from the incident SSc patients using *t*-test and non-parametric tests.

No statistical comparisons were done with the SSc with incident PAH group because of small sample sizes.

Costs were adjusted to 2014 US \$.

CI, confidence interval; ILD, interstitial lung disease; IQR, interquartile range; PAH, pulmonary arterial hypertension; SD, standard deviation; SSc, systemic sclerosis.

Supplementary Table 2. All-cause healthcare costs and utilization for incident systemic sclerosis patients (N=1,957) by year over 5 years of follow-up.

	Year 1	Year 2	Year 3	Year 4	Year 5
Inpatient admissions	287 (15%)	288 (15%)	257 (13%)	297 (15%)	316 (16%)
Mean (SD) Costs	\$4,691 (\$30,235)	\$3,780 (\$25,011)	\$3,770 (\$20,907)	\$4,492 (\$21,732)	\$6,101 (\$42,813)

95% CI around the mean	\$3,351-\$6,031	\$2,672-\$4,889	\$2,843-\$4,697	\$3,528-\$5,455	\$4,203-\$7,999
Median (IQR)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0-\$0)
Emergency room visits	480 (25%)	449 (23%)	479 (24%)	482 (25%)	485 (25%)
Mean (SD) Costs	\$337 (\$2,915)	\$290 (\$1,353)	\$290 (\$1,372)	\$311 (\$1,312)	\$261 (\$988)
95% CI around the mean	\$207-\$466	\$230-\$350	\$229-\$351	\$253-\$369	\$218-\$305
Median (IQR)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0-\$0)
Outpatient office visits	1,942 (99%)	1,904 (97%)	1,899 (97%)	1,884 (96%)	1,885 (96%)
Mean (SD) Costs	\$1,392 (\$1,739)	\$1,164 (\$1,742)	\$1,153 (\$2,066)	\$1,168 (\$1,825)	\$1,173 (\$1,778)
95% CI around the mean	\$1,315-\$1,469	\$1,087-\$1,242	\$1,062-\$1,245	\$1,087-\$1,249	\$1,094-\$1,251
Median (IQR)	\$1,092 (\$665-\$1,768)	\$860 (\$485-\$1,475)	\$841 (\$476-\$1,437)	\$859 (\$456-\$1,481)	\$856 (\$476-\$1,452)
Other outpatient services	1,942 (99%)	1,916 (98%)	1,908 (97%)	1,895 (97%)	1,896 (97%)

Mean (SD) Costs	\$9,060 (\$24,174)	\$7,779 (\$20,213)	\$7,327 (\$15,363)	\$7,869 (\$17,161)	\$8,677 (\$19,660)
95% CI around the mean	\$7,989- \$10,132	\$6,883- \$8,675	\$6,646- \$8,008	\$7,108- \$8,629	\$7,806- \$9,549
Median (IQR)	\$3,972 (\$1,663- \$8,911)	\$3,377 (\$1,125- \$7,435)	\$2,997 (\$1,004- \$7,527)	\$3,172 (\$1,167- \$7,851)	\$3,202 (\$1,094- \$8,250)
Outpatient pharmacy	1,904 (97%)	1,897 (97%)	1,878 (96%)	1,883 (96%)	1,878 (96%)
Mean (SD) Costs	\$5,418 (\$9,359)	\$5,822 (\$10,715)	\$5,973 (\$11,565)	\$6,486 (\$13,691)	\$7,055 (\$17,593)
95% CI around the mean	\$5,003- \$5,833	\$5,347- \$6,297	\$5,460- \$6,485	\$5,879- \$7,093	\$6,275- \$7,835
Median (IQR)	\$2,911 (\$1,194- \$5,916)	\$2,850 (\$1,037- \$6,237)	\$2,842 (\$941- \$6,042)	\$2,745 (\$887- \$6,027)	\$2,540 (\$756- \$5,931)
Mean (SD) total healthcare costs	\$20,898 (\$45,958)	\$18,836 (\$41,476)	\$18,513 (\$34,681)	\$20,325 (\$37,521)	\$23,268 (\$59,129)
95% CI around the mean	\$18,860- \$22,935	\$16,997- \$20,674	\$16,975- \$20,050	\$18,662- \$21,989	\$20,646- \$25,889
Median (IQR)	\$10,152 (\$5,119- \$20,347)	\$9,072 (\$4,333- \$19,042)	\$8,561 (\$4,111- \$19,151)	\$8,623 (\$4,163- \$20,401)	\$8,870 (\$3,845- \$20,971)

Costs were adjusted to 2014 US \$.

CI, confidence interval; IQR, interquartile range; SD, standard deviation.

Supplementary Table 3. All-cause healthcare costs and utilization for systemic sclerosis patients with incident interstitial lung disease (N=219) by year over 5 years of follow-up.

	Year 1	Year 2	Year 3	Year 4	Year 5
Inpatient admissions	46 (21%)	38 (17%)	26 (12%)	42 (19%)	52 (24%)
Mean (SD) Costs	\$7,693 (\$35,008)	\$7,643 (\$44,068)	\$3,502 (\$19,894)	\$7,735 (\$37,133)	\$22,609 (\$137,314)
95% CI around the mean	\$3,031- \$12,356	\$1,774- \$13,512	\$853- \$6,152	\$2,790- \$12,681	\$4,322- \$40,897
Median (IQR)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0-\$0)
Emergency room visits	59 (27%)	66 (30%)	59 (27%)	63 (29%)	74 (34%)
Mean (SD) Costs	\$450 (\$1,640)	\$474 (\$1,660)	\$461 (\$3,045)	\$425 (\$2,878)	\$344 (\$981)
95% CI around the mean	\$231- \$668	\$253- \$696	\$56-\$867	\$42-\$808	\$213-\$475
Median (IQR)	\$0 (\$0- \$128)	\$0 (\$0- \$206)	\$0 (\$0-\$95)	\$0 (\$0- \$170)	\$0 (\$0-\$201)
Outpatient office visits	219 (100%)	216 (99%)	216 (99%)	215 (98%)	215 (98%)
Mean (SD) Costs	\$1,794 (\$1,114)	\$1,410 (\$942)	\$1,458 (\$1,133)	\$1,455 (\$1,082)	\$1,567 (\$1,324)

95% CI around the mean	\$1,645-\$1,942	\$1,284-\$1,535	\$1,307-\$1,609	\$1,311-\$1,599	\$1,390-\$1,743
Median (IQR)	\$1,553 (\$943-\$2,432)	\$1,195 (\$698-\$1,905)	\$1,191 (\$653-\$1,947)	1,176 (\$730-\$1,954)	\$1,274 (\$714-\$2,022)
Other outpatient services	219 (100%)	216 (99%)	216 (99%)	216 (99%)	216 (99%)
Mean (SD) Costs	\$14,051 (\$29,227)	\$13,375 (\$45,449)	\$12,387 (\$32,053)	\$9,485 (\$12,672)	\$14,578 (\$28,228)
95% CI around the mean	\$10,159-\$17,944	\$7,322-\$19,428	\$8,118-\$16,656	\$7,797-\$11,172	\$10,819-\$18,338
Median (IQR)	\$8,340 (\$3,743-\$16,515)	\$5,700 (\$2,333-\$12,163)	\$5,440 (\$2,188-\$11,814)	\$5,091 (\$2,009-\$11,745)	\$5,846 (\$2,282-\$14,276)
Outpatient pharmacy	217 (99%)	214 (98%)	212 (97%)	211 (96%)	213 (97%)
Mean (SD) Costs	\$11,260 (\$17,773)	\$13,013 (\$20,857)	\$13,476 (\$24,024)	\$14,112 (\$24,758)	\$16,348 (\$31,967)
95% CI around the mean	\$8,893-\$13,627	\$10,235-\$15,791	\$10,276-\$16,675	\$10,815-\$17,409	\$12,091-\$20,605
Median (IQR)	\$5,101 (\$2,124-\$11,826)	\$4,874 (\$1,881-\$13,507)	\$4,718 (\$1,949-\$12,712)	\$4,803 (\$1,991-\$14,742)	\$4,456 (\$1,560-\$12,202)
Mean (SD) total healthcare costs	\$35,248 (\$67,535)	\$35,916 (\$81,073)	\$31,285 (\$55,403)	\$33,212 (\$56,549)	\$55,446 (\$160,237)

95% CI around the mean	\$26,254- \$44,243	\$25,118- \$46,713	\$23,906- \$38,663	\$25,681- \$40,744	\$34,106- \$76,787
Median (IQR)	\$18,953 (\$10,702- \$32,748)	\$16,686 (\$7,391- \$34,428)	\$15,020 (\$7,078- \$35,021)	\$13,924 (\$6,905- \$37,880)	\$17,580 (\$7,658- \$39,485)

Costs were adjusted to 2014 US \$.

CI, confidence interval; IQR, interquartile range; SD, standard deviation.

Supplementary Table 4. All-cause healthcare costs and utilization for systemic sclerosis patients with incident pulmonary arterial hypertension (N=108) by year over 5 years of follow-up.

	Year 1	Year 2	Year 3	Year 4	Year 5
Inpatient admissions	34 (31%)	21 (19%)	24 (22%)	25 (23%)	32 (30%)
Mean (SD) costs	\$9,203 (\$30,863)	\$5,383 (\$18,152)	\$5,641 (\$18,349)	\$8,317 (\$30,768)	\$12,413 (\$61,974)
95% CI around the mean	\$3,316- \$15,091	\$1,920- \$8,846	\$2,141- \$9,141	\$2,448- \$14,186	\$591- \$24,235
Median (IQR)	\$0 (\$0- \$6,607)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0-\$0)	\$0 (\$0- \$4,734)
Emergency room visits	39 (36%)	35 (32%)	36 (33%)	36 (33%)	36 (33%)
Mean (SD) costs	\$789 (\$2,723)	\$703 (\$4,281)	\$785 (\$4,227)	\$347 (\$876)	\$365 (\$1,026)
95% CI around the mean	\$269- \$1,308	\$-114- \$1,519	\$-22- \$1,591	\$180- \$514	\$169- \$561

Median (IQR)	\$0 (\$0-\$234)	\$0 (\$0-\$220)	\$0 (\$0-\$257)	\$0 (\$0-\$191)	\$0 (\$0-\$282)
Outpatient office visits	108 (100%)	106 (98%)	105 (97%)	105 (97%)	103 (95%)
Mean (SD) costs	\$1,912 (\$1,157)	\$1,640 (\$1,167)	\$1,508 (\$1,349)	\$1,594 (\$1,319)	\$1,579 (\$1,378)
95% CI around the mean	\$1,691-\$2,132	\$1,417-\$1,862	\$1,250-\$1,765	\$1,343-\$1,846	\$1,316-\$1,842
Median (IQR)	\$1,754 (\$1,116-\$2,496)	\$1,449 (\$887-\$2,124)	\$1,221 (\$710-\$1,918)	\$1,199 (\$696-\$2,255)	\$1,292 (\$549-\$2,113)
Other outpatient services	108 (100%)	105 (97%)	106 (98%)	105 (97%)	105 (97%)
Mean (SD) costs	\$17,355 (\$22,291)	\$12,984 (\$20,862)	\$9,850 (\$13,808)	\$13,565 (\$20,448)	\$18,002 (\$35,562)
95% CI around the mean	\$13,103-\$21,608	\$9,005-\$16,964	\$7,217-\$12,484	\$9,665-\$17,466	\$11,218-\$24,785
Median (IQR)	\$10,790 (\$6,374-\$18,557)	\$6,219 (\$3,091-\$13,649)	\$5,470 (\$2,649-\$10,796)	\$6,633 (\$3,173-\$16,165)	\$7,205 (\$2,464-\$15,388)
Outpatient pharmacy	107 (99%)	105 (97%)	103 (95%)	105 (97%)	106 (98%)
Mean (SD) costs	\$20,769 (\$24,306)	\$24,294 (\$30,577)	\$26,671 (\$33,606)	\$27,796 (\$34,607)	\$30,962 (\$37,476)

95% CI around the mean	\$16,132-\$25,405	\$18,462-\$30,127	\$20,260-\$33,081	\$21,195-\$34,398	\$23,813-\$38,110
Median (IQR)	\$8,537 (\$3,203-\$29,922)	\$8,249 (\$3,567-\$33,120)	\$10,900 (\$3,063-\$39,975)	\$9,677 (\$3,029-\$39,700)	\$12,356 (\$2,639-\$70,530)
Mean (SD) total healthcare costs	\$50,028 (\$55,334)	\$45,003 (\$51,658)	\$44,454 (\$43,827)	\$51,620 (\$55,463)	\$63,320 (\$98,531)
95% CI around the mean	\$39,473-\$60,583	\$35,149-\$54,858	\$36,094-\$52,814	\$41,040-\$62,199	\$44,524-\$82,115
Median (IQR)	\$33,273 (\$16,912-\$63,278)	\$25,490 (\$10,880-\$70,186)	\$24,106 (\$11,030-\$77,373)	\$32,511 (\$9,437-\$74,692)	\$37,174 (\$11,368-\$88,168)

Costs were adjusted to 2014 US \$.

CI, confidence interval; IQR, interquartile range; SD, standard deviation.

Supplementary Figure 1.

