

COVID-19 Massachusetts County by County Hospital Bed Demand versus Supply

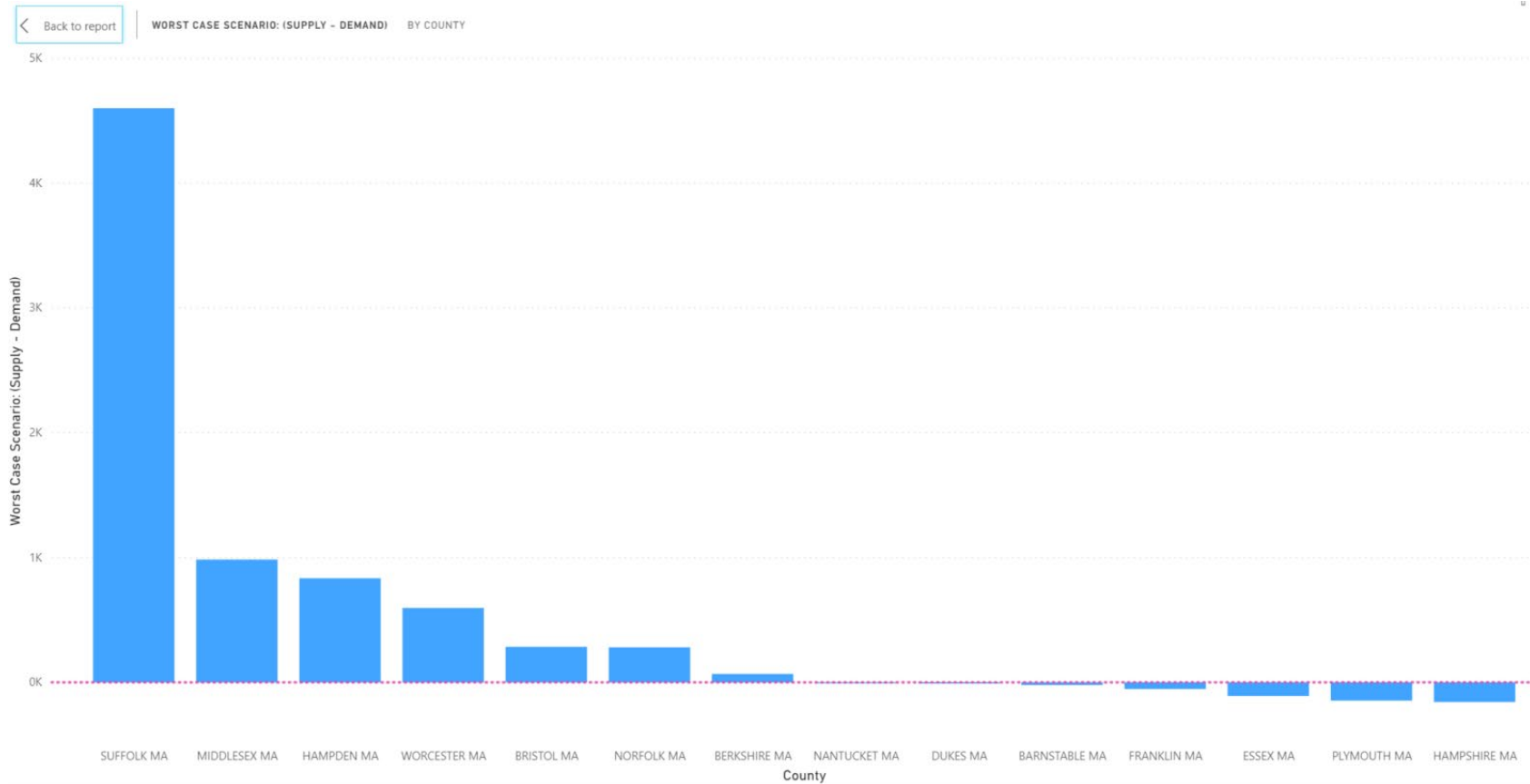


Fig 1: The above figure shows Supply minus Demand at peak using the Imperial-College-COVID19-NPI-modelling-16-03-2020 and the exponential regression model in the article published. All appearing above the red dashed line have capacity even at peak. All Counties that at or falling below the red line are will not be able to meet demand. In this scenario, peak will hit mid-May. Planning for servicing counties that either do not have hospitals or overburdened systems should be made. Some Counties will have capacity to redirect to needed areas.

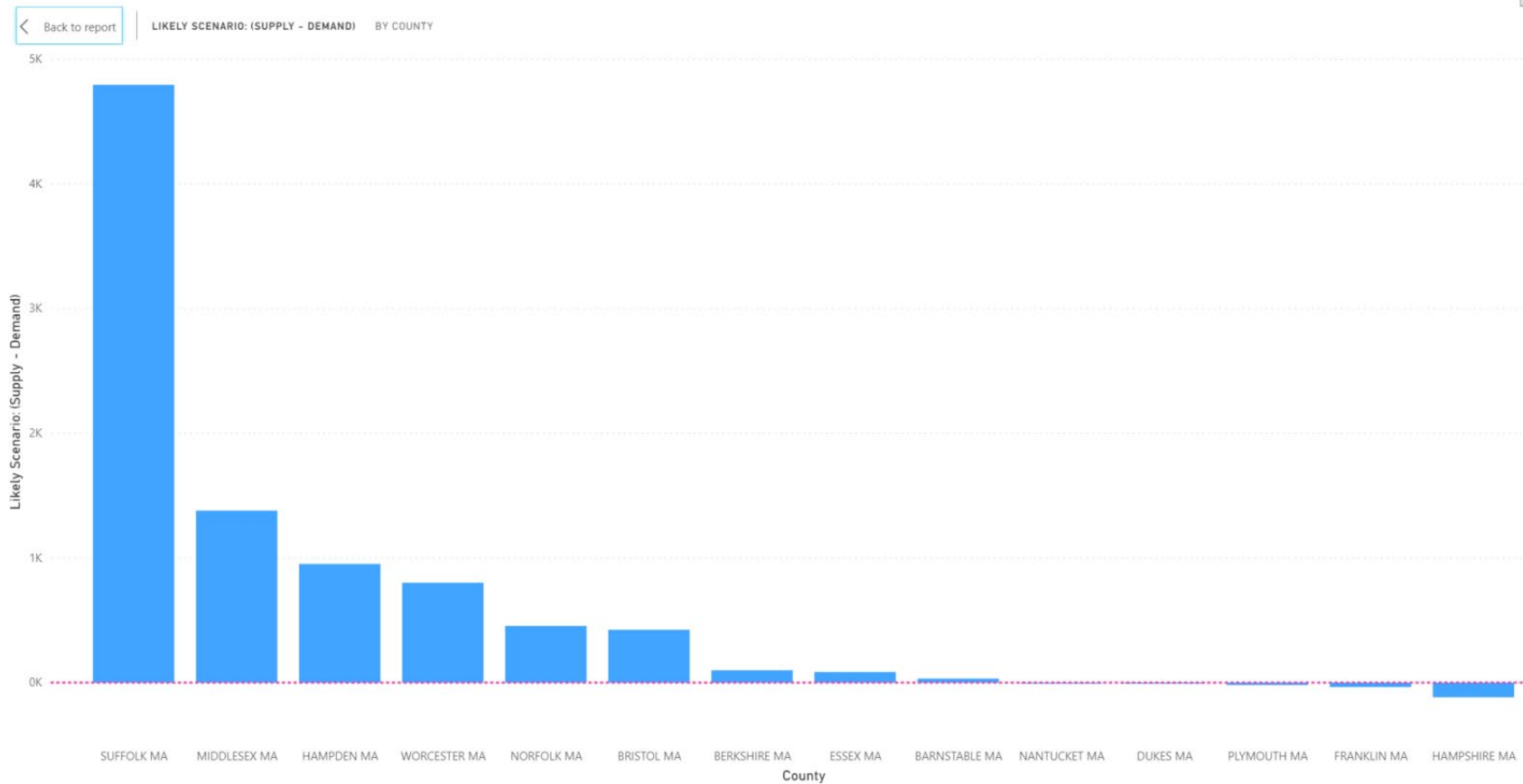


Fig 2: In the more likely scenario where some precautions are taken to flatten the curve, data suggests some Counties will still be unable to meet the needed demand. The peak will hit in early June. Planning for servicing counties that either do not have hospitals or overburdened systems should be made. Some Counties will have capacity to redirect to needed areas.

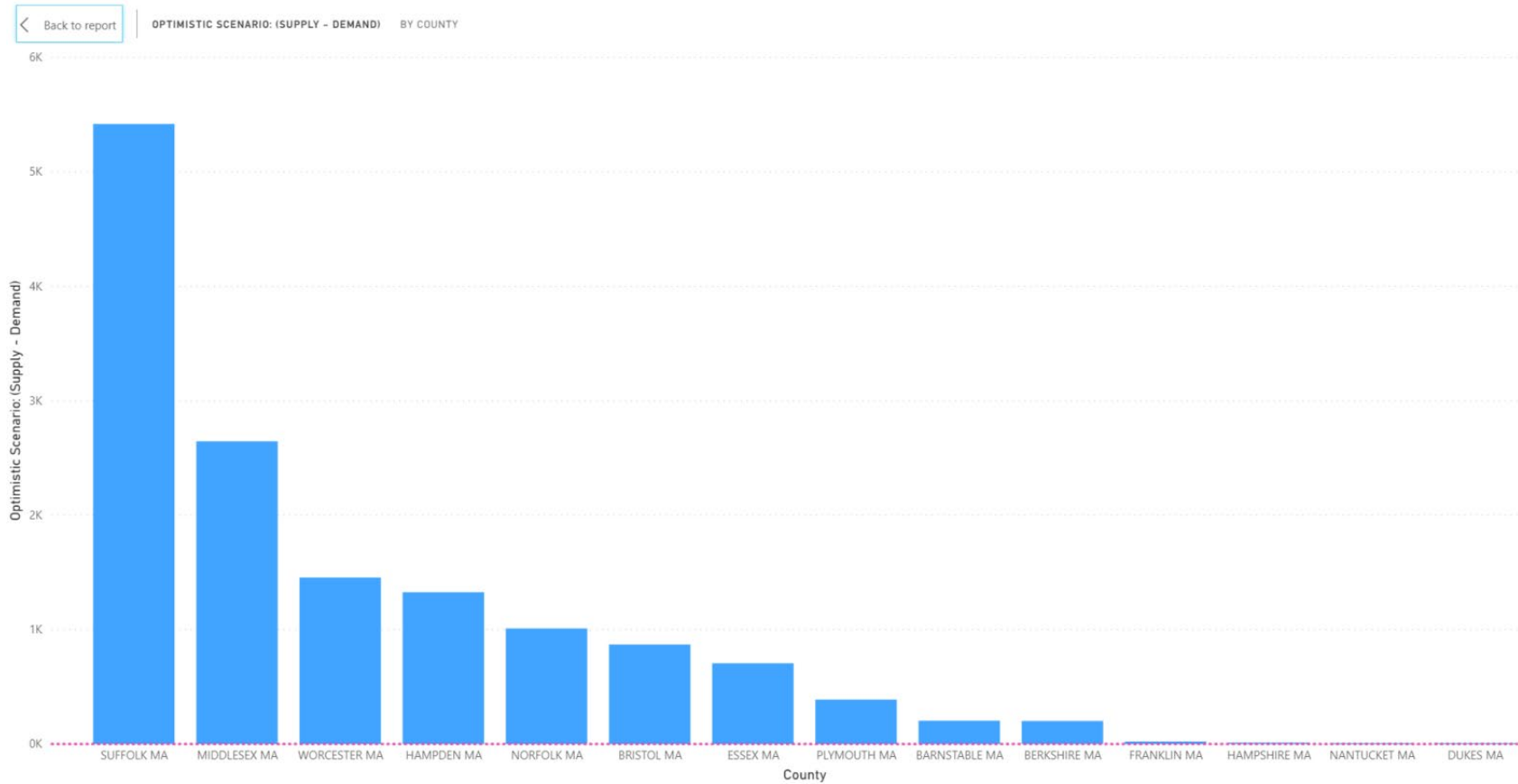


Fig 3: In the scenario where all precautions are taken to flatten the curve, data suggests almost all Counties will be able to meet the needed demand. The peak will hit in June. Planning for servicing counties that either do not have hospitals or overburdened systems should be made. Several Counties will have capacity to redirect to needed areas.

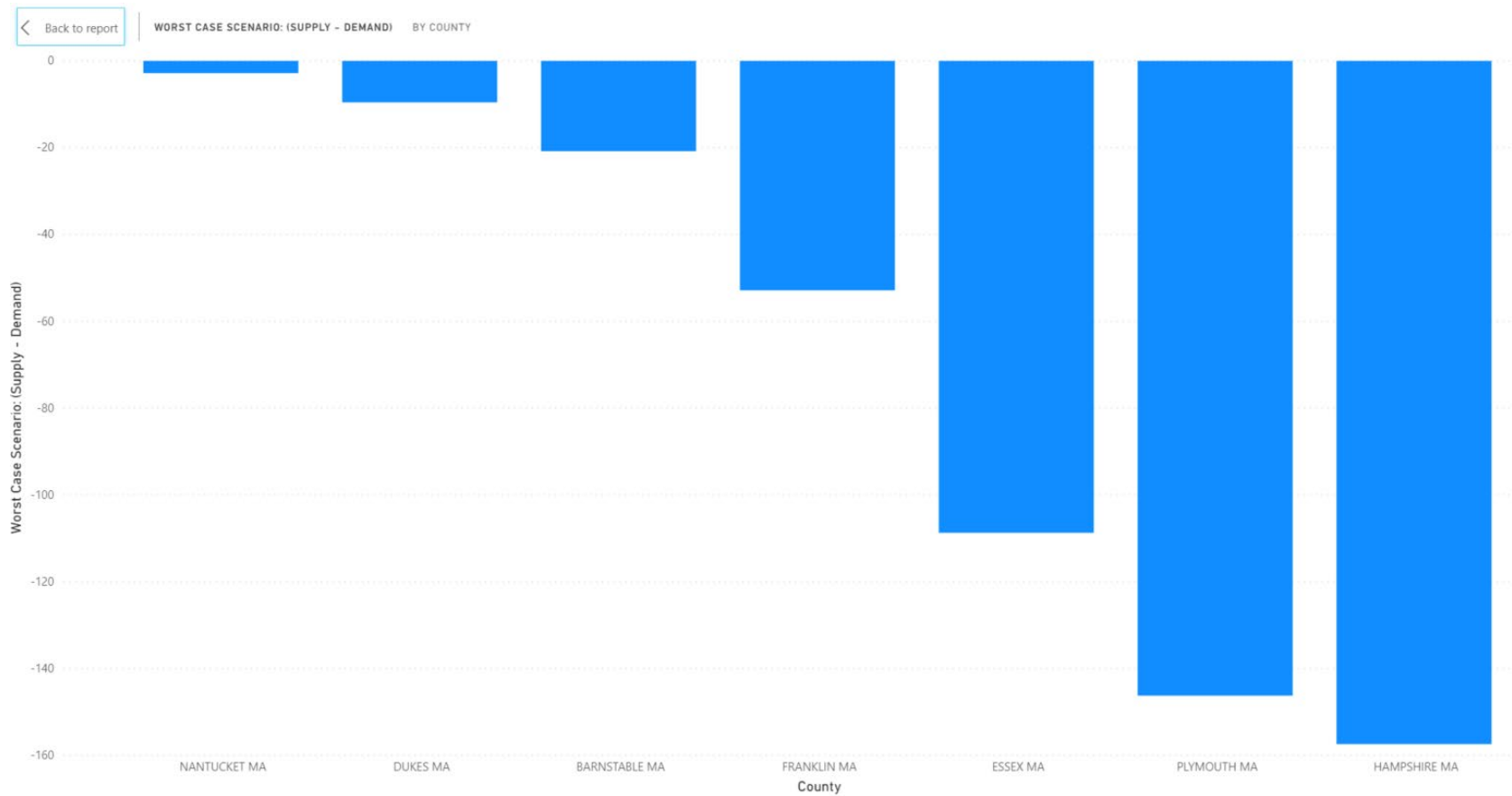


Fig 4: The figure above represents Counties that will run out of beds at peak for the Worst-Case scenario

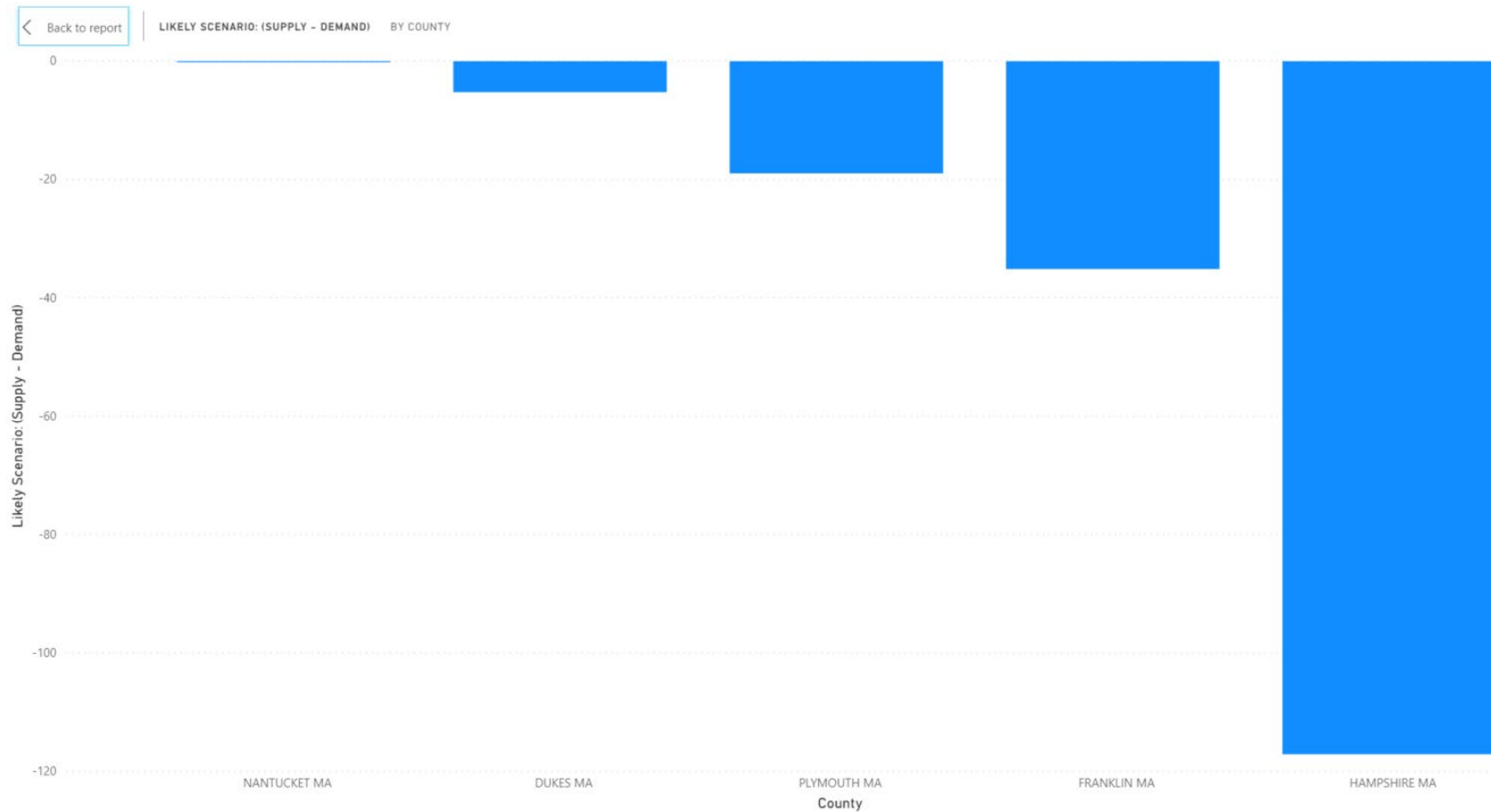


Fig 5: The figure above represents Counties that will run out of beds at peak for the Likely scenario

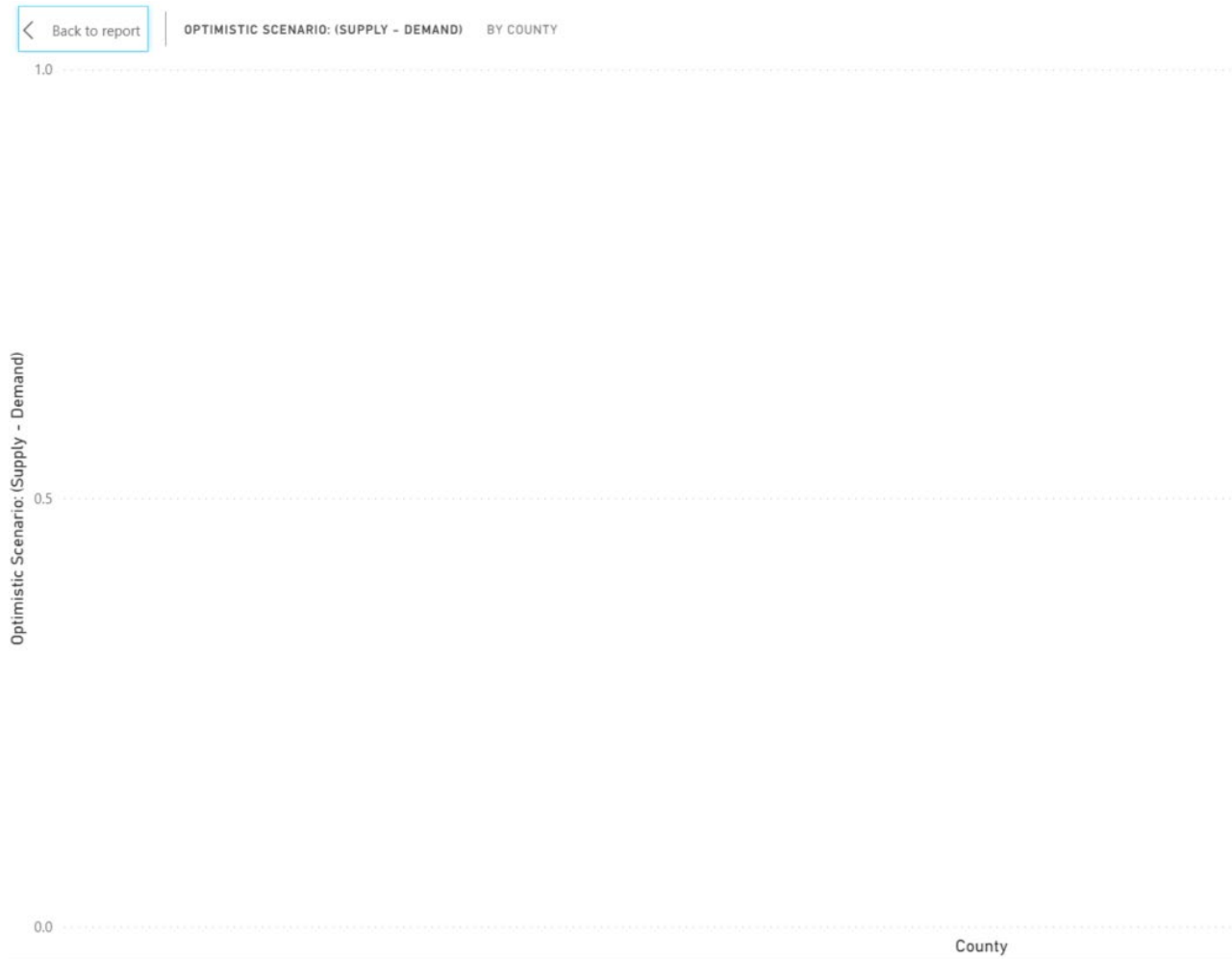


Fig 6: No shortage of beds for the Optimistic scenario

County	State	Total Population	65+ Population	Beds	With Full Precautions - Optimistic Scenario of needed Demand for Hospital Beds								With Some Precautions - Likely Scenario of needed Demand for Hospital Beds					With No Precautions - Worst Case Scenario of needed Demand for Hospital Beds					Counties to run out of beds (all precautions - Optimistic)	Counties to run out of beds (some precautions - Likely)	Counties to run out of beds (no precautions - Worstcase)
					O-April	O-May	O-June	O-Mid-June	O-July	O-August	L-Apr	L-May	L-June	L-July	L-August	W-April	W-May	Mid-May	W-June	W-July	W-August				
BARNSTABLE MA	MA	213900	71856	407	21	21	193	203	107	21	21	107	374	107	21	21	214	588	428	32	21				x
BERKSHIRE MA	MA	127751	33225	323	13	13	115	121	64	13	13	64	224	64	13	13	128	351	256	19	13				x
BRISTOL MA	MA	557016	110528	1399	56	56	501	529	279	56	56	279	975	279	56	56	557	1532	1114	84	56				x
DUKES MA	MA	17275	4563	25	2	2	16	16	9	2	2	9	30	9	2	2	17	48	35	3	2			x	x
ESSEX MA	MA	775860	154079	1443	78	78	698	737	388	78	78	388	1358	388	78	78	776	2134	1552	116	78				x
FRANKLIN MA	MA	70926	18106	89	7	7	64	67	35	7	7	35	124	35	7	7	71	195	142	11	7			x	x
HAMPDEN MA	MA	469188	91879	1773	47	47	422	446	235	47	47	235	821	235	47	47	469	1290	938	70	47				x
HAMPSHIRE MA	MA	161197	31518	165	16	16	145	153	81	16	16	81	282	81	16	16	161	443	322	24	16			x	x
MIDDLESEX MA	MA	1582857	286254	4150	158	158	1425	1504	791	158	158	791	2770	791	158	158	1583	4353	3166	237	158				x
NANTUCKET MA	MA	10912	2113	19	1	1	10	10	5	1	1	5	19	5	1	1	11	30	22	2	1			x	x
NORFOLK MA	MA	694389	137611	1670	69	69	625	660	347	69	69	347	1215	347	69	69	694	1910	1389	104	69				x
PLYMOUTH MA	MA	509114	109632	872	51	51	458	484	255	51	51	255	891	255	51	51	509	1400	1018	76	51			x	x
SUFFOLK MA	MA	780685	113270	6162	78	78	703	742	390	78	78	390	1366	390	78	78	781	2147	1561	117	78				x
WORCESTER MA	MA	818249	152011	2233	82	82	736	777	409	82	82	409	1432	409	82	82	818	2250	1636	123	82				x

Table 1: Table with Data showing all three scenarios