

Health Care Providers

Is Pickleball Driving Higher Health Care Utilization?

A Surprising Contributor to Senior Outpatient Utilization

Over the last week and a half, health care investors have questioned what's driving senior utilization higher. In our checks, a few themes emerged as potential drivers. Most were obvious such as the procedure backlog built-up from the pandemic, while some were speculative such as the removal of mask requirements following the end of the public health emergency. However, one potential driver stood out as unique and unexpected: an increase in pickleball injuries. As fascinated as we were surprised, we asked: "Could pickleball really be contributing to higher outpatient utilization?"

Pickleball is the Fastest Growing Sport in the Country

Pickleball is the fastest growing sport in the country. According to the [SFIA Topline Report](#), pickleball has grown from 3.5 mn players in 2019 to 8.9 mn in 2022 (+159%) - and that number pales in comparison to the 36.5 mn players reported by the Association of Pickleball Professionals. In addition to the broader popularity trends, pickleball is currently benefitting from a strong seasonal increase tied to warmer weather. This is a seasonal trend we can easily observe over longer periods of time for other outdoor racket sports such as tennis.

We Estimate \$250-500 mn in Medical Costs Attributable to Pickleball in 2023

After analyzing the growth in pickleball as well as the nature and frequency of related injuries, we conducted a bottom-up analysis of medical costs. In total, we estimate \$250-500 mn of medical costs directly attributable to pickleball and see potential for greater medical costs indirectly linked to pickleball. Of this, we estimate that 80% of the cost is treated in outpatient settings (i.e. ED, Doctor Visits, OP surgeries) and 85% accrues to Medicare, which coincides with higher trend categories called out by UNH and HUM. All said, we estimate that pickleball medical costs could be driving 5-10% of the unexpected medical cost trend this year.

Beyond Pickleball: Seniors Are More Active And May See Higher Injury Risk

More importantly, pickleball is a microcosm for broader trends in the senior population that may have an outsized impact during the reopening phase. Compared to previous generations, seniors are living longer and are more active. They have shown a greater preference to age in place, exercise, play sports, and travel. While we generally think of exercise as positively impacting health outcomes, the "can-do" attitude of today's seniors can pose greater risk in other areas such as sports injuries, leading to a greater number of orthopedic procedures. The heightened injury risk is especially true when considering that seniors' activity levels were depressed for most of the pandemic.

What About Masks?

Many investors have speculated that the removal of mask requirements could also be a driver of higher utilization. To test this hypothesis, we examined the only real-time data we have on outpatient activity (ED visits via HHS) to see if there were any observable changes in activity following the removal of mask mandates in six states: California, Oregon, Washington, New York, New Jersey, and Massachusetts. After analyzing the data, we see similar y/y trends across all six states and do not see any evidence that the removal of state mask mandates led to an uptick in ED utilization.

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Higher Senior Outpatient Utilization

UNH Calls Out Strong Outpatient Surgeries Driving Higher MLR

Earlier this month, several companies called out procedure and outpatient strength against a backdrop of normalizing volumes, providing much needed clarity to investors struggling to piece together the utilization mosaic. Most notably, UNH commented on 6/13 that it has seen very strong outpatient surgery and ASC volumes (hips, knees, and cardio) in the Medicare population continue through May and into June driving its 2Q MLR expectation at or moderately above the high-end of the full-year guidance range.

The Aftermath of UNH's Utilization Comments

UNH's comments fueled an historic rotation out of managed and value-based care (-\$59 bn market cap) and into facilities (+\$2 bn) and medical devices (+\$19 bn) on 6/14. More granularly, Medicare-based payors and providers including ALHC, CMAX, HUM, AGL, and CANO were all down >10%, driven by both senior utilization concerns and 2024 pricing concerns (bids were due June 5). A few days later, HUM released an 8-K reinforcing higher-than-expected utilization trends driven primarily by outpatient services.

A Surprising Contributor to Utilization: Pickleball

Over the last week and a half, health care investors have questioned what's driving senior utilization higher. In our checks, a few themes emerged as potential drivers. Most were obvious such as the procedure backlog built-up from the pandemic while some were speculative such as the removal of mask requirements following the end of the public health emergency. However, one potential driver stood out as unique and unexpected: an increase in pickleball injuries. As fascinated as we were surprised, we asked: "Could pickleball really be contributing to higher outpatient utilization?"

Figure 1: Recent Utilization Comments

Company	Intraquarter Comment	Date
UNH	"Outpatient levels have continued to be an area that we've really focused on most. And where we see it really occurring, especially as you think about kind of completing -- fully completing April and seeing May and kind of leading indicators in the 2 weeks of June would be just continued strong outpatient care activity. Think things, hips, knees and senior business. Hips, knees, cardio, kind of the areas and it's very localized in Medicare businesses where we're particularly seeing it trend."	GS Global Health Care Conference, 6/13/2023
HUM	"The Company will also reaffirm its full year Insurance segment benefit expense ratio guidance of 86.3 to 87.3 percent, although the Company now expects to be at the top end of this full year range. This expectation is primarily driven by the emergence of higher than anticipated non-inpatient utilization trends, predominately in the categories of emergency room, outpatient surgeries, and dental services, as well as inpatient trends that have been stronger than anticipated in recent weeks, diverging from historical seasonality patterns."	8-K, 6/16/2023
THC	"Probably some of the GI work is a bit of rebound in deferred care, but the strength in all of the other service lines are very unlikely to be. Those are near-term conditions that are harder to defer."	GS Global Health Care Conference, 6/13/2023
UHS	"We've said and continue to say, elective procedures, elective and scheduled surgical and other procedural volumes, have been reasonably strong as we would have expected they'd be as COVID volumes would go down. So I think it's a bit of a mixed bag. I think we had probably some amount of catch-up in Q1 and some moderation in Q2, but I think there is still pretty encouraging volume trends from our perspective, at least."	GS Global Health Care Conference, 6/12/2023

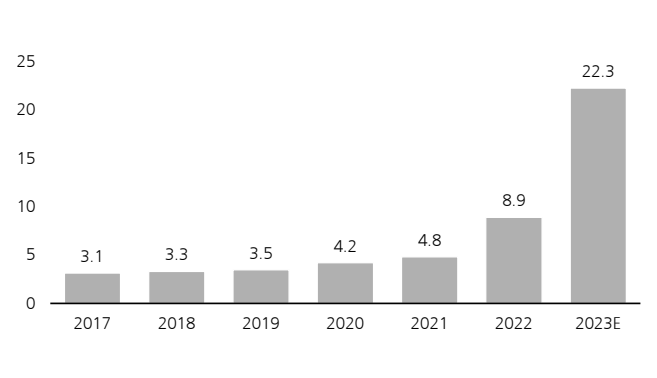
Source: Thomson Reuters

Pickleball Is The Fastest Growing Sport in the Country

You've probably heard it before, but it's worth repeating: pickleball is the fastest growing sport in the country. According to the [Sports and Fitness Industry Association \(SFIA\) Topline Report](#), pickleball has grown from 3.5 mn players in 2019 to 8.9 mn in 2022 (+159%). That number pales in comparison to the 36.5 mn players reported by the Association of Pickleball Professionals - though we find the derivation of this estimate more questionable.

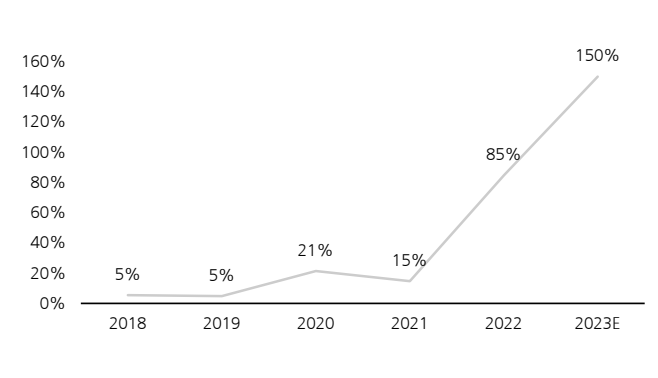
For the purposes of our analysis, we anchor to more conservative growth of +150% off the 8.9 mn players cited by the SFIA in 2022, which results in about 22 mn pickleball players this year. Our estimate is informed by current Google Trends searches for pickleball courts (+110%) and evidence of further acceleration in growth.

Figure 2: Pickleball Players (mn)



Source: Sports & Fitness Industry Association, UBS Research

Figure 3: Pickleball Growth Rate



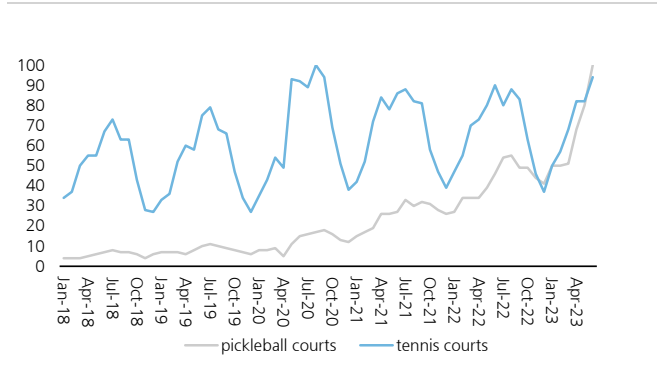
Source: Sports & Fitness Industry Association, UBS Research

Seasonal Uptick Turbocharges Growth

While one can debate the current player base, the growth in the sport is impressive on any measure and appears to be accelerating evidenced by triple-digit growth in paddle sales, participation from high-profile athletes, and notable real estate investments.

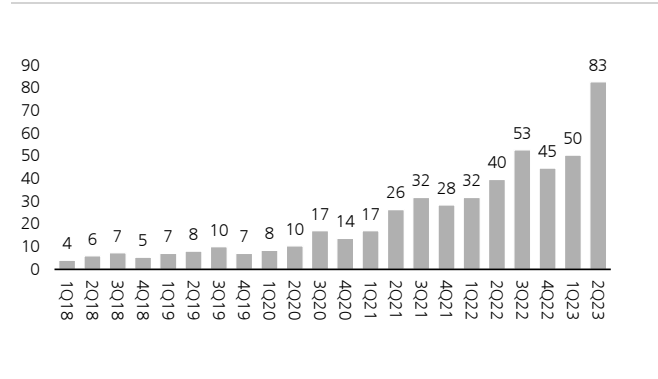
The increasing popularity was validated by Google Trends for "pickleball courts" - a proxy we use for active pickleball growth, which shows 108% y/y growth and 64% q/q growth in 2Q22. In addition to the broader popularity trends, pickleball is currently benefitting from a strong seasonal increase tied to warmer weather. This is a seasonal trend we can easily observe over longer periods of time for other outdoor racket sports such as tennis.

Figure 4: Google Trends: Pickleball Courts vs Tennis Courts



Source: Google Trends, UBS Research

Figure 5: Quarterly Google Trends: Pickleball Courts

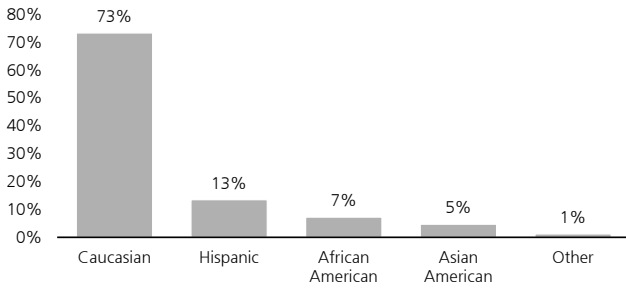


Source: Google Trends, UBS Research

Who Plays Pickleball?

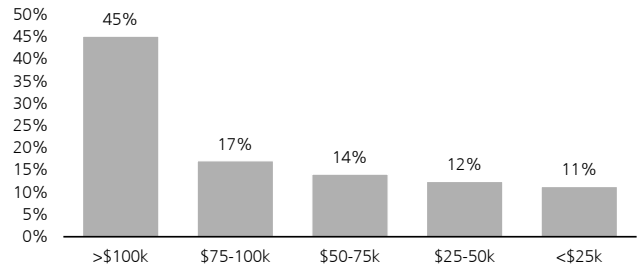
Not only is pickleball a fast-growing sport, but its seemingly low physical impact and low barriers to entry make it highly attractive to many seniors. In fact, seniors make up one-third of "core players", or those who play eight times or more per year. Demographically, players tend to be Caucasian (73%) with smaller proportions of Hispanic (13%), African Americans (7%) and Asian Americans (5%). Additionally, pickleball players tend to be in higher income brackets: 45% of players earn more than \$100k in annual income and 76% earn more than \$50,000 in annual income.

Figure 6: Race/Ethnicity of Pickleball Players



Source: Sports & Fitness Industry Association, UBS Research

Figure 7: Income of Pickleball Players

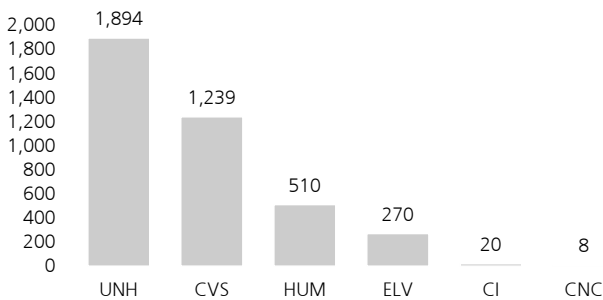


Source: Sports & Fitness Industry Association, UBS Research

Group Medicare Advantage Probably More Exposed to Pickleball Compared to Duals

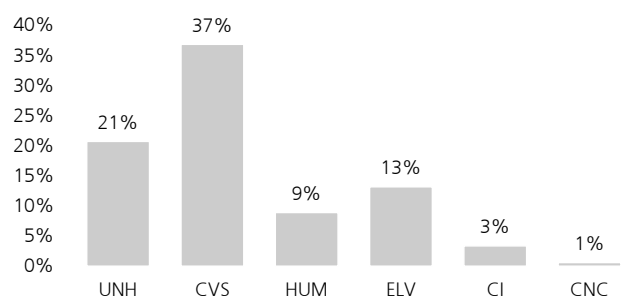
From a health insurance perspective, we think that seniors in Group Medicare Advantage are likely to have the highest participation rates in pickleball, while dually-eligible seniors are likely to have the lowest participation rates in pickleball. This means that value-based care companies such as CMAX and CANO are likely to be more insulated from broader trends in pickleball. Meanwhile, CVS and UNH are likely to have the highest rates of pickleball players within their Medicare population.

Figure 8: Group MA Enrollment (000s)



Source: CMS, UBS Research

Figure 9: Group MA as % of Total MA



Source: CMS, UBS Research

Pickleball Injury Risk

To better understand the frequency and nature of pickleball injuries, we relied on a thorough study of pickleball and tennis-related injuries from 2010-2019 published by Weiss, Dougherty and DiMaggio in 2021 (Weiss, H. B., Dougherty, J., & DiMaggio, C. (2021). Non-fatal senior pickleball and tennis-related injuries treated in United States emergency departments, 2010–2019. *Injury Epidemiology*, 8(1)). This study updates and refines Forrester's paper on the same topic (Forrester, M. B. (2020). Pickleball-related Injuries Treated in Emergency Departments. *The Journal of Emergency Medicine*, 58(2), 275–279). These estimates use the U.S. Consumer Product Safety Commission’s (CPSC) National Electronic Injury Surveillance System (NEISS) data from 2010-2019 to estimate nationwide values.

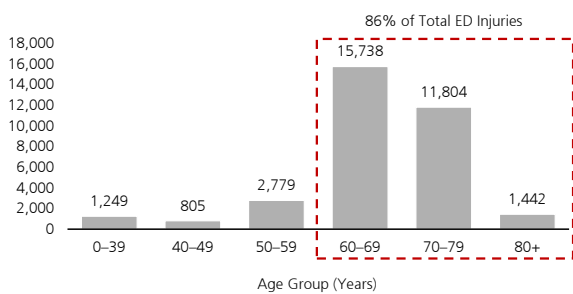
86% of ED Injuries Occur in Those 60 and Older; 7% Hospitalized

Unsurprisingly, pickleball-related injuries occur most frequently in the senior population. From 2010-2019, Weiss estimates 33.8k emergency department (ED) visits due to pickleball, of which, 86% occurred in those over 60 years old. In 2019, the latest year observed in the study, there were an estimated 9.4k ED injuries from pickleball, which translates to an ED rate of about 0.27%. Further, 2.4k cases out of the total 33.8k ED visits (7.1%) resulted in hospitalization.

Sprains and Fractures Most Common Injury Impacting Leg and Wrist

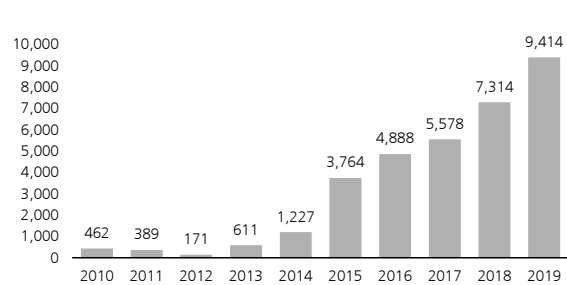
Pickleball injuries tend to be strains, sprains, or fractures and are generally in the wrist, lower leg, head, or lower trunk (Weiss et al., 2021). The breakdown of injury diagnoses shows that over 60% of injuries due to pickleball are sprains, strains, and fractures; while 20% are contusions, abrasions, or internal injuries; and less than 10% are lacerations or dislocations. When examining pickleball injuries by body part, the top four impacted areas include the wrist, lower leg, head, and lower trunk, which collectively make up 50% of all injuries.

Figure 10: ED Injuries By Age



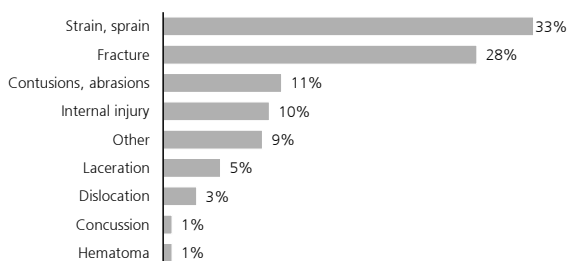
Source: Weiss et al., 2021, UBS Research

Figure 11: ED Injuries By Year



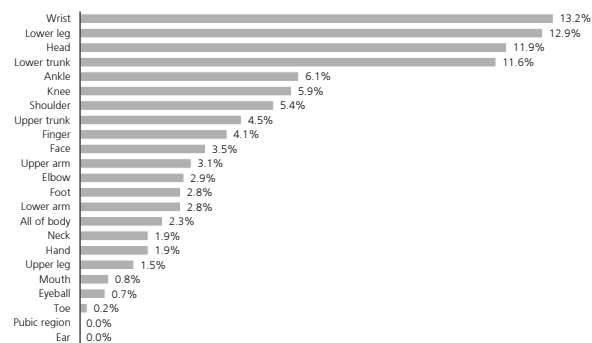
Source: Weiss et al., 2021, UBS Research

Figure 12: Pickleball Injuries by Diagnosis



Source: Weiss et al., 2021; UBS Research

Figure 13: Pickleball Injuries by Body Part Region



Source: Weiss et al., 2021; UBS Research

We Estimate \$250-\$500 mn in Pickleball Medical Costs in 2023

After analyzing the growth in pickleball as well as the nature and frequency of related injuries, we conducted a bottom-up analysis of medical costs. All in, we estimate \$250-500 mn of medical costs directly attributable to pickleball and see potential for greater medical costs indirectly linked to pickleball. Of this, we estimate that 80% of the cost is treated in outpatient settings (i.e. ED, Doctor Visits, OP surgeries) and 85% accrues to Medicare, which coincides with higher trend categories called out by UNH and HUM.

When compared against \$800 bn of Medicare Part A and B expenses, we estimate that pickleball contributes 3-6 bps of annual Medicare medical costs. By care setting, we see about 6 bps of medical costs in the outpatient setting and 2 bps of medical costs in the inpatient setting. While this may seem trivial, it's plausible that pickleball medical costs are driving 5-10% of the unexpected medical cost trend this year.

Deriving Our Estimates

First, we forecast 150% growth in pickleball players for 2023 or about 22 mn players. On volumes, we estimate the following: 1) total ED visits and hospitalizations informed by Weiss' findings; 2) total outpatient visits and outpatient surgeries based on ED to outpatient care ratios from the American Hospital Association; and 3) post-acute episodes based on 1.5 30-day episodes per outpatient surgery and hospitalization.

In total, we estimate 67k ED visits, 366k outpatient visits, 8.8k outpatient surgeries, 4.7k hospitalizations, and 20k post-acute episodes. We then use the nature of pickleball injuries and care setting to inform our estimates of unit pricing. All said, we estimate \$377 mn of medical costs related to pickleball of which \$302 mn (80%) is attributable to the outpatient setting and \$75 mn (20%) is attributable to the inpatient setting.

Figure 14: Total Pickleball Costs (\$mn)

		2023 Pickleball Growth Rate				
		50%	100%	150%	200%	250%
ED Injury Rate	0.15%	113	151	189	226	264
	0.20%	151	201	252	302	352
	0.25%	189	252	315	377	440
	0.30%	226	302	377	453	528
	0.35%	264	352	440	528	617
	0.40%	302	403	503	604	705
	0.45%	340	453	566	679	793

Source: UBS Research

Figure 15: Total Medicare A+B MLR Pressure

		2023 Pickleball Growth Rate				
		50%	100%	150%	200%	250%
ED Injury Rate	0.15%	1.2	1.6	2.0	2.4	2.8
	0.20%	1.6	2.1	2.6	3.2	3.7
	0.25%	2.0	2.6	3.3	4.0	4.6
	0.30%	2.4	3.2	4.0	4.7	5.5
	0.35%	2.8	3.7	4.6	5.5	6.5
	0.40%	3.2	4.2	5.3	6.3	7.4
	0.45%	3.6	4.7	5.9	7.1	8.3

Source: UBS Research. Assumes 85% of Pickleball Costs Accrue to Medicare

Figure 16: Outpatient Pickleball Costs (\$mn)

		2023 Pickleball Growth Rate				
		50%	100%	150%	200%	250%
ED Injury Rate	0.15%	91	121	151	181	211
	0.20%	121	161	201	242	282
	0.25%	151	201	252	302	352
	0.30%	181	242	302	362	423
	0.35%	211	282	352	423	493
	0.40%	242	322	403	483	564
	0.45%	272	362	453	544	634

Source: UBS Research

Figure 17: Medicare Part B MLR Pressure

		2023 Pickleball Growth Rate				
		50%	100%	150%	200%	250%
ED Injury Rate	0.15%	1.7	2.3	2.8	3.4	4.0
	0.20%	2.3	3.0	3.8	4.5	5.3
	0.25%	2.8	3.8	4.7	5.7	6.6
	0.30%	3.4	4.5	5.7	6.8	7.9
	0.35%	4.0	5.3	6.6	7.9	9.2
	0.40%	4.5	6.0	7.5	9.0	10.6
	0.45%	5.1	6.8	8.5	10.2	11.9

Source: UBS Research. Assumes 85% of Pickleball Costs Accrue to Medicare

Bottom-Up Medical Cost Build for Pickleball

Figure 18: Pickleball Injury and Cost Estimates

Pickleball Growth	2017	2018	2019	2020	2021	2022	2023
Pickleball Players (mn)	3.1	3.3	3.5	4.2	4.8	8.9	22.3
% y/y	--	5%	5%	21%	15%	85%	150%

Total Outpatient Cost Build	2017	2018	2019	2020	2021	2022	2023
Outpatient (OP) Visits							
ED Pickleball Injuries	5,578	7,314	9,414	12,600	14,460	26,700	66,750
% ED Injury Rate	0.18%	0.22%	0.27%	0.30%	0.30%	0.30%	0.30%
(x) OP Visits per ED Visit	5.3	5.3	5.3	5.4	5.4	5.5	5.5
OP Pickleball Visits	29,485	38,661	49,762	67,863	77,881	146,474	366,186
% OP Injury Rate	0.9%	1.2%	1.4%	1.6%	1.6%	1.6%	1.6%
(x) Average Price per OP Visit	444	458	471	485	500	515	530
Total OP Visit Cost (\$mn)	13	18	23	33	39	75	194
Outpatient (OP) Surgeries							
ED Pickleball Injuries	5,578	7,314	9,414	12,600	14,460	26,700	66,750
(x) OP Surgeries per ED Visit	13%	13%	13%	13%	13%	13%	13%
Total Outpatient Surgeries	737	967	1,244	1,665	1,911	3,528	8,821
(x) Average Price per OP Surgery	4,442	4,576	4,713	4,854	5,000	5,150	5,305
Total Cost of OP Surgeries (\$mn)	3	4	6	8	10	18	47
Outpatient (OP) Post Acute Care							
Post-Acute Care Episodes	1,700	2,229	2,869	3,839	4,406	8,136	20,340
(x) Episodic Cost of Care	2,665	2,745	2,828	2,913	3,000	3,000	3,000
Total Cost of Post-Acute Care (\$mn)	5	6	8	11	13	24	61
Total Outpatient Pickleball Cost (\$mn)	21	28	37	52	62	118	302
YY Δ	--	7	9	15	10	56	184

Total Hospitalization Cost Build	2017	2018	2019	2020	2021	2022	2023
ED Pickleball Injuries	5,578	7,314	9,414	12,600	14,460	26,700	66,750
(x) Pickleball ED Hospitalization Rate	7.1%	7.1%	7.1%	7.1%	7.1%	7.1%	7.1%
Pickleball Hospitalizations	396	519	668	895	1,027	1,896	4,739
(x) Price per Inpatient Admission	13,327	13,727	14,139	14,563	15,000	15,450	15,914
Total Inpatient Pickleball Cost (\$mn)	5	7	9	13	15	29	75
YY Δ	--	2	2	4	2	14	46

Total Pickleball Cost (\$mn)	2017	2018	2019	2020	2021	2022	2023
Total Outpatient Pickleball Cost	21	28	37	52	62	118	302
Total Inpatient Pickleball Cost	5	7	9	13	15	29	75
Total Pickleball Medical Cost	26	35	47	65	77	147	377
YY Δ	--	9	12	18	12	70	230

Source: UBS Research

Beyond Pickleball: Seniors Are More Active And May See Higher Injury Risk

More importantly, pickleball is a microcosm for broader trends in the senior population that may have an outsized impact during the reopening phase. Compared to previous generations, seniors are living longer and are more active. They have shown a greater preference to age in place, exercise, play sports, and travel. While we generally think of exercise as positively impacting health outcomes, the "can-do" attitude of today's seniors can pose greater risk in other areas such as sports injuries, leading to a greater number of orthopedic procedures. The heightened injury risk is especially true when considering that seniors' activity levels were depressed for most of the pandemic.

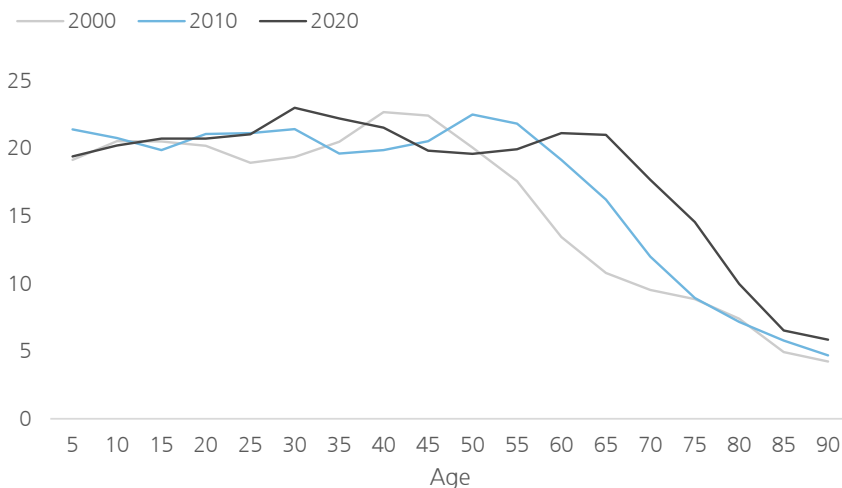
Pickleball is only one example of how this generation consistently engages in a more active lifestyle. The latest trends in both fitness and travel indicate the 65+ adults are engaging more with these lifestyle options.

- The percentage of trips taken by older people has increased from 11.9% in 2001 to 15.8% in 2017 (Lidbe et al., 2021).
- The percentage of people between 65-74 who met the 2008 Federal Physical Activity Guidelines increased from 7.0% in 1998 to 13.6% in 2010 (CDC, NCHS, NHIS).
- 34% of all gym memberships were held by people over 65 years of age in 2019 (Statista).
- For 2023, "Fitness programs for older adults" was ranked the #4 top fitness trend (following wearable technology, strength training with free weights, and body weight training) (The American College of Sports Medicine).

Seniors Make Up About 17% of the US Population

Seniors continue to be the fastest growing segment of the population and now total about 55 mn people , or 17% of all Americans. This compares to 12.5-13.0% from 2000-2010.

Figure 19: US Population Age Distribution



Source: US Census Bureau, UBS Research

What About Masks?

Masks No Longer Required for Healthcare Workers

As of May 10, 2023, CMS no longer upheld universal masking guidelines for healthcare workers. However, many states had begun phasing out mask mandates earlier in the year. For example, New York state officials allowed a mask requirement in healthcare facilities to lapse on February 12, 2023. Many investors and operators have speculated that the removal of mask requirements could be a driver of higher utilization if there were individuals who did not want to get procedures done while mask requirements were in place.

Figure 20: Recent States To Lift Health Care System Mask Mandates

New York	California	Oregon	Washington	New Jersey	Massachusetts
February 12, 2023	April 3, 2023	April 3, 2023	April 3, 2023	April 19, 2023	May 11, 2023

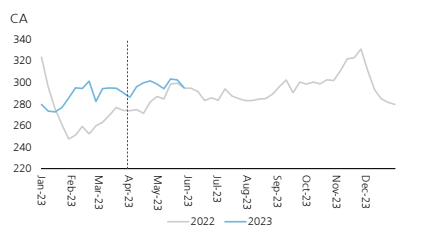
Source: UBS Research

No Clear Link Between Unmasking and Higher ED Utilization

To test the masking hypothesis, we examined the only real-time data we have on outpatient activity (ED visits via HHS) to see if there were any observable changes in activity following the removal of mask mandates in six states: California, Oregon, Washington, New York, New Jersey, and Massachusetts. After analyzing the data, we see similar y/y trends across all six states and do not see any evidence that the removal of state mask mandates led to an uptick in ED utilization.

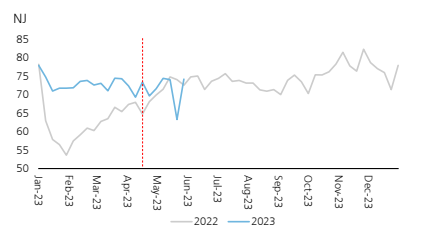
West Coast Masking Sample

Figure 21: CA ED Visits



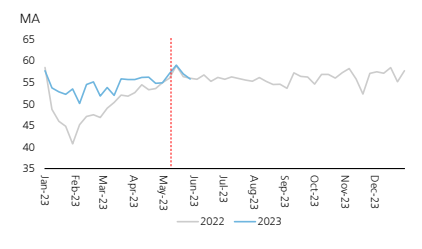
Source: HHS, UBS Research

Figure 22: OR ED Visits



Source: HHS, UBS Research

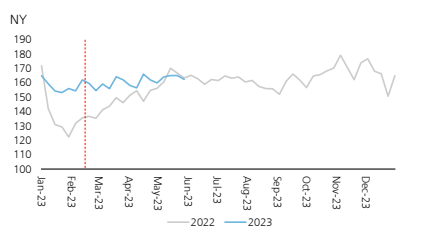
Figure 23: WA ED Visits



Source: HHS, UBS Research

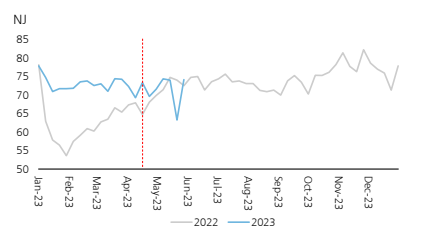
Northeast Masking Sample

Figure 24: NY ED Visits



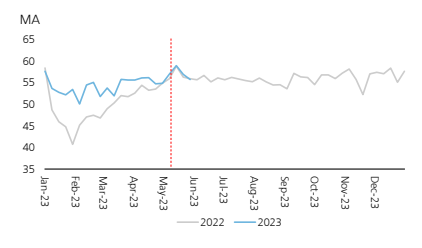
Source: HHS, UBS Research

Figure 25: NJ ED Visits



Source: HHS, UBS Research

Figure 26: MA ED Visits



Source: HHS, UBS Research

Valuation Method and Risk Statement

Our primary valuation method used to derive our price targets for providers is based on a target EV / EBITDA multiple.

Key risks to providers include acute volume trends and pricing deteriorating, soft organic core growth, less-than-favorable shift of payer, service line and acuity mix, and higher-than-expected operational expense pressure as well as any unexpected adverse macro, regulatory and policy developments.

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