



FICS Report, TWG2022 in Birmingham, Alabama, USA

World Lacrosse (WL)

The following report presents the FICS Sports Chiropractic impact data relating to the utilisation of healthcare services by World Lacrosse (WL) athletes, volunteers, and support personnel during The World Games 2022 in Birmingham, Alabama, USA.

This report is based on the observations, clinical experiences, and data collected by the FICS delegation throughout the Games. Its purpose is to provide the federation with an analysis of the healthcare services delivered during the event and to offer insights that may assist in future planning, athlete support strategies, and event healthcare operations.

The report aims to inform the federation on the types of care provided to its athletes and support personnel during the Games, while also identifying opportunities to further enhance athlete wellbeing, recovery, performance support, and integrated healthcare delivery within the sport. FICS highly values its partnership with the International Federations and hopes this report contributes to ongoing discussions regarding the future development of healthcare services and collaborative support at future international competitions and Games environments.

Recap: The World Games 2022 overall statistics:

There were **5844** accredited athletes and officials at TWG 2022.

- **3457** athletes, **2387** officials and numerous volunteers.
- The FICS delegation provided **3440** total treatments during the Games (**1690** to athletes, **1750** to non-athletes).
- Analysing the athletes that sought our care, **889** individual athletes were treated or **25.72% of all athletes accredited** for the Games. This is the largest percentage of athletes we have ever treated at TWG. This is most likely due to multiple factors but influenced by the increased number of FICS sports chiropractors (**54**) accredited and working at the games, our location at the venue, and familiarity with sports chiropractors by the Federations and athletes.
- The treatments included those that saw us for the first time (new treatment) and those that came back for additional treatment (follow-up). Of the 1690 athletes that were treated, **889** were new treatments, and **801** were follow-up treatments.
- The gender distribution **889** athletes treated was **492 (55.34%) males and 397 (44.66%) females**.

World Lacrosse (WL) Utilisation Report TWG 2022

The following is the FICS report regarding our involvement in TWG2022 in Birmingham, AL. This report is based on the FICS delegations’ experiences and observations during the Games. The intent is to further inform the WL on the analysis of the data captured at this event by the FICS delegation. We hope this will initiate discussions and inform the WL and local organizers for future Games. The intent of the information is to inform the WL of the care their athletes received during these Games and how it may inform and improve your sport. We cherish our partnership with the WL and hope this will be informative on how we can further develop our involvement with the WL and support future Games.

Overall Statistics of Utilisation of FICS Sports Chiropractic by World Lacrosse during TWG 2022

There were **192** accredited WL athletes at TWG 2022.

- The FICS delegation provided **237** total treatments during the Games (**194** to athletes, **43** to non-athletes).
- Analysing the athletes that sought our care, **93** individual athletes were treated or **48.44% of the accredited WL athletes** for the Games. This was the largest total number of athletes treated from a sport or discipline requesting treatment at TWG 2022. This is most likely due to multiple factors but influenced by the increased number of FICS sports chiropractors (**54**) accredited and working at the games, our location at the venue, and familiarity with sports chiropractors by the Federations and athletes.

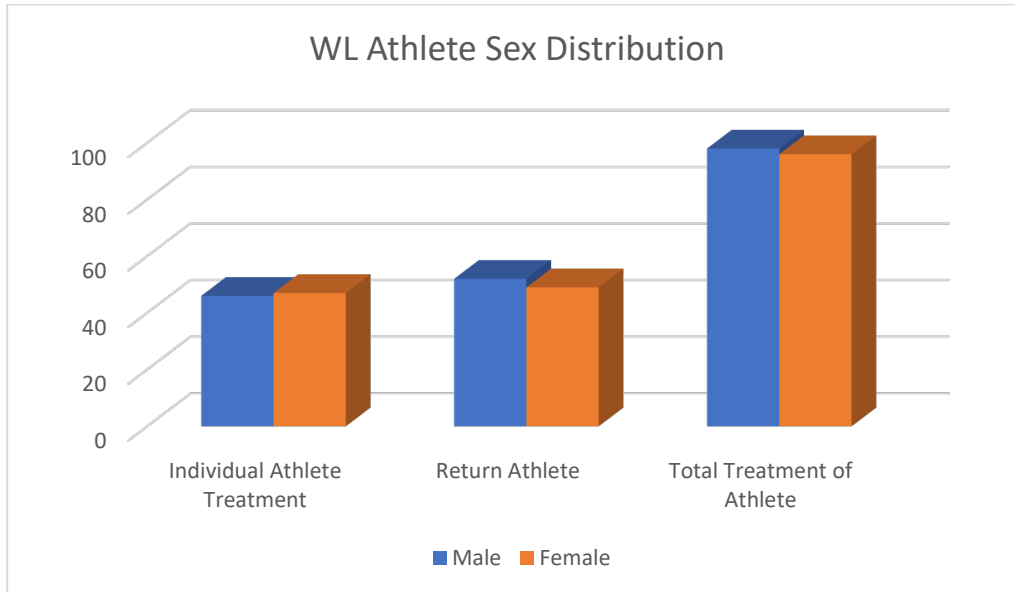
Athlete Statistics:

The WL athletes accessed our treatment areas in the warm-up areas near the field of play. This location seemed to allow easy access for the athletes during these games. The treatments included those that saw us for the first time (new treatment) and those that came back for additional treatment (follow-up). Of the **194 WL** athletes that were treated, **93** were new treatments or different individuals and **101** were follow-up treatments.

Sport	Total Accredited Athletes	Total Treatments / Sport (Athlete & Non-athlete)	Total Treatments of Athletes	Individual Athlete Treatments	Return Treatments for Athletes	% Total Treatments/ # Accredited Athletes	% of Accredited Athletes /Individual Athlete Treatments
Lacrosse	192	237	194	93	101	101.04%	48.44%

The sex distribution of **194** athletes treated was **98 (50.52%) males** and **96 (49.48%) females**.

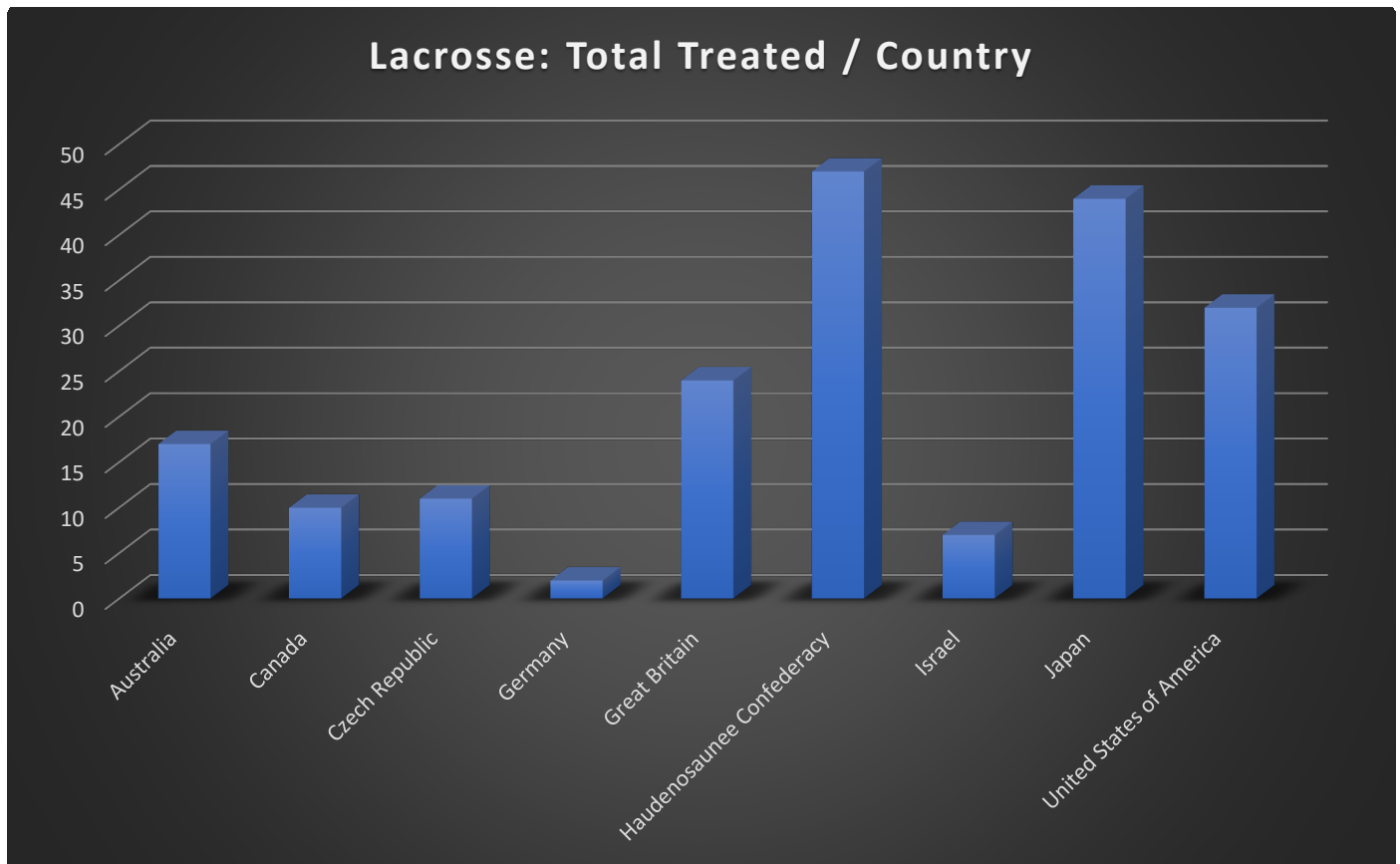
	Individual Athlete Treatments	Return Athletes	Total Treatments of Athletes	Sex %
Male	46	52	98	50.52%
Female	47	49	96	49.48%



Countries Distribution:

Country distribution of WL athletes that requested our care demonstrated some countries that were very familiar to sports chiropractic. However, it is interesting to see other countries where sports chiropractic is underserved (Japan, Israel, Czech Republic, and Haudenosaunee Confederacy) have high utilization rates. One of the goals for FICS is to level the playing field for all athletes by assuring that every athlete has access to sports chiropractic.

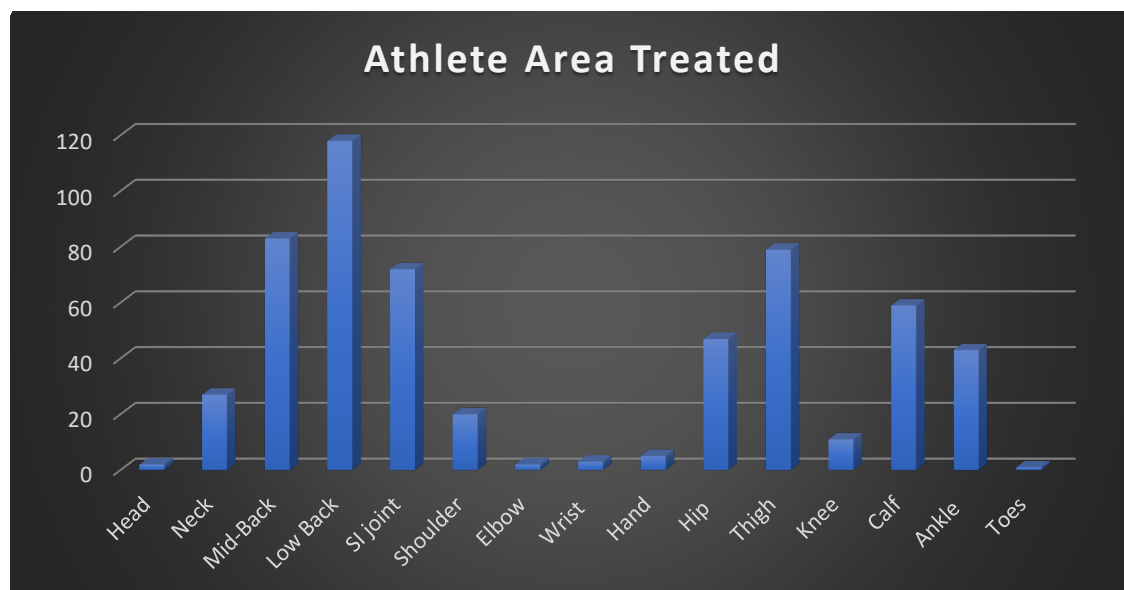
Countries	Total Treatments / Sport (Athlete & Non-athlete)	Total Treatments of Athletes	Individual Athlete Treatments	Return Treatments Athletes	% Individual Athletes Treated	Male	Female
Australia	18	17	12	5	12.90%	4	8
Canada	25	10	6	4	6.45%	5	1
Czech Republic	13	11	7	4	7.53%	0	7
Germany	10	2	1	1	1.08%	1	0
Great Britain	33	24	16	8	17.20%	9	7
Haudenosaunee Confederacy	47	47	19	28	20.43%	10	9
Israel	7	7	6	1	6.45%	4	2
Japan	45	44	16	28	17.20%	3	13
United States of America	39	32	10	22	10.75%	10	0
	237	194	93	101		46	47

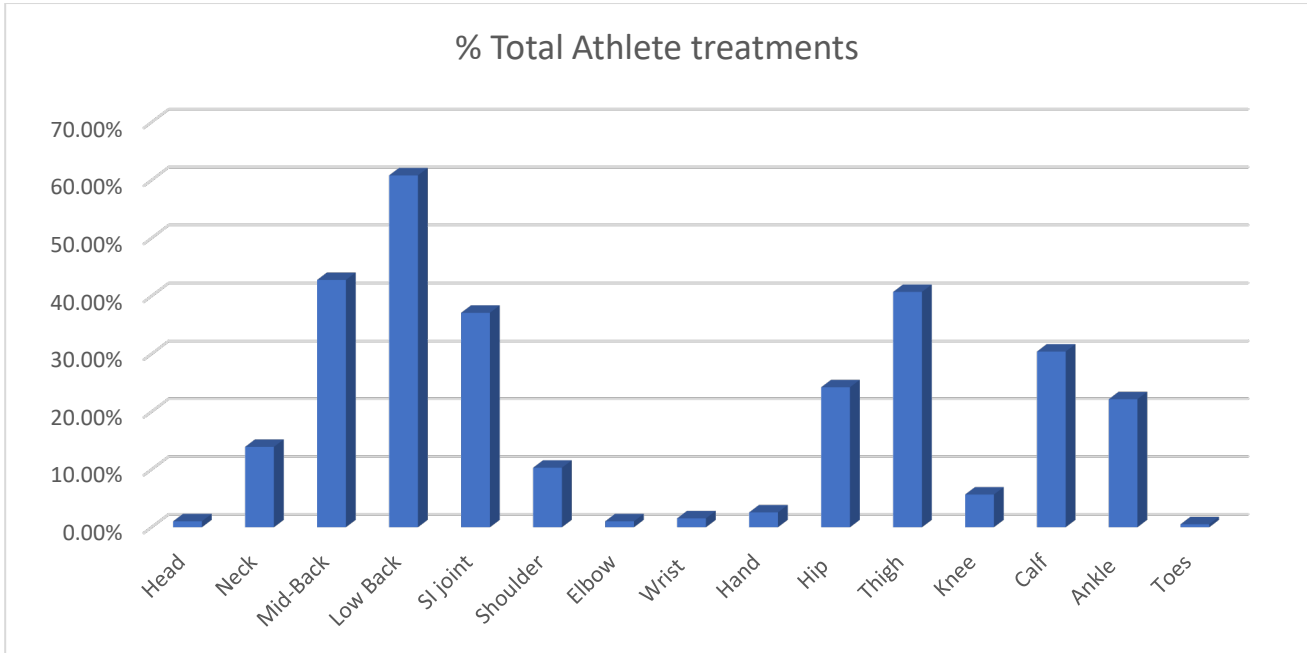


Anatomical Areas Treated of WL Athletes:

The various anatomical areas treated on the WL athletes demonstrated the spine was the most common area followed by the thigh, calf, hip, and ankle. The spine and lower extremities are in high demand for this sport and our data indicates treatments for these key areas.

Anatomical Area	Athlete area treated	% Total Athlete treatments
Head	2	1.03%
Neck	27	13.92%
Mid-Back	83	42.78%
Low Back	118	60.82%
SI joint	72	37.11%
Shoulder	20	10.31%
Elbow	2	1.03%
Wrist	3	1.55%
Hand	5	2.58%
Hip	47	24.23%
Thigh	79	40.72%
Knee	11	5.67%
Calf	59	30.41%
Ankle	43	22.16%
Toes	1	0.52%

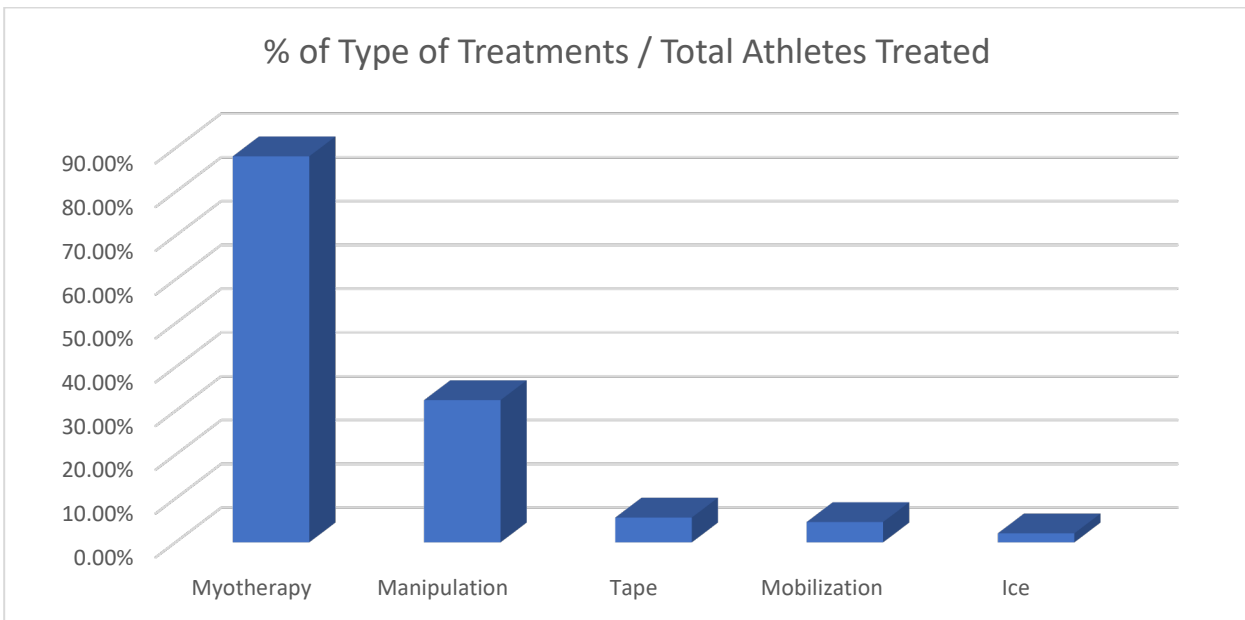
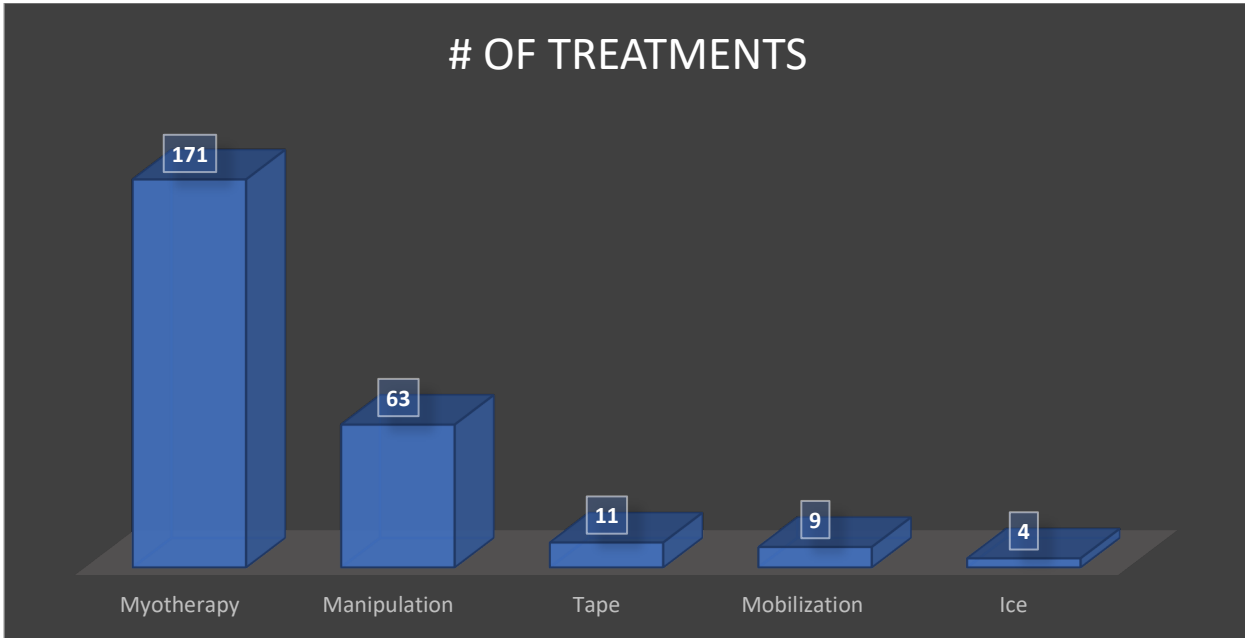




Types of Treatment:

The various types of treatment provided to the athletes consisted of myotherapy (muscle work, stretching), manipulation, mobilization, taping, and ice. The WL athletes required considerable myotherapy and manipulation as the primary treatment types to assist with their preparation and recovery for competition.

Athletes Type of Treatment	# of Treatments	% of Type of Treatments / Total Athletes Treated
Myotherapy	171	88.14%
Manipulation	63	32.47%
Tape	11	5.67%
Mobilization	9	4.64%
Ice	4	2.06%



Changes Following Treatment:

Everyone was asked to rate their pain or discomfort (Numerical Pain Score, NPS) prior to their treatments. This method is commonly used to evaluate change following treatment or care. The WL athletes were asked to rate their pain or discomfort from 0 (no pain/discomfort) to 10 (worse pain they have ever experienced). The WL athletes were asked to then complete the same rating following their treatment. This provides information on their perceived improvement in pain or discomfort. Of the 194 treatments provided to the WL athletes, 153 (78.87%) completed the form.

NPS WL Athletes Completed	NPS Completion %	Pre Treatment Average NPS	Post Treatment Average NPS	Change	% Change
153	78.87%	5.22	1.90	3.32	36.42%

The initial rating averaged 5.22 score for the athletes. The post-treatment average rating was 1.90. This demonstrates a 3.32 average change or a 36.42% improvement in their rating across the 153 athletes that completed this rating.

Research has shown has demonstrated that a 2 point or 30% improvement is associated with a **positive clinical change** and correlation to a positive global perception of change from a treatment. The data demonstrates the average outcome of the 194 treatments of WL athletes at TWG had a positive improvement in their reported pain following sports chiropractic care.

Athlete’s Global Perception of Change: The athletes were also asked to rate their perceived global perception of change. This is a commonly used indicator of how an individual perceives change has occurred due to the treatment or their perceived effectiveness of their treatment by the sports chiropractor. This is scored from -5 to +5 rating. A total of 780 (46.15%) of the 1690 treatments provided to the athletes completed this report.

Rate the change in how you feel now compared to before this treatment?

Much Worse
No Change
Much Better

-5 -4 -3 -2 -1 0 1 2 3 4 5

Global Perception of Change	WL Athletes	# of WL Athletes Completed Form	% of Form Completion to Total # of WL Athletes Treated	Average Score out of Maximum of 5
	153	87	44.85%	4.06

The results demonstrated an average score of 4.06 with the highest score possible of a 5. The athletes perceived a dramatic change from the treatment of the FICS sports chiropractors.

Satisfaction Survey:

We asked the athletes to complete a satisfaction survey immediately following their treatment. The survey was composed of five questions that the athletes answered on a 5-point scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree, NA).

	Responses	Response Rate	Average Score
My chiropractor thoroughly explained the treatment(s) I received.	115	48.52%	4.83
My chiropractor treated me respectfully.	104	43.88%	4.91
My chiropractor answered all my questions.	108	45.57%	4.95
Overall, I am completely satisfied with the services I received from my chiropractor.	101	42.62%	4.94
I would return to FICS chiropractors for future services or care.	102	43.04%	4.98

The response of the athletes averaged a 4.92 or they strongly agreed with each statement. This evidence would indicate the athletes were satisfied with the care of their FICS sports chiropractors.

Conclusion:

The WL athletes at TWG 2022 sought the care of the FICS sports chiropractors at a high rate of utilization. They represented various countries and nearly equal distribution between sexes. There is evidence of high utilization by WL athletes by several countries that may not have full medical services thus providing equitable sports chiropractic to all athletes. The spine was the primary area followed by the lower extremities treated with myotherapy and manipulation the primary form of treatment. There was a statistically significant change in the WL athletes numerical pain scores following their sports chiropractic treatments signifying clinical improvement. The athletes perceived a strong global change and were very satisfied with their care from the FICS sports chiropractors.

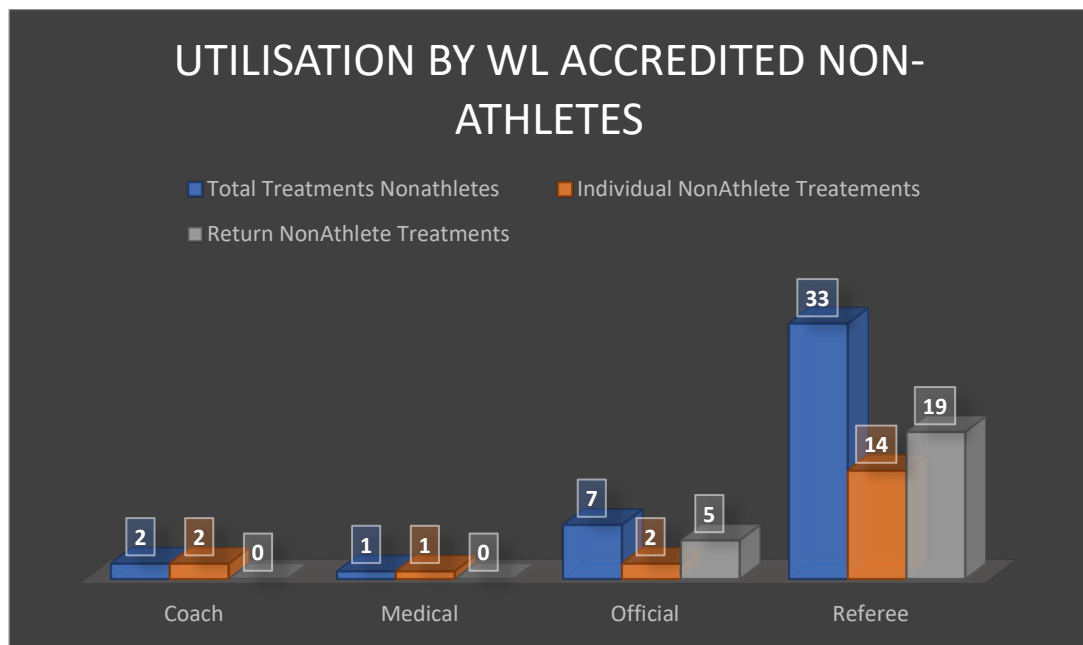
WL Accredited Non-Athletes:

Data was captured on the treatments provided to the accredited non-athletes that requested care by the FICS sports chiropractors. The accredited non-athletes are composed of officials, coach, medical, and volunteer.

There were **12,768** accredited non-athletes at TWG 2022. Unfortunately, we do not have the exact number of accreditations for WL of their non-athletes. We provided **43** total treatments provided to WL accredited non-athletes. Of the 43 total treatments, **19 (44.19%)** were to new individuals and **24 (55.81%)** follow-up treatments. The gender distribution of the 19 individual non-athletes was **715 (61.37%) males and 450 (38.63%) females**. Understanding the distribution of the non-athlete group will assist us in our planning and is evidence of the further support by the delegation to TWG 2022. We hope this is an added benefit to the support staff and volunteers.

The accredited WL non-athletes represented various groups that supported TWG 2022. We first categorized into 4 large groups (Coach, Medical, Official, Referee). The following is the distribution of treatments for each group.

	Total Treatments Non-Athletes	Individual Non-Athlete Treatments	Return Non-Athlete Treatments	
Coach	2	2	0	
Medical	1	1	0	
Official	7	2	5	
Referee	33	14	19	
Totals	43	19	24	44.19% 55.81%

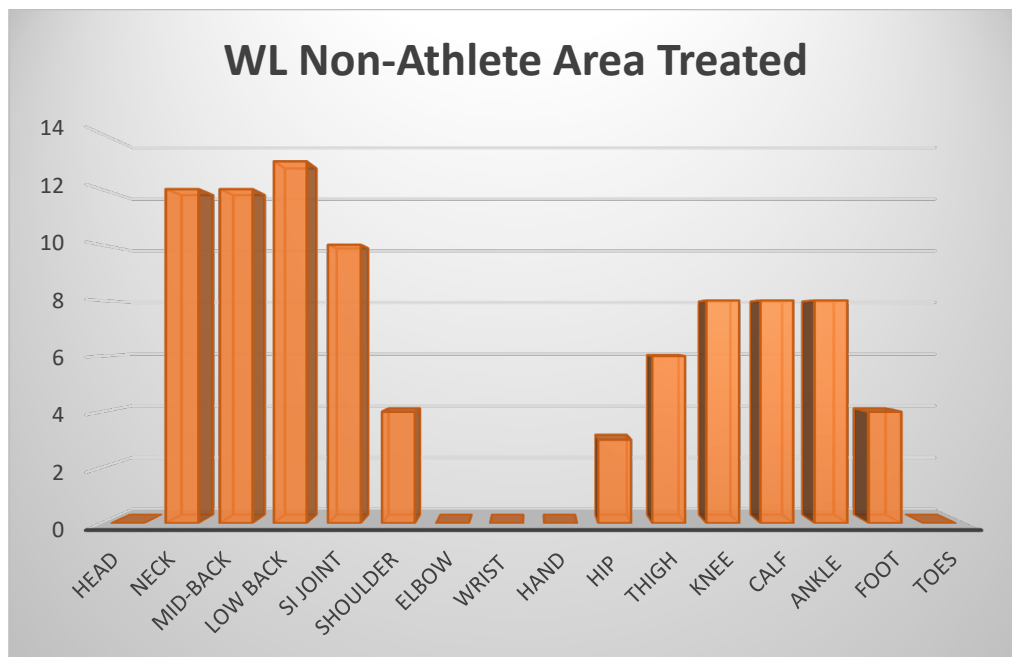


	Total Treatment Nonathlete	Individual Non-Athlete Treatments	Return Non-Athlete Treatments	Male	Female
Australia	1	1	0	1	0
Canada	15	6	9	4	2
Czech Republic	2	1	1	1	0
Germany	8	3	5	3	0
Great Britain	9	3	6	2	1
Japan	1	1	0	0	1
United States of America	7	4	3	4	0
	43	19	24	15	4

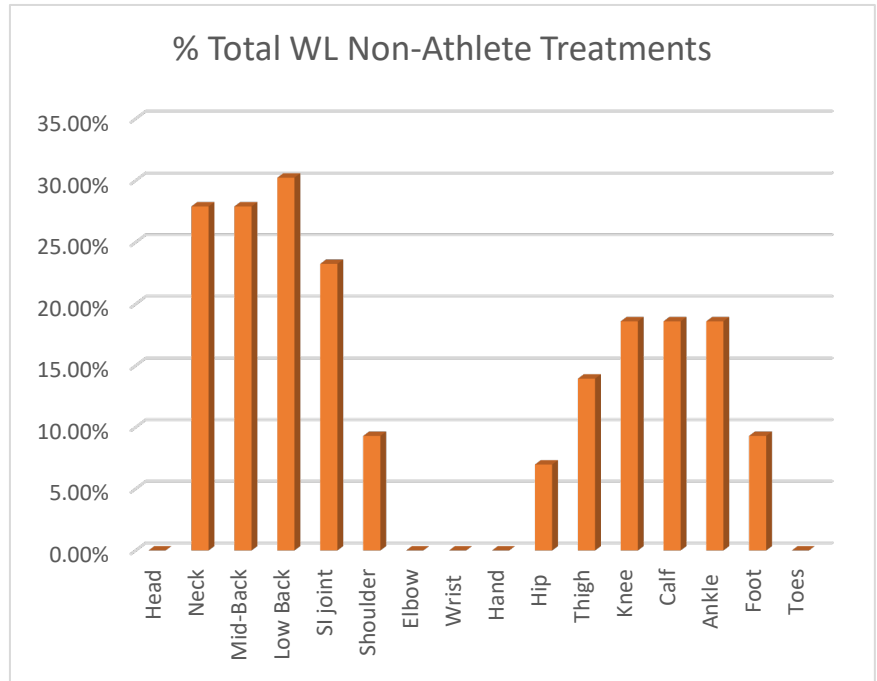
The results demonstrate good utilization from coaches and medical staff. FICS strives to integrate with the other medical services during an event and to see other medical individuals request our care is a very positive result. Additionally, the number of coaches and referees that requested care is helpful to support them during the games and experience and understand the care we are providing their athletes. We are hopeful that this utilization by non-athletes of the FICS services further supports WL and the success of the event. This is evidence that an added benefit of the FICS delegation is supporting all aspects of the games including those individuals that are responsible for organizing and promoting this event.

Anatomical Areas Treated of WL Non-Athletes:

Analysis of the areas treated to the WL non-athletes demonstrates a similar pattern to that of the athletes. The spine and lower extremities were the primary area treated but there was representation to all anatomical areas.



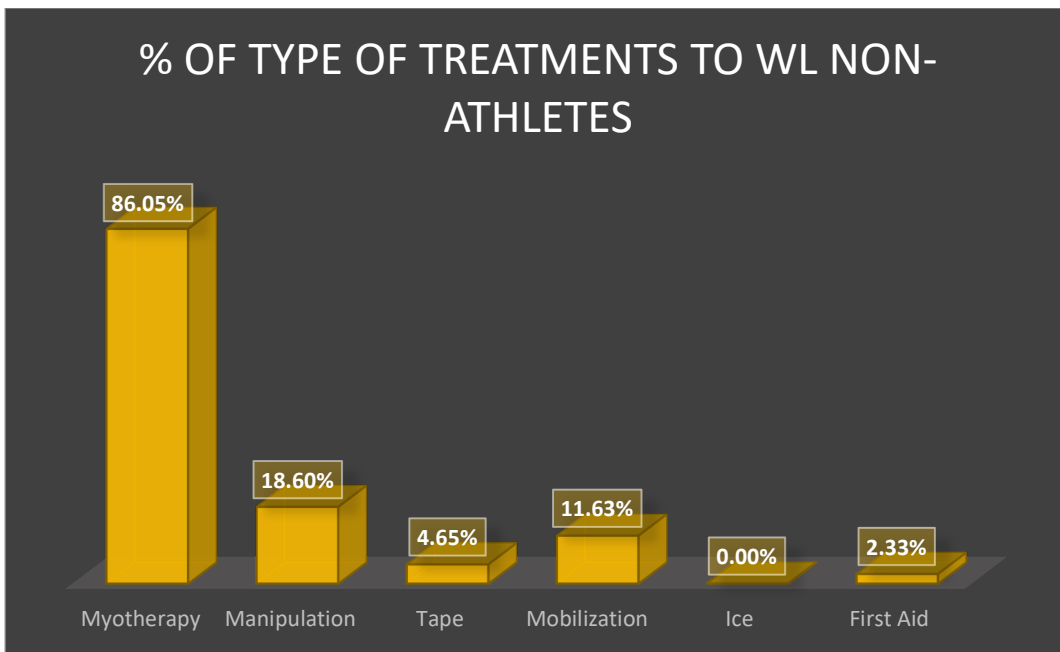
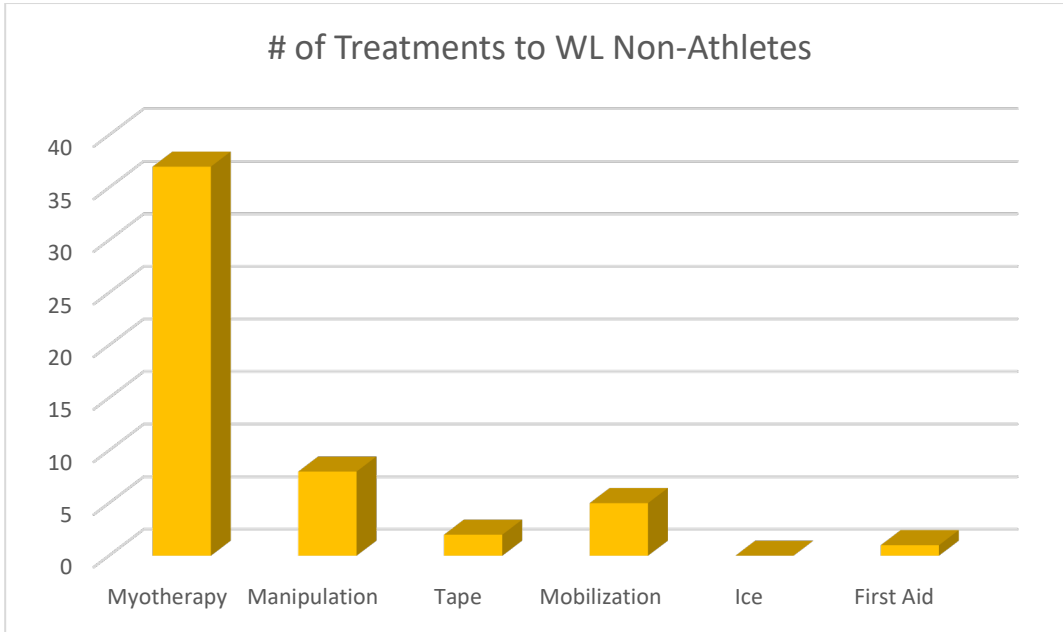
Anatomical Area	WL Non-Athlete Area Treated	% Total WL Non-Athlete Treatments
Head	0	0.00%
Neck	12	27.91%
Mid-Back	12	27.91%
Low Back	13	30.23%
SI joint	10	23.26%
Shoulder	4	9.30%
Elbow	0	0.00%
Wrist	0	0.00%
Hand	0	0.00%
Hip	3	6.98%
Thigh	6	13.95%
Knee	8	18.60%
Calf	8	18.60%
Ankle	8	18.60%
Foot	4	9.30%
Toes	0	0.00%



Types of Treatment Provided to WL Non-Athletes:

The treatment or therapies provided to the WL non-athlete was similar that provided to the athletes. Myotherapy and manipulation were most of the therapies provided. The physical, emotional, long hours and stress of organizing and supporting the athletes and games was evident in the number of muscle and joint problems we treated in this population. We are hopeful that this care to so many of the support personnel of the games is an added benefit and assist with the success of each event and the games.

WL Non-Athlete Type of Treatment	# of Treatments	% of Type of Treatments / Total WL Non-Athletes Treated
Myotherapy	37	86.05%
Manipulation	8	18.60%
Tape	2	4.65%
Mobilization	5	11.63%
Ice	0	0.00%
First Aid	1	2.33%



Changes Following Treatment to WL Non-Athletes:

Everyone was asked to rate their pain or discomfort (Numerical Pain Score, NPS) prior to their treatments. This method is commonly used to evaluate change following treatment or care. The WL non-athlete was asked to rate their pain or discomfort from 0 (no pain/discomfort) to 10 (worse pain they have ever experienced). The WL non-athletes were asked to then complete the same rating immediately following their treatment. This provides information on their perceived improvement in pain or discomfort. From the

Satisfaction Survey:

We asked the non-athletes to complete a satisfaction survey immediately following their treatment. The survey was composed of five questions that the athletes answered on a 5-point scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree, NA).

	Responses	Response Rate	Average Score
My chiropractor thoroughly explained the treatment(s) I received.	26	60.47%	5
My chiropractor treated me respectfully.	28	65.12%	4.96
My chiropractor answered all my questions.	27	62.79%	4.96
Overall, I am completely satisfied with the services I received from my chiropractor.	28	65.12%	5
I would return to FICS chiropractors for future services or care.	25	58.14%	4.96

The response of the non-athletes averaged a 4.98 or they strongly agreed with each statement. This evidence would indicate the WL non-athletes were satisfied with the care of their FICS sports chiropractors.

Conclusion:

The WL non-athletes at TWG 2022 sought the care of the FICS sports chiropractors at a high rate of utilization. They represented various categories of the WL non-athlete accreditation with a high rate of referees utilizing sports chiropractic care. The spine was the primary area followed by the lower extremity treated with myotherapy and manipulation was the primary form of treatment. The WL non-athletes perceived a strong global change and were very satisfied with their care from the FICS sports chiropractors.

We look forward to furthering our association with WL and we may be an asset to the WL and their events. We make ourselves available for further discussion and resolution.

Yours truly,
Dr Brian C Nook
FICS ExCo and EMT Member
FICS IWGA Chef de Mission WG 2022
FICS IWGA Liaison