



FICS Report, TWG2022 in Birmingham, AL

World Flying Disc Federation (WFDF) Utilisation Report TWG 2022

The following report presents the FICS Sports Chiropractic impact data relating to the utilisation of healthcare services by World Flying Disc Federation (WFDF) 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 WFDF 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 WFDF 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 WFDF 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).
- Analyzing 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**.

Overall Statistics of Utilisation of FICS Sports Chiropractic by World Flying Disc Federation during TWG 2022

There were **118** accredited WFDF athletes at TWG 2022.

- The FICS delegation provided **151** total treatments during the Games (**99** to athletes, **52** to non-athletes).
- Analyzing the athletes that sought our care, **41** individual athletes were treated or **34.75% of the accredited WFDF athletes** for the Games. 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.

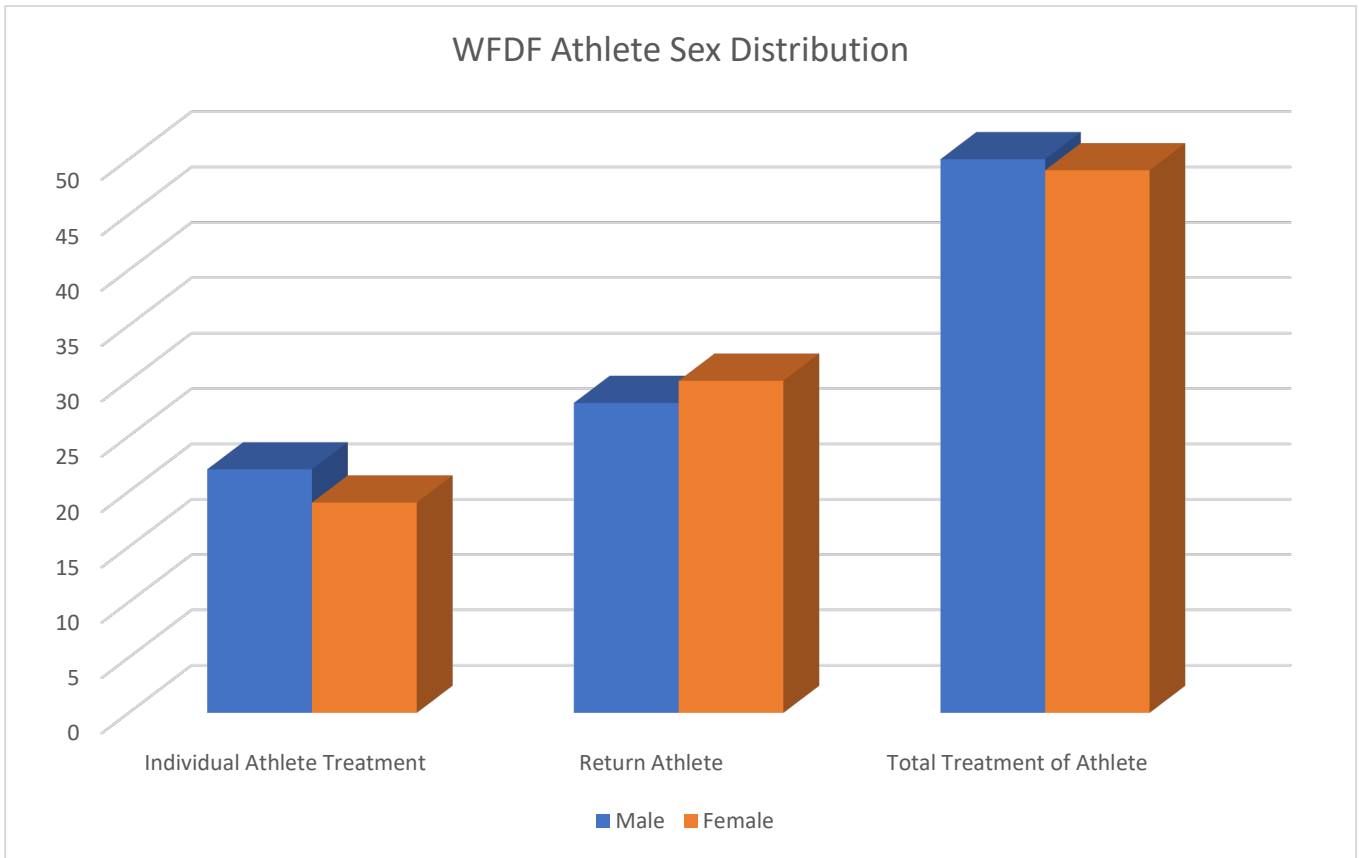
Athlete Statistics:

The WFDF athletes accessed our treatment areas in the warmup 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 **99** WFDF athletes that were treated, **41** were new treatments or different individuals and **58** were follow up treatments.

Sport	Total Accredited Athletes	Total Treatments / Sport (Athlete & Non-athlete)	Total Treatments of Athletes	Individual Athlete Treatments	Return Treatments Athletes	% Total Treatments/ # Accredited Athletes	% of Accredited Athletes /Individual Athlete Treatments
Flying Disc	118	151	99	41	58	83.90%	34.75%

The sex distribution of **99** athletes treated was **50 (50.51%) males and 49 (49.49%) females**. The individual athletes treated not adding follow up treatments distribution by sex was **22 (53.66%) males and 19 (46.34%)**.

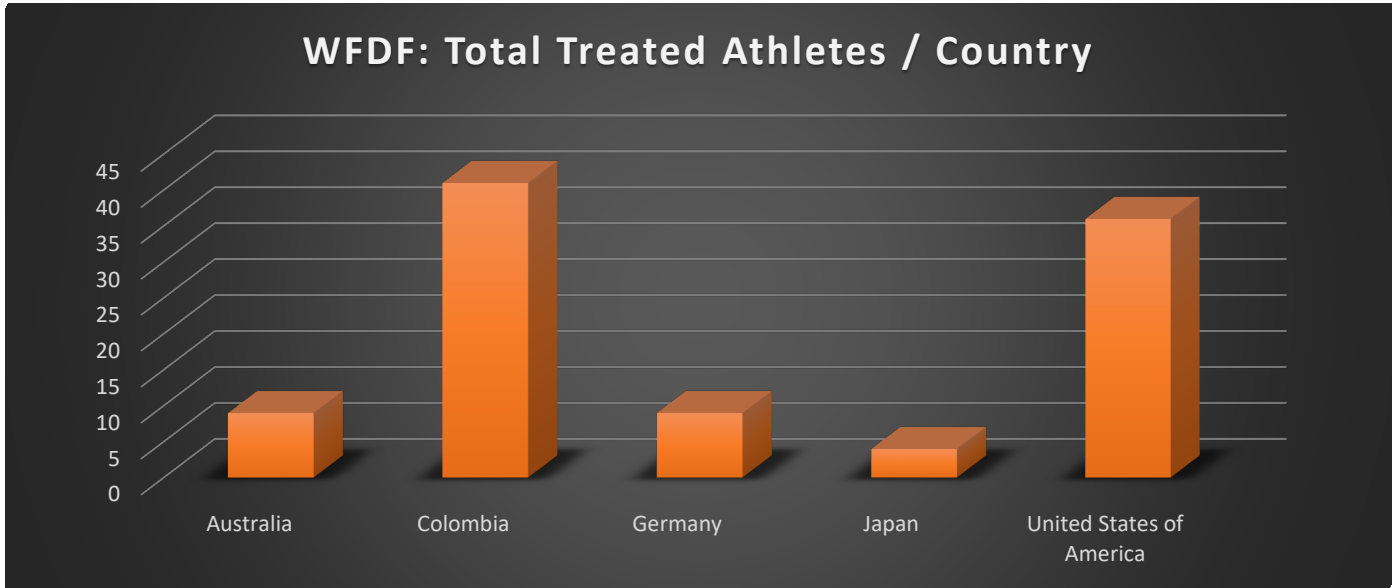
	Individual Athlete Treatment	Return Athlete	Total Treatment of Athlete	% of Total Athletes Treated	% of Total Individual Athletes Treated
Male	22	28	50	50.51%	53.66%
Female	19	30	49	49.49%	46.34%



Countries Distribution:

Country distribution of WFDF 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, Colombia) have good 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.

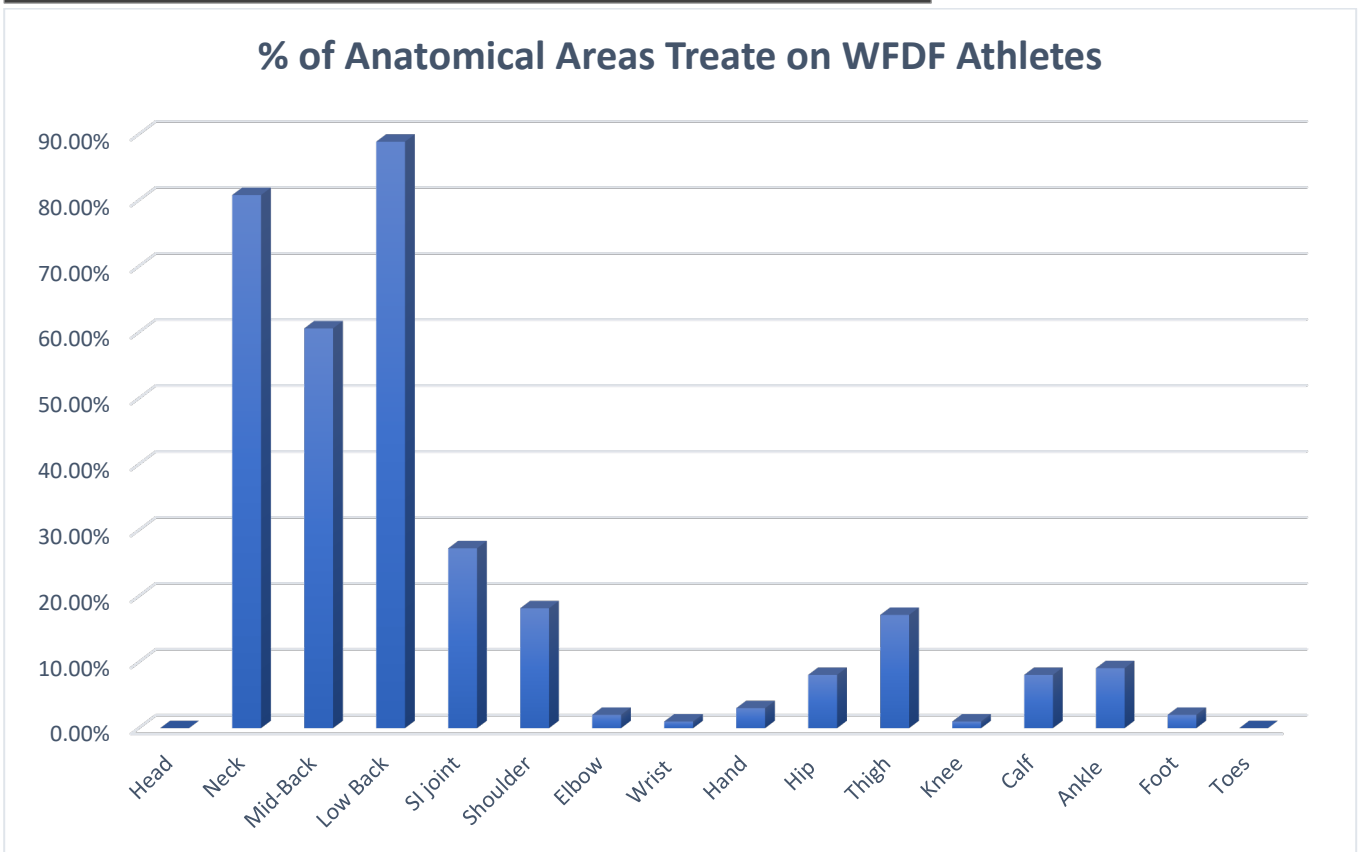
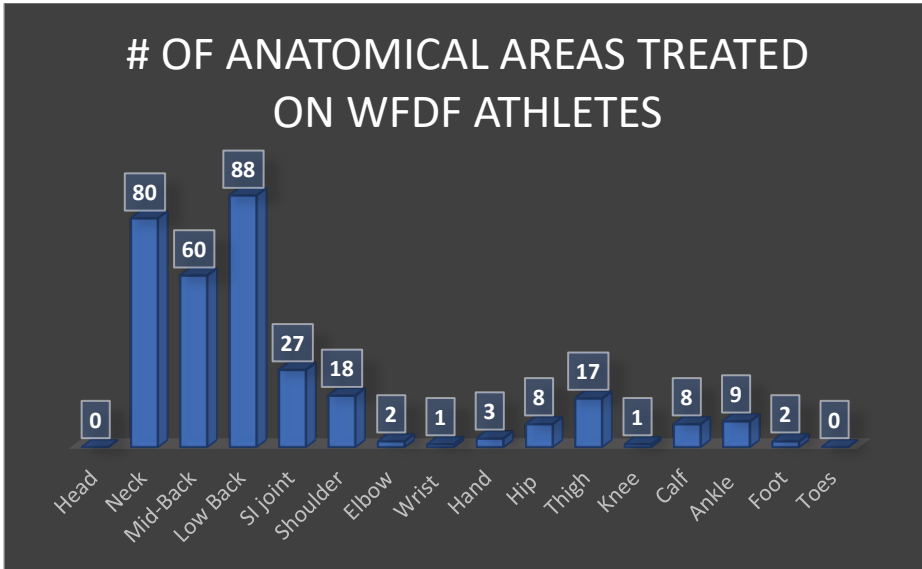
Countries	Total Treatments / Sport (Athlete & Non-athlete)	Total Treatments of Athletes	Individual Athlete Treatments	Return Treatments Athletes	% Individual Athletes Treated	Male	Female
Australia	13	9	7	2	17.07%	4	3
Colombia	59	41	12	29	29.27%	6	6
Germany	9	9	6	3	14.63%	3	3
Japan	4	4	3	1	7.32%	2	1
United States of America	45	36	13	23	31.71%	7	6
	130	99	41	58		22	19



Anatomical Areas Treated of WFDF Athletes:

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

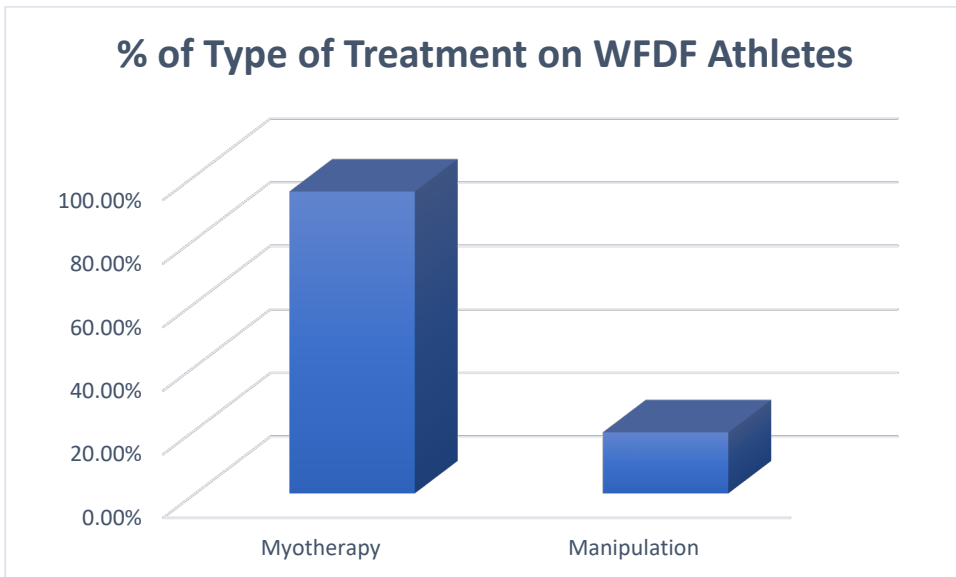
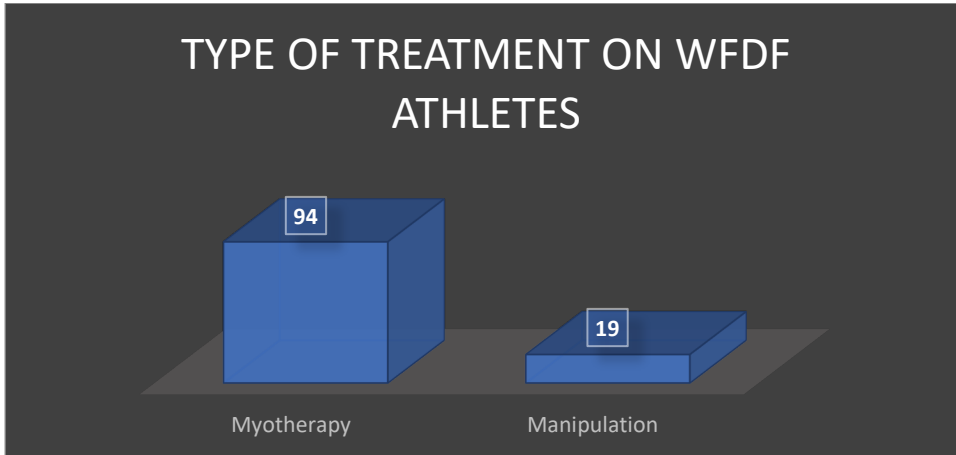
Anatomical Area	Athlete's area treated	% Total Athlete treatments
Head	0	0.00%
Neck	80	80.81%
Mid-Back	60	60.61%
Low Back	88	88.89%
SI joint	27	27.27%
Shoulder	18	18.18%
Elbow	2	2.02%
Wrist	1	1.01%
Hand	3	3.03%
Hip	8	8.08%
Thigh	17	17.17%
Knee	1	1.01%
Calf	8	8.08%
Ankle	9	9.09%
Foot	2	2.02%
Toes	0	0.00%



Types of Treatment:

The various types of treatment provided to the athletes consisted of myotherapy (muscle work, stretching), manipulation, mobilization, taping, and ice. The WFDF 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	94	94.95%
Manipulation	19	19.19%



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 WFDF athletes were asked to rate their pain or discomfort from 0 (no pain/discomfort) to 10 (worse pain they have ever experienced). The WFDF 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 99 treatments provided to the WFDF athletes, 72 (72.73%) completed the form.

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.	23	23.23%	4.96
My chiropractor treated me respectfully.	19	19.19%	4.90
My chiropractor answered all my questions.	15	15.15%	5.00
Overall, I am completely satisfied with the services I received from my chiropractor.	20	20.20%	5.00
I would return to FICS chiropractors for future services or care.	25	25.25%	5.00

The response of the athletes averaged a 4.97 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 WFDF 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 WFDF athletes by several countries that may not have full medical services thus providing equable 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 WFDF 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.

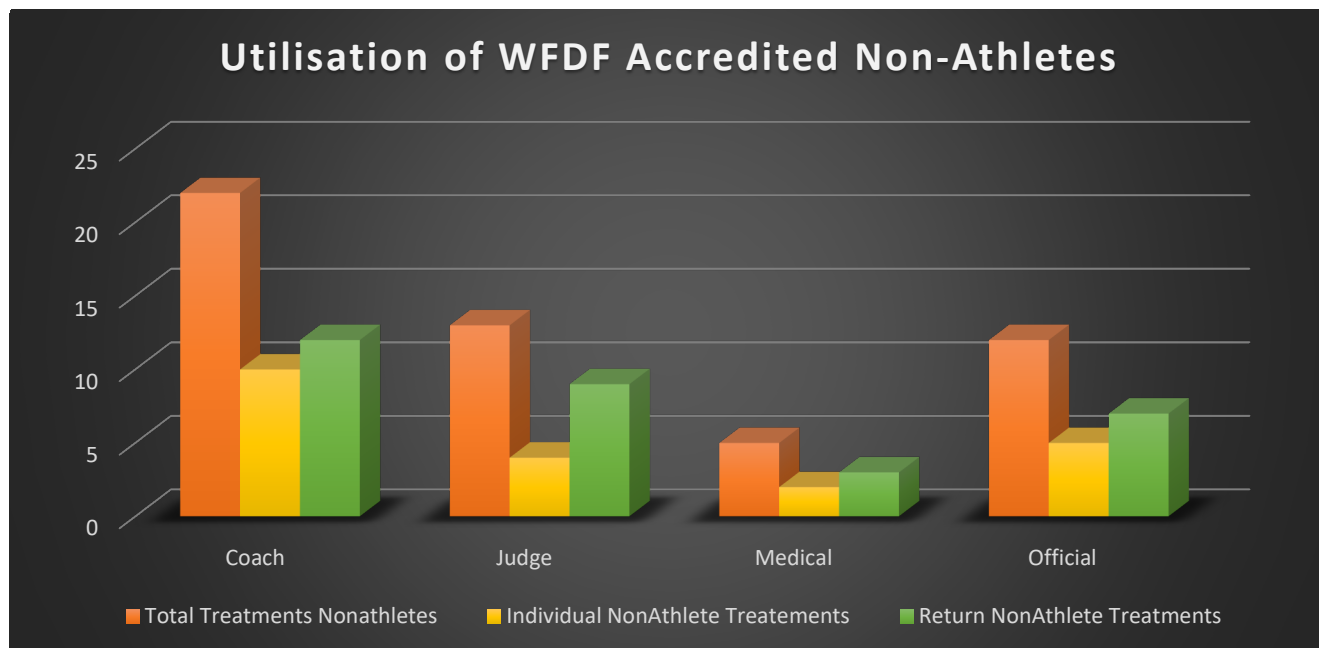
WFDF Accredited Non-Athletes:

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 coaches, judge, medical, and officials.

There were **12,768** accredited non-athletes at TWG 2022. Unfortunately, we do not have the exact number of accreditations for WFDF of their non-athletes. We provided **52** total treatments provided to WFDF accredited non-athletes. Of the 52 total treatments, **21 (40.38%)** were to new individuals and **31 (59.61%)** follow-up treatments. The gender distribution of the 21 individual non-athletes was **10 (41.62%) males and 11 (52.38%) 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 WFDF 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 Nonathletes	Individual NonAthlete Treatments	Return NonAthlete Treatments
Coach	22	10	12
Judge	13	4	9
Medical	5	2	3
Official	12	5	7
Totals	52	21	31



The results demonstrate good utilization from coaches, judges, medical, and officials. 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, judges and officials 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 WFDF and the success of the event.

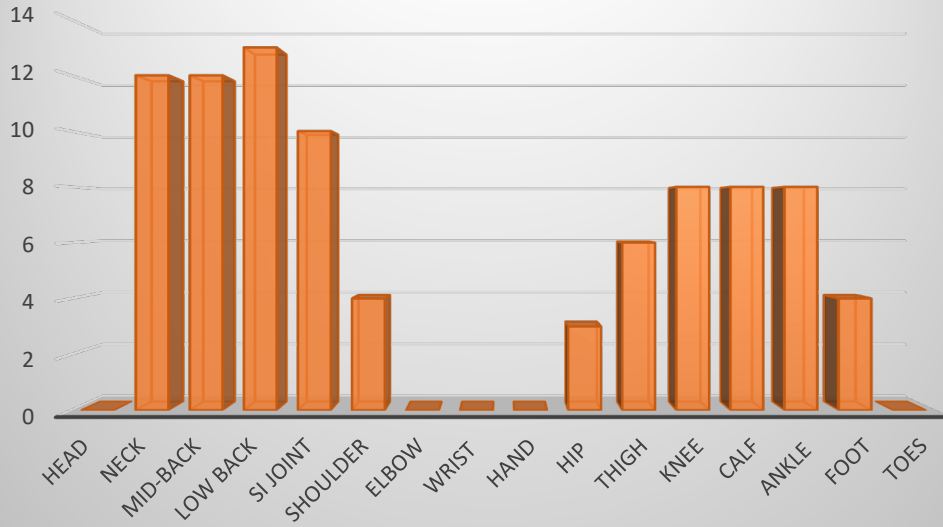
This is evidence that an added benefit of the FICS delegation is supporting all aspects of the games including those individuals that are responsible for organizing and promoting this event.

	Total Treatment Nonathlete	Individual Non-Athlete Treatments	Return Non-Athlete Treatments	Male	Female
Australia	4	2	2	0	2
Canada	15	4	11	1	3
Colombia	18	9	9	6	3
Great Britain	2	1	1	1	0
Republic of Korea	4	1	3	0	1
United States of America	9	4	5	2	2
	52	21	31	10	11

Anatomical Areas Treated of WFDF Non-Athletes:

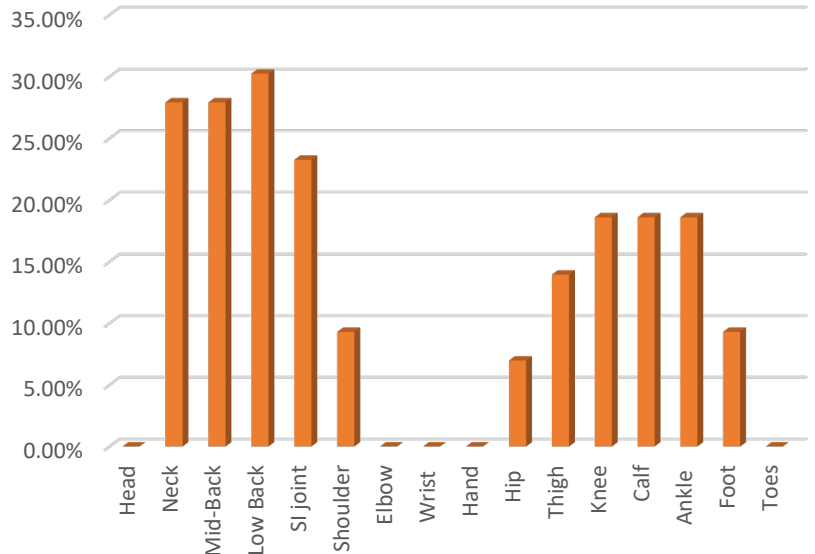
Analysis of the areas treated to the WFDF non-athletes demonstrates a similar pattern to that of the athletes. The spine and lower extremities were the primary area treated but there was representation to all anatomical areas.

WL Non-Athlete Area Treated



Anatomical Area	WFDF Non-Athlete Area Treated	% Total WFDF 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%

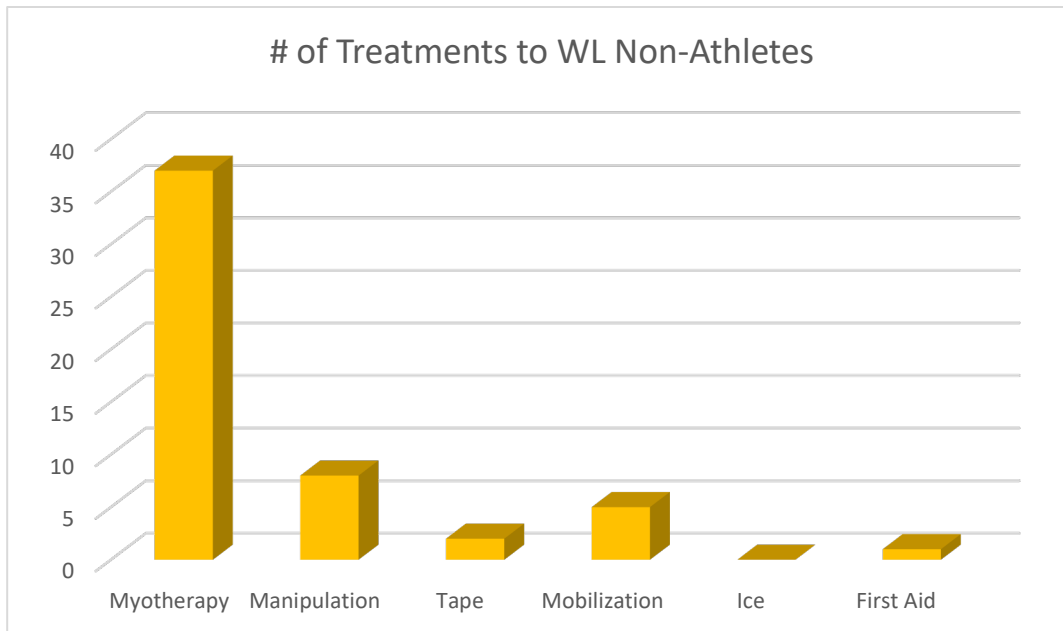
% Total WL Non-Athlete Treatments

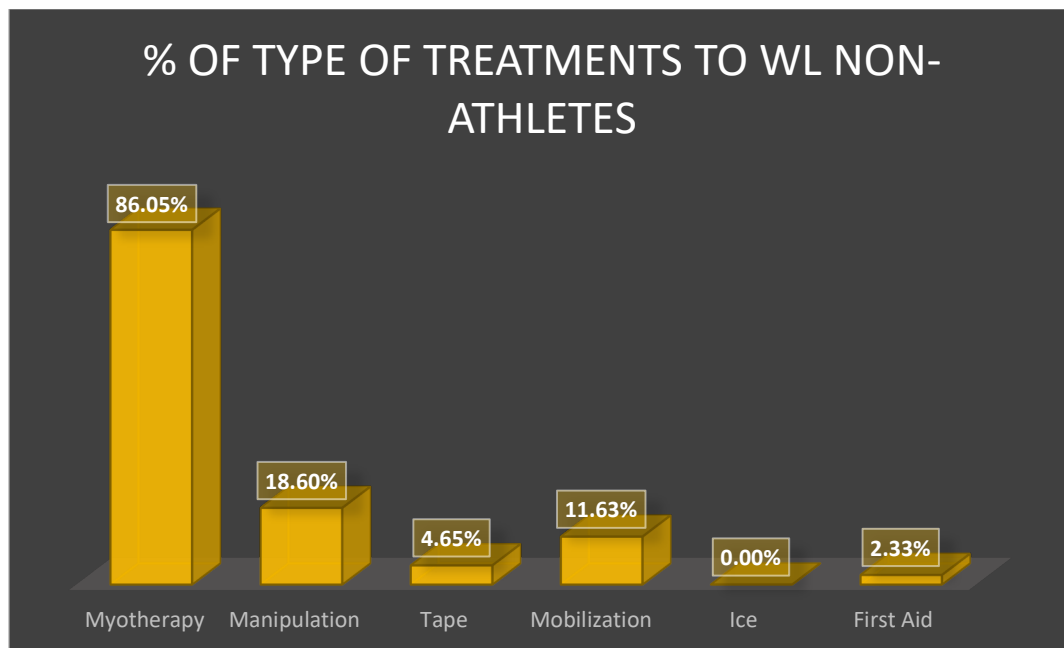


Types of Treatment Provided to WFDF Non-Athletes:

The treatment or therapies provided to the WFDF 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.

WFDF Non-Athlete Type of Treatment	# of Treatments	% of Type of Treatments / Total WFDF 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 WFDF 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 WFDF non-athlete was asked to rate their pain or discomfort from 0 (no pain/discomfort) to 10 (worse pain they have ever experienced). The WFDF 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 43 treatments provided to the non-athletes, 31 (72.09%) completed the form which is a high completion rate.

# WFDF Non-Athletes	NPS Completion Rate	Pre NPS Average	Post NPS Average	Change	% Change
31	72.09%	4.19	1.55	2.65	36.92%

It is interesting to note that the WFDF non-athletes had a similar average initial pre-treatment rating (5.22) compared to the athletes rating (4.19). The post-treatment rating was also similar with the average post-treatment rating of non-athletes was 1.27 and athletes was 1.90. The percentage of change was 36.92% for the non-athletes and 36.70% for the athletes.

Clinically, a 30% change in this rating is significant for the individual's perceived improvement, clinical indication of improvement, and has correlation to less pain and better function.

WFDF Non-Athlete’s Global Perception of Change:

The WFDF non-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 **28 (65.12%)** of the **43** treatments provided to the WFDF non-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	WFDF Non-Athletes	# of WFDF Non-Athletes Completed Form	% of Form Completion to Total # of WFDF Non-Athletes Treated	Average Score out of Maximum of 5
		28	65.12%	4.00

The results demonstrated an average score of **4.00** with the highest score possible of a 5. The WFDF non-athletes perceived a dramatic change from the treatment of the FICS sports chiropractors.

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 WFDF non-athletes were satisfied with the care of their FICS sports chiropractors.

Conclusion:

The WFDF non-athletes at TWG 2022 sought the care of the FICS sports chiropractors at a high rate of utilisation. They represented various categories of the WFDF non-athlete accreditation with a high rate of referees utilising 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 WFDF non-athletes perceived a strong global change and were very satisfied with their care from the FICS sports chiropractors.

Yours truly,

Dr Brian C Nook

FICS ExCo and EMT Member

FICS IWGA Chef de Mission WG 2022

FICS IWGA Liaison