International Advocate for Glycoprotein Storage Diseases

"Crossing Oceans for a Cure"

ISMRD ANNUAL REPORT FOR 2019

April 2020

OUR MISSION

ISMRD is the leading advocate for families worldwide affected by a Glycoprotein Storage Disease. Through partnerships built with medicine, science and industry, we seek to detect and cure these diseases, and to provide a global network of support and information.

OUR VISION

We seek a future in which children with Glycoprotein Storage Diseases can be detected early, be treated effectively, and go on to live long, healthy and productive lives.

BOARD OF DIRECTORS (All non-salaried):

Jackie James	President	USA
Mark Stark	Treasurer	USA
Jenny Noble	Vice-President Administration	New Zealand
Carolyn Paisley-Dew	Vice-President Communications	Australia
Jenny Klein	Vice-President Research	USA
Kevin Gates	Board Member	USA
Shirley Jamil	Board Member	UK
Darko Jamnik	Board Member	Slovenia
Dan Peach	Board Member	New Zealand
Truls Roll	Board Member	Norway
Juanita Van Dam	Board Member	Australia

Our thanks go out to our hard-working Board Members, whose eclectic skills, experience and outlooks combine to keep ISMRD vibrant, fresh and forward-looking.

ISMRD Professional Advisory Board (All non-salaried):

Prof Richard Steet - USA: Scientific Chair

Steve Walkley – USA
Alessandra d'Azzo - USA
Marc Patterson – USA
Thomas Braulke – Germany
Enrico Moro – Italy
Sara Cathey - USA
Dag Malm - Norway
Charles Vite – USA
Amelia Morrone - Italy
Vish Koppka - USA

We would like to thank our Professional Advisory Board members for their invaluable input into scientific and medical matters.

OUR ACTIVITIES FOR 2019

Sixth Glycoprotein International Conference in Atlanta, Georgia

Intense activity occurred during 2018 and 2019 in preparation for the sixth International Glycoproteinoses Conference that was held in July 2019 in Atlanta Georgia.

ISMRD applied to 89 companies and organisations for funds to conduct the conference. US$84,000 was raised across 2018 and 2019. We would like to thank our sponsors Sanofi Genzyme; Chiesi; moderna, Amicus Therapeutics; Ultragenyx Pharmaceuticals; the Department of Haematology, Washington University in St Louis; JCR Pharmaceuticals; Mallinckrodt; Takeda; and Charles Vite.

The Conference was a huge success, with more than 120 delegates representing eight countries and five of our disorders. For the first time ever, the entertainment at the Conference Awards Dinner was provided by affected children and adults, with a diverse and heartwarming talent show. Thank you so much to all those courageous young people who sang and played music for us.

Four new Board Members were recruited during the conference. The new members are Kevin Gates and Jenny Klein from the USA; Darko Jamnik from Slovenia and Truls Roll from Norway. The addition of these new members has greatly increased the size, diversity, geographical reach and resources of the Board. We warmly welcome new members to the Board and thank them for their enthusiasm and commitment to furthering the cause of Glycoprotein Storage Disorders.

Mucolipidosis Research Network

Roundtable discussions at the ISMRD meeting in Atlanta saw the birth of the Mucolipidosis Collaborative Research Network (MCRN). The goal of the MCRN is to take active steps towards pursuing therapies for Mucolipidosis (ML). The MCRN brings together clinicians, researchers, patients and advocates once a month to share ideas and define plans for the identification and assessment of ML therapies. The current strategy for the Network is to test existing treatment concepts for ML in animal models, but to also develop a pipeline for the investigation of new modes of therapy. ISMRD's long-term vision is that Collaborative Research Networks will be developed for all of the diseases under its umbrella, and that a powerful and dynamic synergy will emerge between these different Networks. The MCRN plans to provide periodic updates and meeting summaries so that all ISMRD members stay informed. ISMRD is grateful to all the professionals, patients, and advocates who turned this dream of a Network into a promising and exciting reality.

Intellectual Functioning in Alpha-Mannosidosis

In 2006, the Greenwood Genetic Center in South Carolina, USA began the first ever Natural History Study for Mucolipidosis.

ISMRD subsequently partnered with the lead investigator, Dr Sara Cathey, and the Greenwood Genetic Center to extend the Natural History Study to the other eight diseases that ISMRD supports.

Numerous publications resulted from the data gathered. A paper was released in late 2019 concerning intellectual functioning in Alpha-Mannosidosis. Written by Dr Cathey, the paper discusses the findings of the study of the IQ of 12 patients with Alpha-Mannosidosis and data collected from 31 cases from the literature.

ISMRD-Sponsored Mucolipidosis Research

In 2016, ISMRD raised $150,000 for Mucolipidosis research. This was done in partnership with the US National MPS Society, the Wagner Foundation, the Spanish MPS Society, Rock4Dakotah, the Australian MPS Society, the Austrian MPS Society, the Irish MPS Society, and many families from around the globe who worked hard to fundraise for this initiative. These funds were allocated in early 2017 to:

- Gene Therapy Research in Mucolipidosis
- Osteoporosis Research in Mucolipidosis.

Gene Therapy Research in Mucolipidosis

The formal title of the gene therapy project is "*To Evaluate AAV Gene Therapy in the Feline Model of ML II*"**.** AAV stands for Adeno-Associated Virus. In January 2018, ISMRD received the Year One Progress Report on this Project. The research was making promising progress, and Year Two funding was released to the researchers, Allison Bradbury and Charles Vite from the University of Pennsylvania and Steven Gray who is based at the University of North Carolina. The findings of their research were presented at our conference in Atlanta in July 2019. Following successful completion of safety and toxicity testing, large-scale vector manufacturing was conducted to produce a sufficient amount of virus to intravenously treat 4-6 cats affected with MLll. Once treated, the cats were to be evaluated by radiographs, echocardiograms, ophthalmological examinations and MRI of the brain to evaluate hydrocephalus. Due to the unexpected deaths of some of the cats, the project has been extended by one year, at no cost to ISMRD.

ISMRD has also granted an additional $60,000 to this project for the purchase of further AAV, to allow other therapies when identified to be trialled in the cats; to allow samples to be sent to the ML Osteoporosis research project; and for any residue funding to go towards the housing of the cat colony.

Osteoporosis Research in Mucolipidosis.

At the 6th Glycoproteinoses International Conference in July 2019, Sandra Pohl spoke about the latest developments in the research project. Dr Pohl and her team found that Pamidronate is the best treatment for the bone condition in MLII/MLIII, which supports and confirms the original research paper "The Osteodystrophy of Mucolipidosis Type III and the effects of intravenous Pamidronate treatment".

This work is very promising but there is still much to do. It confirms that osteoblasts are affected by storage but there is still no clear reason for the aggression of osteoclasts. There is a need to have a break from Pamidronate when the patient's bone density is in the normal range as the oesteoblasts do not get a chance to have normal growth otherwise.

ISMRD Vice-President Administration, Jenny Noble awarded OMA

ISMRD's Vice President Administration, Jenny Noble, was appointed a Member of the New Zealand Order of Merit for her years of service to the rare disease community. This prestigious appointment is hand-picked by Her Majesty Queen Elizabeth ll.

Jenny has two grown-up children with MLlll. She has been a backbone of the ISMRD for many years, and a tremendous support and help to all of our families. We congratulate her for this well-deserved recognition.

International MPS and Related Diseases Network

In 2018, ISMRD became part of an international network for Lysosomal Diseases when Jenny Noble was elected to the International MPS and Related Diseases Network Board as its Second Vice-Chair. The brief for this global network for patient support is to:

- create geographical networks that will connect into the international network;
- build collaborations with drug companies that will help it achieve its goal of a global network; and
- support and help new groups to develop and evolve to assist those affected by these terrible diseases.

This is a huge step forward for ISMRD and one that will help us find affected patients and give us the ability to broaden our collaborations towards research and finding families.

The Network is currently seeking not-for-profit status.

Fundraising and Donations

ISMRD's income from fundraising and donations in 2019 was $112,166.07

$66,344.42 of this money was raised by grant-writing for the Sixth International Glyoproteinoses Conference , and went towards the cost of running the conference.

ISMRD conducted targetted fundraisers during 2019 with goals of raising funds for research for Mucolipidosis and for Fucosidosis. A total of $1420 was raised in 2019 for Fucosidosis research, and $25,985.80 for Mucolipidosis research.

General donations, interest and other income totalling $18,733.12 were made to the ISMRD during 2019. These were from family members and friends, researchers, pharmaceutical companies and universities.

We would like to thank each and every one of these individuals and organisations for their kind donations, including those family members who asked their friends and family to donate to ISMRD in place of giving them a traditional birthday present.

ONLINE PRESENCE

As part of our fundraising activity, our Facebook pages were updated to allow families and friends to easily create online donations for a cause. Our website was also updated in 2019 and Google Translate became available for several languages. We plan to continually update and improve our online presence.

CONFERENCES ATTENDED

Jenny Noble attended the second Asia-Pacific Lysosomal Conference that was held in Auckland, New Zealand, 146 February 2019. Jenny was able to make some very useful connections for furthering ISMRD's goal of expanding into the Asia-Pacific basin.

NUMBER OF NEW MEMBERS

20 new people with an affected family member joined ISMRD in 2019. Given that we have 205 families, and considering how incredibly rare our diseases are, this is a significant increase and testimony to our increasing reach and the success of our awareness raising.

FINANCIAL STATEMENT

Income Statement for the 2019 calendar year	See Attachment A
Balance sheet for the end of the year (Dec. 31, 2019)	See Attachment B

ISMRD CONTACT DETAILS

Address:
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Attachment A

Income Statement
International Society for Mannosidosis & Related Diseases
1 January 2019 to 31 December 2019

Revenue	
Chiesi - Donation	$32,354.42
Conf Registration	$375.00
Conference income	$26,465.00
Conference Income Amicus	$6,000.00
Conference income JCR Pharmaceuticals	$5,990.00
Conference Income Moderna	$8,000.00
Conference Income Takeda/Shire	$10,000.00
Donation - Recurring payment	$1,695.00
Donation- Unrestricted.	$6,791.58
Donations	$8,139.78
Facebook Donations	$1,792.49
Fucosidosis Research Donation	$1,420.00
Interest Income	$2.90
ML Research - Donation	$25,982.80
Other Income	$311.37
Ultragenyx - Donation	$4,000.00
Total Revenue	**$139,320.34**
Gross Profit	**$139,320.34**
Operating Income / (Loss)	**$139,320.34**
Other Income and Expense	
Bank Revaluations	-$411.72
Bank Service Charges	-$253.00
Board Expenses - Conference	-$2,000.00
Click and Pledge Fees	-$1,524.22
Conference - Board Costs	-$2,584.71
Conference Registration	$2,357.00
Conference/Branding/Graphic design	-$4,247.80
Conference/Fedex shipping costs	-$393.11
Conference/Management Company	-$21,353.34
Conference/Printing/Accessories	-$2,705.77
Conference/Speaker Costs	-$3,772.59
Conference/Venue	-$92,103.25
Conferences/Meetings	-$9,134.34
Family Scholarship	-$763.89
General Expenses	-$35.84
Office Expenses	-$4,172.50
Postage & Delivery	-$849.15
Website Hosting NZ	-$611.01
Total Other Income and Expense	**-$144,559.24**
Net Income / (Loss) before Tax	**-$5,238.90**
Net Income	**-$5,238.90**
Total Comprehensive Income	**-$5,238.90**

Attachment B

Balance Sheet
International Society for Mannosidosis & Related Diseases
As at 31 December 2019

	31 Dec 2019	31 Dec 2018
Assets		
Cash and Cash Equivalents		
Bank of America - 7621	$0.00	$159.93
California Account	$126,996.12	$128,540.91
ISMRD New Zealand Account	$223.01	$3,757.19
Total Cash and Cash Equivalents	**$127,219.13**	**$132,458.03**
Total Assets	**$127,219.13**	**$132,458.03**
Liabilities and Equity		
Equity		
Current Year Earnings	-$5,238.90	$14,075.52
Retained Earnings	$132,458.03	$118,382.51
Total Equity	**$127,219.13**	**$132,458.03**
Total Liabilities and Equity	**$127,219.13**	**$132,458.03**

Notes:

1: Figures converted into United States Dollar using the following rate:

1.48520 NZD New Zealand Dollar per USD. Rate provided by XE.com on 31 Dec 2019.

2: Figures converted into United States Dollar using the following rate:

1.48897 NZD New Zealand Dollar per USD. Rate provided by XE.com on 31 Dec 2018.