

Website Report

(November 2018 to December 2022)

Introduction

In reviewing the BHTF website articles published during the last 4 years (November 2018 to December 2022), the statistics enable the editor to establish a certain measure of performance (e.g analysis of number viewed and their hit rate).

In summary, since 2018, the website has published 227 pages, posted 70 blogs, announced 24 ACPSEM/BHTF Award winners and 33 author contributors produced 76 high quality articles of basic, mid and advanced (levels 1 – 3) information sources.

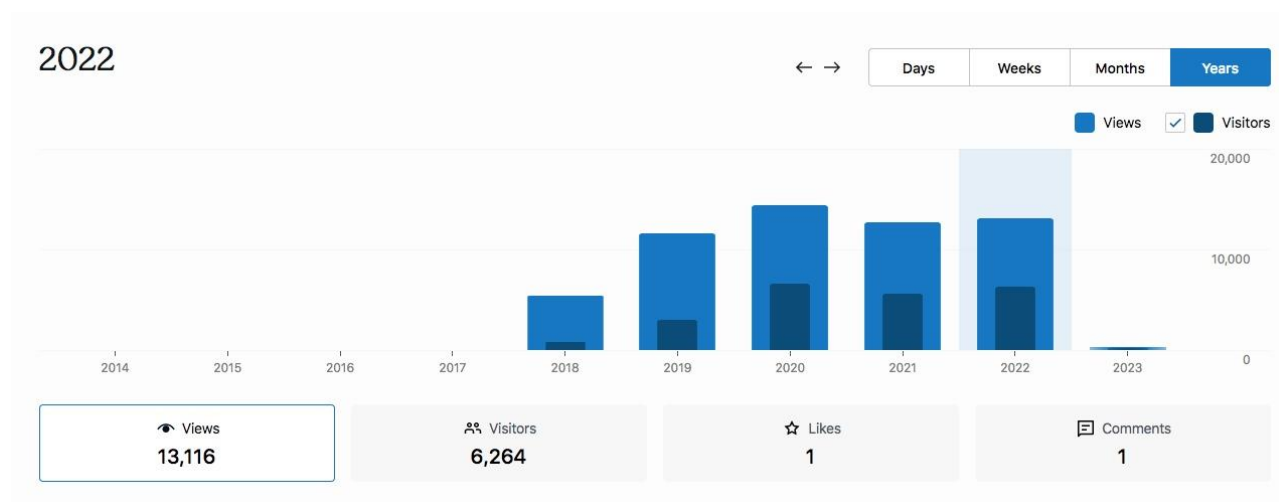


Figure 1. Yearly visits and views for betterhealthcaretechnology.org

With good support from the Award Winners, the website has averaged 2 articles published every 3 months with the effort rewarded by a consistent web traffic of 6,000 visits and 12 – 13,000 views per year (See Figure 1.).

Origin of Visiting viewers

Figure 2. shows the top 10 countries with the most website 2022 visitors. There were actually close to 100 countries recorded.

The top ten visiting countries represents 91.5% of the visits whilst the remaining 110 countries have the remaining 8.5% visits. The percentage visits for the top 10 countries are: Australia 52%, USA 22.8%, UK 4.5%, NZ 2.7%, India 2.6%, Germany 2.5%, China 1.3%, Ire 1.4%, Canada 1% and Ukr. 0.9%.

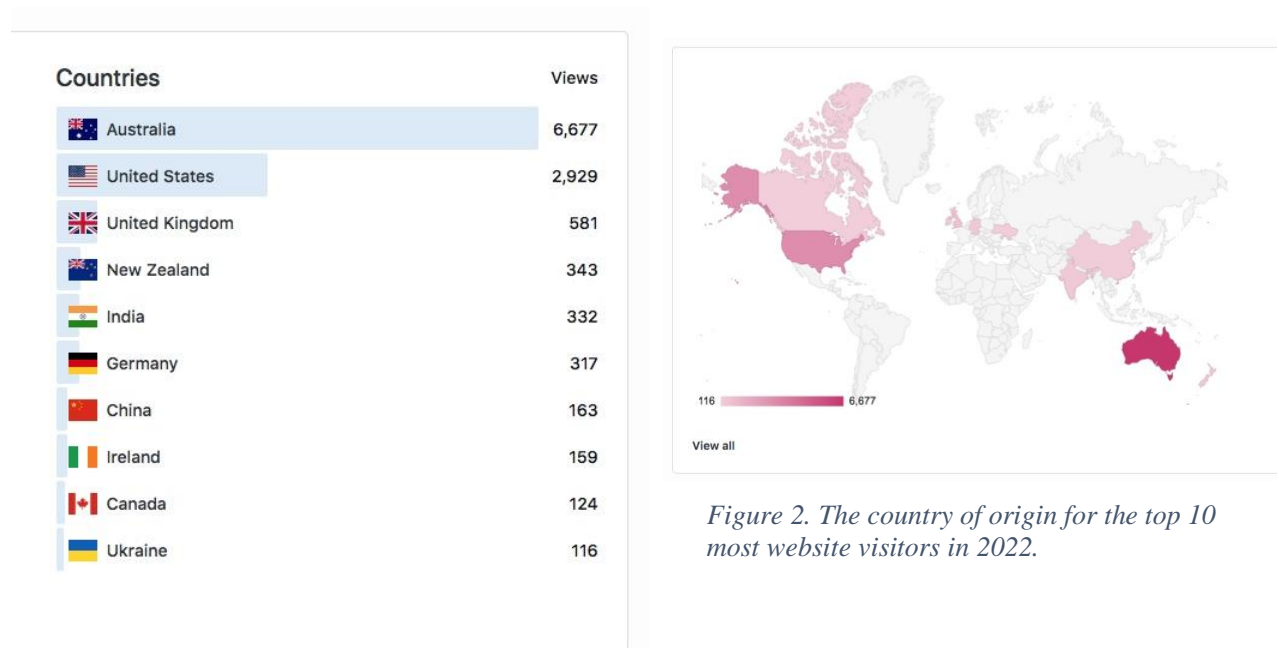


Figure 2. The country of origin for the top 10 most website visitors in 2022.

Referring Sources

There were a wide variety of search engines and referrals from other websites. Note that the most active search engine supplying visitors to the www.betterhealthcaretechnology.org site, is google (2485/3170 = 78%).

Scientific Award and Website Winners

The 2022 and past Scientific Award winners

The annual judging of the scientific awards is a joint effort arranged between the ACPSEM and the Better Healthcare Technology Foundation (BHTF). It involves:

- defining the criteria of each award prize;
- defining the conditions of the award;

- promoting and inviting applications;
- taking custody of all applications stored securely prior to judging;
- assessed by the Awards Panel;
- results reported to Boards of ACPSEM and BHTF; and finally,
- publicly announced at the November EPSM Conference.

Note that the candidates who applied for their award this year, are actually assessed on the applicant's achievements in 2021 or earlier.

The Awards granted in 2022 were:

Dr Alexander Santos PhD: Boyce Worthley Young Achiever;

Dr Ellette Engels PhD PhD Thesis Award;

Ms Sandra Fisher Clinical Leadership Award;

Dr Damion Stimson PhD Richard Bates Travel Award;

Mr Tony Young et al Kenneth Clarke Journal Award.

These scientific awards are encouraged by the ACPSEM and the ACPSEM Foundation (trading as the brand name: Better Healthcare Technology Foundation) and judged for the candidates academic work and professional achievements. The awards are hotly contested, considered a high honour to receive and the prize has long-term status value for their career.

Since the Scientific Awards were transferred to the ACPSEM Foundation in 2017, the loyal Awards Panel (chaired by Dr Zoe Brady) has recommended 24 winners out of countless applications submitted. ACPSEM, the Foundation and the website management team gratefully thank the Panel Committee for their voluntary services.

The website has posted the past 19 Award winners on the website ([The Scientific Awards](#)). The scientific winners since 2017 are:

Brendan Whelan, Andrew Fielding, Nick Hardcastle, Georgio Katsifis, Joshua Hyatt, Joel Poder, Michael Jameson, Jake Forster, Ben Cooper, Tania Kairn, Scott Crowe, Seonaid Rodgers, Juliette Harley, Giordano Biasi, Annabelle Austin, Rance Tino, Marco Marcello, Adam Yeo and Michael Douglass.

The Website Winners

In reviewing the BHTF articles published during the last 4 years (2018 – 22), the statistics enable the editor to establish a certain measure of performance (e.g analysis of the number viewed and their hit rate).

The website's software package provides information on:

- article title;

- author's name;
- date published; and
- website address.

It's essentially a 'de facto' statistical analysis of visits and views because the website viewers are anonymous. Some may be scam attempts which affect the visit and country statistics but not necessarily the number of views - which must be human actions.

Nevertheless, the statistical information can be used by management to assess and announce other worthy website winners:

1. The article most viewed during the 4-year review (Figure 3); and
2. The article with the highest hit rate (no. of visits/month, Figure 4)

Authors who published their article 30 – 50 months ago, will naturally accrue more visits. But when their statistics are viewed for this long period, the top articles show consistent traffic. It implies that the articles continued to be an important source of information for many new viewers over the longer period. The same articles also have a fairly solid 9 – 15 hit rate per month.

Author	Article		Months Posted	Rating	No. of Visits	No./Month
Dr Lyn Oliver 1.	<u>Prostate Brachytherapy</u>	Nov. 18	48	1	740	15.4
Dr Nicholas Hardcastle 2	<u>SABR: A new force in local ablative cancer treatment?</u>	May-20	31	3	451	14.5
Dr Lyn Oliver 3	<u>'Cancer Goggles' for Surgery</u>	Nov. 18	48	4	433	9.0

Figure 3. The three most viewed articles on the website.

However, there are other articles which may have been published only 2 to 12 months ago and some of these articles have attracted a significantly high number of visits due to the high interest shown by the number of views within a short timeframe. This is assumed to be due to the interest level in new medical technology or new techniques now on the horizon.

According to these statistics, visits and views is a means of judging (i) articles with long-term posting and (ii) articles of long or short-term posts showing high hit-rates. These are very good website indicators.

Our results are very encouraging. The 4-year results shown in this report play a very important part as an indicator which demonstrates whether the website is contributing toward the Foundation achieving its purpose: ‘better healthcare technology for everyone’.

Author	Article		Months Posted	Rating	No. of Visits	No./Month
Dr Adam Yeo 1	<u>Implementing spatially-fractionated radiation therapy (SFRT) techniques for palliative treatment of bulky tumours</u>	Sep-22	2	4	73	36.5
Dr Martin Ebert 2	<u>Immunotherapy and radiotherapy – How can they work together to defeat cancer?</u>	Dec. 21	12	5	420	35.0
Dr Rance Tino 3	<u>3D printing customisable phantoms: Part 3</u>	Sep-22	2	7	38	19.0

Figure 4. The three articles with the highest hit rate per month.

Congratulations 2023 website winners!

Medical Technology Publications

‘On the horizon’ articles for better technology in medicine were of exceptional quality. They have good volume viewing and also had short-time, high-impact ratings in the viewer traffic statistics.

Technology	Rating	No. of Visits	No. Views/mth
Technology (SABR)	11	451	14.5
Technology (immunotherapy)	5	420	35.0
3D printing customisable phantoms: Part 3	7	38	19.0
Technology (spatial therapy)	3	73	36.5

982

Figure 5. Four technology articles topped the ratings in the number of visits and visits per month.

Cancer Technology Section

The new cancer technology section addresses several important aspects. It aims to bring together a three level 'knowledge exchange' suitable for community (level 1, for patients, family, students and early trained physicists and engineers), medium (level 2) and advanced (level 3) articles to cater for qualified health professionals.

The articles are all expected to be based on what is the latest knowledge on medical technology R&D and pitched on at least one of the 3 main focus groups:

- i. patient (basic information);
- ii. qualified health professional (CPD knowledge exchange); and
- iii. Asia Pacific hospital staff (training and education).

The cancer technology section (Figure 5.) has initially focused on the top three cancer incidence cases – prostate, lung and breast cancer treated by complex technologies.

Prostate	Rating	No. of Visits	No. Views/mth
Prostate Brachytherapy	9	740	15.4
Electroporation for Prostate Cancer - Early Clinical Trials	17	402	8.4

Optimum 3D dose prescribing for prostate radiation therapy	21	74	7.4
Radiation Therapy for Prostate Cancer	29	238	5.0
The Study of Cells Treated by Electroporation	49	52	2.9
Prostate Cancer Overview	59	77	1.6
Non-Thermal Irreversible Electroporation (NTIRE)	65	24	1.3
		1607	

Figure 6. Articles designed to provide patients a clear to understand description of the technology, utilised for prostate cancer treatment, were most certainly the top viewed cancer.

Prostate Cancer

The statistics (Figure 6.) indicate a clear need for patients to gain easy access to articles written at an understandable level. Patients wanting to receive a balanced picture of:

- What are the technology options?
- How are the medical technologies used for diagnosis and treatment?
- How does it contribute to make better quality and safety for patient diagnosis and treatment?
- What are the pros and cons, before choosing (in this case prostate cancer)?
- Which type of prostate treatment – surgery, radiation therapy, brachytherapy or some of the less common prostate ablative therapies - would be suitable?

are all important aspects when writing a patient type BHTF article. To be able to provide patients a neutral, no-conflict viewpoint from our experts, is paramount.

This ‘quest for more patient information’ demand appears to be quite noticeable in the visits from Australia and USA. It supports the Foundation Board’s decision to launch the 2022 project:

Cancer patient access to medical technology information – pilot project

Just as patients need this technical information, newly experienced physicists in the trade must also become well-versed in these patient aspects.

When writing level 1 basic articles for the BHTF website, the editor briefs the author to at least consider describing:

- how the technology is used in practice;
- what the anatomical complications might be;
- what design aspects should be improved; and
- what patients must contend with during their treatment.

However, the statistics do show some shortcomings. There's a clear need for seeking more information about the less used technique of brachytherapy. By the same token, the yet to be clinically accepted technique of prostate cancer electroporation is at a higher-than-expected number of visits (particularly during the last 18 months) from USA visitors searching for good information about the electroporation method. People are always seeking better cure methods and experts need to maintain an up-to-date knowledge to cater for this demand.

Lung	Rating	No. of Visits	No. Views/mth
Lung Cancer Radiation Therapy: New X-ray beam targeting techniques	36	103	4
Lung Cancer Radiotherapy: X-ray beam targeting	41	98	3.5
Lung Cancer Radiation Therapy: The Basics and Complexities	53	115	2.2
316			

Figure 7. Lung cancer article ratings, visits, and views per month.

Lung Cancer

Technology to assist better treatment of lung cancer and mesothelioma has even attracted Australian and USA support groups wanting links on 3 occasions. Everyone wants to know, from a reliable information source, more about how technology will improve cures and further reduce the current medical treatment complications. For lung cancer, it's hoped that the website will attract authors describing new AI driven lung treatment to this series.

Breast Cancer

Viewer interest for breast cancer technology (Figure 8.) is relatively lower due to it being well-documented in other cancer support information. The statistical exception, however, was an early article which reported progress on technology R&D work to assist better outcome for surgical removal of breast tumours ([‘Cancer Goggles’ for Surgery](#)).

It was claimed that more than 20% of patients had to return for second surgery due to the pathology sample tests indicating that the surgeon had resected insufficient tumour bearing tissue in the patient’s breast. Any form of improvement to reduce this complication, would be a welcomed improvement for patients and the surgeons.

The current attempts to reduce this complication are:

- i. The radiologist inserts a radiolucent wire into the centre of the tumour during the radiological examination procedure as a guide. The surgeon uses the wire indicator for locating the centre during the surgery. But the surgeon has no guide for showing where the tumour periphery is.
- ii. There’s a commercial device which uses a similar procedure. It helps provide the surgeon a radiowave system to detect a special seed attached on the end of the wire locator.

Neither of these procedures are fully satisfactory and there are no known further reports on the progress of the ‘*cancer goggles*’ trials.

Breast	Rating	No. Visits	No. Views/mth
'Cancer Goggles' for Surgery	15	433	9
Deep Inspiration Breath Hold (DIBH) for Breast Cancer	45	146	3.3
Breast Cancer Incidence	61	61	1.4

640

Figure 8. Breast cancer technology ratings, visits, and views per month.

Future Website Development

User information access

The Foundation owns three domains with the same brand name:

www.betterhealthcaretechnology.org	(currently in use for everyone)
www.betterhealthcaretechnology.com	(proposed site for ‘Community’ information)
www.betterhealthcaretechnology.net	(proposed site for ‘Asia Pacific’)

By separating the 3 focus groups (community, Asia Pacific hospital staff and health professionals) into separate domain sites, the task accessing and finding web pathways could be made much easier for each focus group.

Providing a simple process for finding and accessing information (like ‘*cancer technology*’) they are seeking, is particularly important for patient, families and public seeking the cancer technology information. This group are generally not proficient in the use of websites for accessing information such as this. The simpler the website process is, the better will be the outcomes.

Radiation protection

There’s a distinct shortage of articles describing radiation protection for ionising radiation, MRI, and radioactive source equipment, used for medical treatment and diagnosis.

However, there are currently a few well-viewed website articles on radiation protection which can be built on. Three examples are:

- advice given to theatre nursing staff on the relative radiation dangers of using mobile fluoroscopy units ([Radiation Protection of C-Arm Fluoroscopy](#));
- technique for reducing radiation dose to infants ([Paediatric chest phantom for CT: Keeping infant dose ALARA](#)); and
- the international policy change advising that gonadal radiological shielding was no longer required for paediatric radiological examinations ([New Policy: No Foetal and Gonadal Shielding for Radiological Examinations](#)).

Simple articles that describe to patients, families, and staff the relative dangers and safe practices are needed and should be located on the website where they can be grouped and easily.

Other cancer technology sites

There should be similar cancer technology articles made readily available on the Better Healthcare Technology website for other cancer sites.

Examples are:

- The new nuclear medicine theranostic technique for metastatic cancer treatment; and
- improvements for the older established techniques of:
 - gynaecology,
 - skin,
 - bone marrow transplants; and
 - rare whole body skin cancer techniques;

It would provide a much broader patient and staff-in-training education source.

Conclusion

As indicated in the website traffic statistics, there's a capacity to make ready access to 'whitepaper' articles (basic, mid or advanced) covering research, ongoing developments, basic education, training guidelines, knowledge exchange and multidisciplinary collaborative initiatives.

The website aims to become a digitally referenced site with accredited international recognition **and** be available to everyone (from the least advantaged to the most leading healthcare centres) located anywhere in the world.

Recommendations

- 1. Launch prostate cancer project:** Use website prostate cancer statistics in the Foundation Board's 2022 pilot project: *Cancer patient access to medical technology information.*
- 2. Improve ease of user access:** To improve easier access and guidance to information each focus group seeks, review the option of using the 3 *Better Healthcare Technology* website domains to provide each focus group (community, Asia Pacific and health professionals) a dedicated site.

The feasibility, technical limitations, cost and pros and cons of the proposal would need to be investigated.

- 3. Increase radiation protection content:** More radiation protection articles should be published on the BHTF website and made readily accessible for everyone.
- 4. Include other less common techniques:** Provide medical technology information on the less common cancer treatments.

L.D. Oliver AM PhD
Editor, Better healthcare Technology website
Director, ACPSEM Foundation Board Ltd
Chair, Fundraising, Marketing and Website Committee
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