

**Hort
Innovation**
Strategic levy investment

**MUSHROOM
FUND**

Year 3 - Audience Sentiment Benchmark: Research Report - November 2021



Background:

Project Code: MU17002

Project Name: Educating health professionals about Australian mushrooms

Project Leader: Dr Flavia Fayet-Moore

Delivery Partner: Nutrition Research Australia Pty Ltd. (NRAUS)

Report Author: History Will Be Kind (HWBK), NRAUS

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Contents:

- Objectives and Audience
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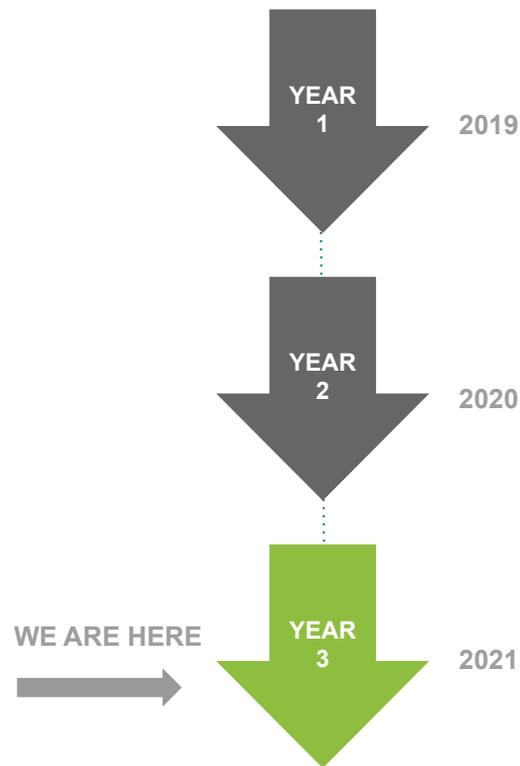
Objectives and audience



Overview:

This report describes the findings from the 2021 Audience Sentiment Research. It is the third and final of three waves of Audience Sentiment Surveys conducted throughout the 3-year project. The purpose of this survey was to:

1. Help measure the impact of the program on changes in attitudes, knowledge and propensity to act, through comparison to baseline data.
2. Gather insights and learnings of the project in improving awareness and understanding of the nutritional and health benefits of mushrooms among healthcare professionals (HCPs).



Objectives:

The aim of the survey was to measure the impact of mushroom activations on HCPs across 5 core areas:



Knowledge of the nutritional properties and health benefits of mushrooms.



Value placed on mushrooms for their properties.



Perception of mushrooms for health.



Behaviour around recommending mushrooms.



Frequency of recommendation or behaviour.

Audiences:

Core 2021 campaign audiences:

1. Dietitians
2. General Practitioners (GPs)
3. Nutritionists
4. Naturopaths
5. Other healthcare professionals (HCPs) (eg: physiotherapist, nurse)



Approach



Approach:

STEP 1:

Continuously communicated to database & wider HCP audience over the course of the program, using EDMs (Electronic Direct Mail/Newsletter) & paid social media. This highly targeted group was used as the basis for the response.

STEP 2:

Questions and learnings from **2020's survey** were reviewed and, where needed, questions adapted. For 2021 questions were removed and an additional added, as well as additional options to some questions.

STEP 3:

Distributed our sentiment analysis questions to the NRAUS and Australian Mushrooms databases as a first stop.

STEP 4:

Developed a paid social campaign targeting HCP audiences to reach new professionals.

STEP 5:

Distributed a second follow up email to the database, to remind those who had not yet completed the survey.

STEP 6:

Once the survey had closed, results were reviewed, analysed and compared to the baseline of 2019 (and in some cases to 2020) for tracking. Learnings and overall insights were included.

Timeline:

REWORKING 2020 QUESTIONS AND LEARNINGS

The 2020 audience sentiment survey report and questions were updated for 2021. A communications plan was agreed and dates aligned with the wider campaign.

AUSTRALIAN MUSHROOMS & NRAUS INVITATION EDM

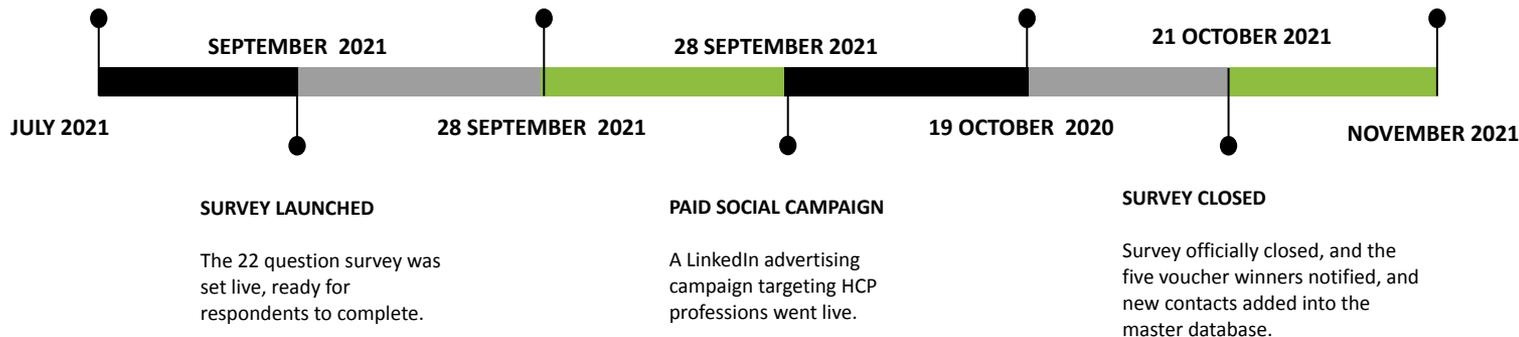
Delivered to a combined 1,903 contacts, including those carried over from the previous campaigns.

REMINDER EDM

Delivered to a combined 1,925 contacts highlighting the survey was closing soon.

SURVEY RESULTS

2019 to 2021 comparison and analysis commenced for report.



Distribution channels:

Australian
MUSHROOMS

Australian
Mushrooms
database:
1,737 contacts

NRAU
NUTRITION RESEARCH

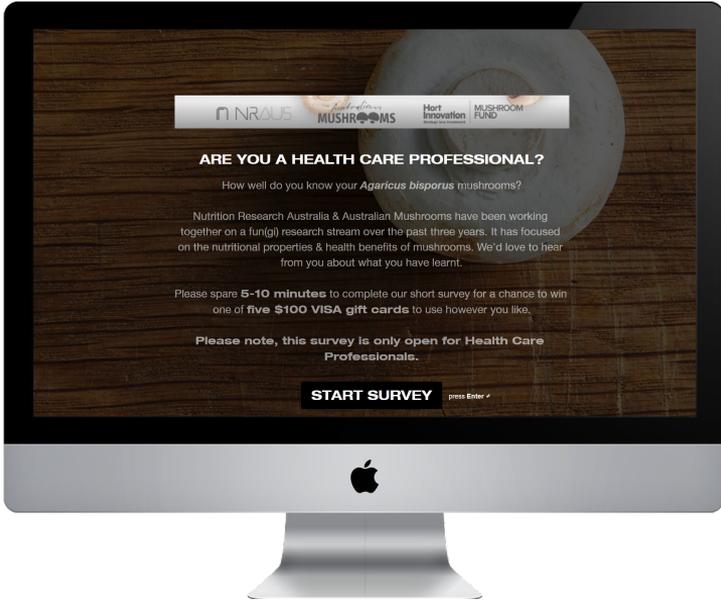
NRAUS Database:
220 contacts



Social Campaign:
101,160 reach

TOTAL COMBINED REACH OF: 103,117 PEOPLE

Assets:



The survey used a custom interface designed to maximise engagement and personalisation for owned branding.

CALLING ALL HEALTHCARE PROFESSIONALS: WE NEED YOU!
YOU'RE INVITED TO COMPLETE THE MUSHROOM SURVEY.

Hi Laura,
As a valued member of the Australian Mushrooms' healthcare professional network, you're invited to participate in our final mushroom survey as part of our three-year research.
The survey is anonymous and will take only 5-10 minutes to complete. You also have the chance of winning one of five \$100 Visa cards to spend on anything you like!

START SURVEY

WIN \$100 VISA GIFT CARDS
ONE OF FIVE \$100 VISA GIFT CARDS
As a thank you for participating, you'll go into the draw to win one of five \$100 Visa gift cards to spend on anything you like.

Thank you so much for your email!
Nutrition Research Australia & Australian Mushrooms.

Fungi fun facts

- Choose 1, 3 or 5
One serve of mushrooms is equivalent to just 1 gram of protein or about 5 button mushrooms.
- Ton for 15 min
Putting a serve of mushrooms in the sun for 15 minutes can provide over 100% of daily vitamin D needs.
- Cook on low
Cooking mushrooms at a lower heat helps to protect their vitamin D content.

Hungry for more?
Visit our mushroom hub
www.nraus.com/mushroomhub
For all the latest mushroom resources in one place.

CONTACT US **MEDIA INQUIRIES** **WEBSITE**
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Hort Innovation **MUSHROOM FUND**

DON'T MISS YOUR LAST CHANCE TO COMPLETE THE MUSHROOM SURVEY!
FOR A CHANCE TO WIN

Hi Laura,
Have you completed the mushroom survey for Healthcare Professionals yet? If not, there's not much time left with only 2 days remaining.
By completing the survey you have the chance to win one of five \$100 Visa gift cards to spend on anything you like!
The survey is anonymous and only takes 5-10 minutes to complete.

START SURVEY

WIN \$100 VISA GIFT CARDS
As a thank you for participating, you'll go into the draw to win one of five \$100 Visa gift cards to spend on anything you like.

Your help is greatly appreciated.
Nutrition Research Australia & Australian Mushrooms.

Hungry for more?
Visit our mushroom hub
www.nraus.com/mushroomhub
For all the latest mushroom resources in one place.

CONTACT US **MEDIA INQUIRIES** **WEBSITE**
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A series of informative and engaging EDMs were designed to entice and remind the audience.

Additional social ads were created for online audiences to recruit further interest.

CALLING ALL HEALTHCARE PROFESSIONALS: WE NEED YOU!
You're invited to complete the mushroom survey

SURVEY: Complete the mushroom survey for a chance to WIN! [Sign Up](#)

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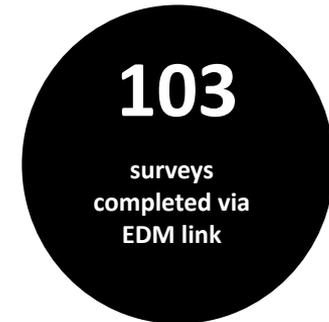
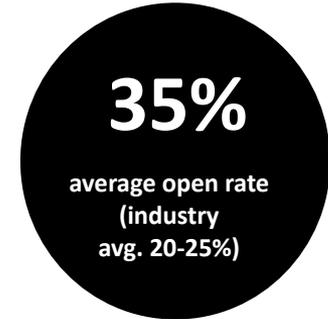
Reactions

Like Comment Share Send

EDM performance to existing databases

OBJECTIVE: To distribute the EDMs to the master HCP owned database built over the course of the campaign.

EDM	Database Size	Unique Opens	Open Rate	Clicked a Link	Unsubscribe Rate	Not Opened	Clicked the survey link
Survey invitation EDM	1,903	697	37.17%	28.98%	2.03% (38 people)	1,178	202
Survey reminder EDM	1,925	625	32.86%	15.2%	0.68% (13 people)	1,277	101
TOTAL / AVERAGE	3,828 EDMs delivered	1,322 unique opens	35.0% open rate	22.09% clicked a link	1.35% opting out	2,455 unopened EDMs	303



Paid social media

OBJECTIVE: To use targeted social ads to generate additional survey respondents, based on last year's learnings, whilst also growing the master HCP database.

Platform	Clicks to Site	Reach	Cost Per Click	Spend	Click Through Rate	Video Percentage Watched
LinkedIn	290	101,160	\$11.06	\$3,000	0.29%	61.67%

RESULTS:

- Campaign ran for 31 days, drove 290 visitors to the survey landing page and converted an additional **86 survey responses**.
- Key audiences targeted for this campaign was two-fold: HCP job titles and custom database targeting of our EDM database to capture the same audience also on LinkedIn.
- **29 additional HCP contacts** from the social strategy were added to the master database.
- In 2019 and 2020, Facebook spend was run to questionable responses, so 2021 implemented spend was placed on LinkedIn only to ensure the best possible result from higher quality candidates.



Nutrition Research Australia

642 followers
Promoted



Calling all Healthcare Professionals: We need you! How much do you know about mushrooms? Complete our short survey for a chance to win one of five \$100 VISA gift cards.



CALLING ALL HEALTHCARE PROFESSIONALS: **WE NEED YOU!**

You're invited to complete the mushroom survey



SURVEY: Complete the mushroom survey for a chance to WIN!

[Sign Up](#)

16

Reactions



Like

Comment



Add a comment...

86

surveys
completed from
paid activity

Survey Results



Survey Stats:

262

Survey starts of 602 total visits to the survey from all sources (email activity + paid)

77.1%

Completion rate of those that started the survey (n = 202)

82%

Health or food professionals. It is only these who are represented in the results (n = 166)

51%

Of our target audience took part from paid media activities (n = 86)

Survey structure:

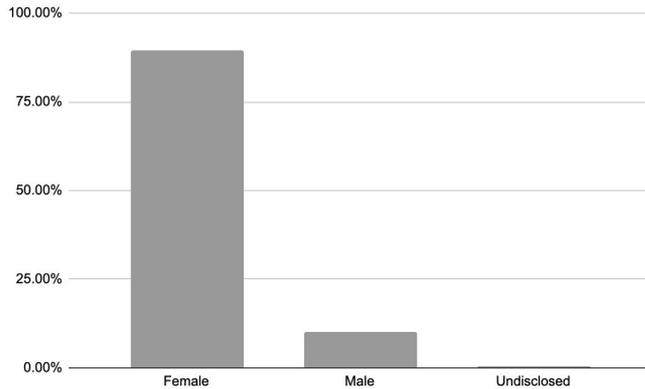
The results have been set out in accordance with the overall survey structure:

- **Part 1** - Audience segmentation
- **Part 2** - Knowledge of the health and nutritional properties of mushrooms
- **Part 3** - Value of mushrooms to HCPs
- **Part 4** - Knowledge of vitamin D properties
- **Part 5** - Existing resources
- **Part 6** - Personal consumption habits and rationale
- **Part 7** - Mushroom recommendation to clients and rationale
- **Part 8** - Perspective of mushrooms within dietary guidelines

Part 1: Audience Segmentation

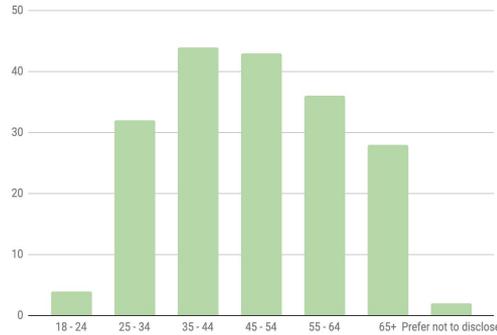
GENDER

89.4% of respondents were female



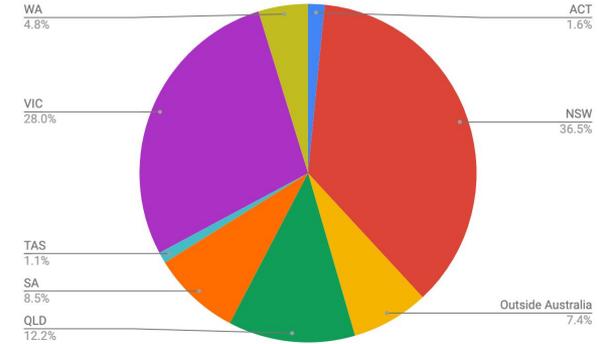
AGE

The age sample size were mostly evenly split



LOCATION

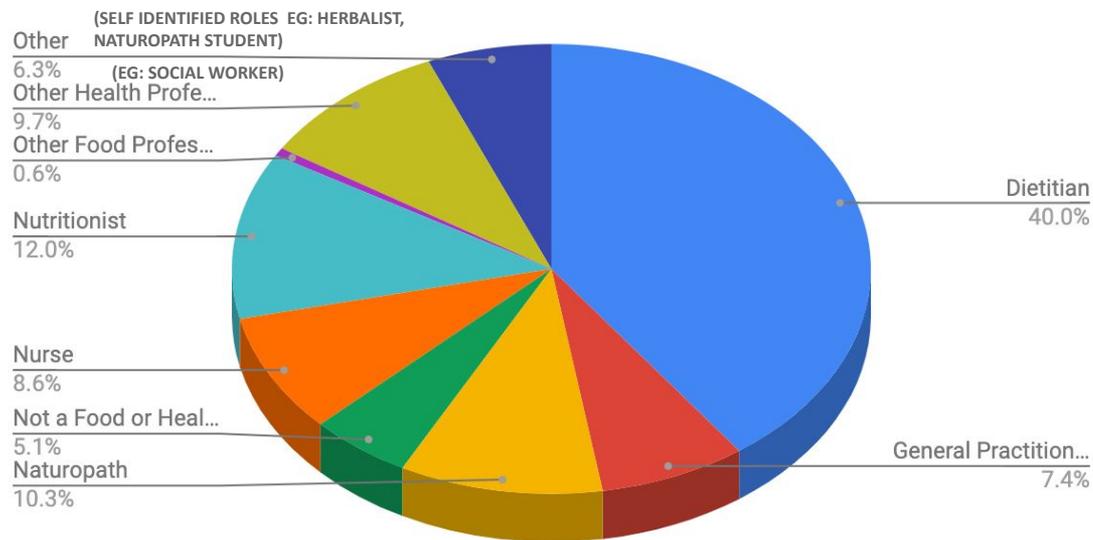
NSW and VIC were the most represented states



189/189 ANSWERED

MANDATORY *those outside Australia removed from survey

Part 1: Audience Segmentation



52%

OF RESPONDENTS WERE DIETITIANS OR NUTRITIONISTS

7.4%

OF RESPONDENTS WERE GPs

10.3%

OF RESPONDENTS WERE NATUROPATHS A KEY AUDIENCE FOR 2021

175/189 ANSWERED

MANDATORY* Non Healthcare professional removed from survey

Part 2: Knowledge of the health and nutritional properties of mushrooms

Q1. How familiar are you with the health benefits of mushrooms (e.g. satiety, gut, heart health)?

Response	2021	Dif. to 2019
Familiar with some health benefits but cannot specify them	38.6%	-24.4
Familiar and can specify their health benefits	34.9%	+14.9
Very familiar as I have attended events / webinars / read resources	17.5%	+13.5
Academic knowledge and actively seek more information	4.8%	+1.8
Not familiar at all	4.2%	-3.8

166/189 ANSWERED
MANDATORY

Q2. How familiar are you with the key nutritional properties of mushrooms (e.g. nutrient content, bioactive components)?

Response	2021	Dif. to 2019
Familiar with some nutritional benefits but cannot specify them	42.2%	-16.8
Familiar and can specify their nutritional benefits	34.3%	+17.3
Very familiar as I have attended events / webinars / read resources	12.7%	+8.7
Not familiar at all	7.2%	-8.8
Academic knowledge and actively seek more information	3.6%	+1.6

166/189 ANSWERED
MANDATORY

FINDINGS:

- Overall knowledge in health benefits and nutritional properties of mushrooms has grown significantly in the past three years, with **over half of HCPs surveyed (57.2% & 50.6%) being familiar with each** (either being able to specify, very familiar or having academic knowledge) compared to around quarter at baseline (25% & 23%).
- This increase in familiarity, in some cases, could be attributed to events/webinars that have been attended.
- Four times more are **very familiar with the health benefits of mushrooms (17.5% vs 4%)** and three times more with the **key nutritional properties of mushrooms (12.7% vs 4%)** when comparing 2021 to 2019 potentially due to attending events and reading resources.
- **Unfamiliarity to nutrition and health benefits and being familiar but unable to specify dropped significantly** compared to baseline.

Part 2: Knowledge of the health and nutritional properties of mushrooms

Q3. In your opinion, what are the key nutritional properties of mushrooms (e.g. nutrient content, bioactive components)?

FINDINGS:

- **97.6%** of the respondents were **able to specify at least one nutritional property**, an increase **from 90.6% in 2019**.
- This year only **2.4% could not select** a nutritional property, a huge drop from 2019 (9.4%).
- **Vitamin D is the most commonly selected property** after being third in 2019 and second in 2020.
- **Beta-glucans** saw the biggest jump in knowledge with an almost 20 point increase from 2020 - this is one of the key attributes that has regularly been called out in campaign materials.
- The key nutritionals communicated throughout project, Antioxidants, Beta-glucan, Chitin, D, Ergosterol and Ergothioneine (ABCDE) all showed significant increases.

Response	Difference to 2019 or 2020	
	2021	
Vitamin D	74.1%	+23.7
Dietary fibre	72.3%	0
Antioxidants	65.1%	+6.7
Vegan friendly	65.1%	NEW
Low calorie	60.2%	NEW
B Vitamins	58.4%	NEW
Cholesterol free	57.8%	-2.9
Low sodium	52.4%	NEW
Beta-glucans	41.6%	+19.1
Prebiotics	34.9%	+2.3
Chitin	29.5%	+11.1
Potassium	29.5%	-5.8
Ergosterol	28.9%	+10.5
Ergothioneine	24.1%	+9.4
Folate	24.1%	-4.5
Selenium	23.5%	-7.7
Copper	15.7%	NEW
Omega-3	6.0%	-1.6
Vitamin E	5.4%	-4.9
Don't know	2.4%	-7
Other	0.0%	-2.7

Part 2: Knowledge of the health and nutritional properties of mushrooms

Response	Difference	
	2021	to 2020
Increases and maintains vitamin D levels	76.5%	+11.4
Improves gut health	72.3%	+9.8
Strengthens the immune system	56.6%	+19.7
Increases fullness and reduces hunger	50.6%	+4.5
Improves cardiometabolic markers (e.g. cholesterol, glucose, triglycerides)	49.4%	+4.8
Lowers the risk of some cancers	43.4%	+9.6
Reduces inflammation	36.1%	+5.9
Improves brain health and cognition	35.5%	+8.9
Supports the nervous system	30.7%	+13.3
Anti-aging	24.1%	+6.7
Maintains strong bones	24.1%	+2.1
Enhances physical performance (e.g. energy, muscle mass)	18.1%	+6.4
Don't know	5.4%	-4.8
Other	1.2%	+0.7

Q4. In your opinion, what are the key health benefits of mushrooms? (new question in 2020)

FINDINGS:

- Across the board there were between 2.1%-19.7% increase on knowledge of all health benefits.
- Only 5.4% **could not select** a health benefit, almost a 50% drop (4.8 point) from 2020.
- **Vitamin D levels**, as with the previous question, came out top response, with over three-quarters (76.5%) aware of its impact.
- Other health benefits that were well known included **gut health, satiety, and immune system support**.
- An almost **20 point increase**, compared to 2020, in knowledge of **mushrooms strengthening immune system**, after this was a focus in 2021.

Part 3: Value of mushrooms to HCPs

Q5. How important do you think mushrooms are in supporting overall health?

Response	2021	Dif. to 2019
Very important	53%	+19.1
Somewhat important	45.8%	-11.3
Not important	0.6%	-3.9
Don't know	0.6%	-3.9

166/189 ANSWERED
MANDATORY

Q6. State your opinion: "Mushrooms have unique health benefits and nutritional properties" (new question in 2020)

Response	2021	Dif. to 2020
Strongly Agree	58.4%	+16.9
Agree	34.9%	-7.7
Neutral	6.6%	-9.3
Disagree	0%	-
Strongly Disagree	0%	-

166/189 ANSWERED
MANDATORY

FINDINGS:

- A total of **98.8%** of respondents regarded mushrooms as 'Important' or 'Very Important' for health, 7.8 points more than in 2019.
- Mushrooms being seen as '**Very Important**' increased from 2019 (33.9%) to 2020 (43.1%) to 2021 (53%) for Q5, showing that **perception of importance has increased every year**.
- At the end of the project, **over half (53%) HCPs perceive mushrooms to be very important to health**, compared to only 1/3 (33.9%) of respondents at baseline.
- There has been over 16 point positive shift to **HCPs strongly agreeing that mushrooms have unique benefits and properties**.

Part 3: Value of mushrooms to HCPs

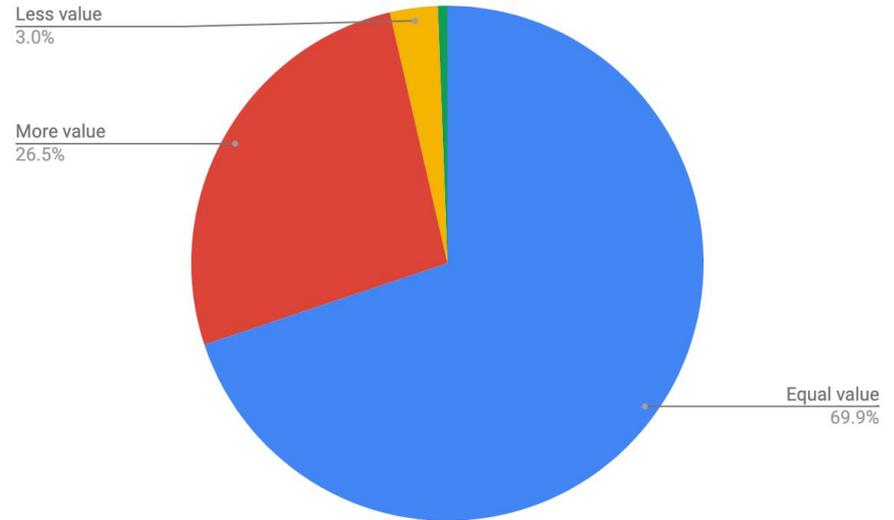
Q7. How much value do you place on mushrooms compared to vegetables?

FINDINGS:

- For 2021 there was a significant increase in the number of respondents stating they placed 'More Value' on mushrooms, after a dip in 2020, **26.5%** in all for 2021.
- **96.4% of respondents** still felt that mushrooms were either more or of equal value to vegetables, an increase of 5.8 points since baseline.

166/189 ANSWERED
MANDATORY

Response	2021	Dif. to 2019
More Value	26.5%	+11.8
Equal Value	69.9%	-6
Less Value	3%	-3.7
Don't know	0.6%	-2.1



Part 4: Knowledge of vitamin D properties

Q8. Which of the following has the highest vitamin D content per serve? (new question for 2020)

Response	2021	Dif. to 2020
100g UV-exposed mushrooms	74.7%	+12.2
100g mushrooms	13.9%	-11.1
100g oily fish	6%	-19.0
2 eggs	2.4%	-11.4
40g fortified breakfast cereal	2.4%	-8.8
1 tablespoon margarine	0.6%	-2.4
Other	0%	-0.5

Q9. Can placing mushrooms in the sun increase their vitamin D content to 100% of your daily vitamin D needs? (new question for 2020)

Response	2021	Dif. to 2020
Yes	91.6%	+24.4
No	8.4%	-24.4

FINDINGS:

- For the **second year running 100g of UV-exposed mushrooms came out as the option respondents mostly said had the highest source of vitamin D**, but with a 12.2 point increase since 2020.
- More than **nine tenths of respondents (91.6%)** knew that placing mushrooms in the sun can increase their vitamin D content to 100% of daily needs. This is a huge increase from 2020 of 24.4 points and reflects the consistency of this message within campaign communications.

Part 5: Existing resources

Q10. Which statement best describes your opinion on the availability of resources to healthcare professionals on the health benefits and nutritional properties of mushrooms?

Response	2021	Dif. to 2019
I have resources and they are useful	41.6%	+19.7
I don't know of any resources	41.0%	-22.4
I have resources and they are not very useful to me	9.0%	+6.8
I have seen resources but they didn't interest me	8.4%	-4.1

166/189 ANSWERED
MANDATORY

FINDINGS:

- There was a significant increase in the awareness of the resources available, due to the project creating and promoting these assets.
- **Whilst 41%** of respondents claim to not know of any resources, this is a significant 22.5 point drop from 2019.
- The usefulness of resources has seen a **large positive increase** (19.7 points).
- Increase in awareness of resources was a learning from the 2020 survey and 2021's results show the focus here worked.

Part 6: Personal consumption habits and rationale

Q11. How often do you personally consume mushrooms?

Response	2021	Dif. to 2019
Daily	7.8%	+5.1
A few times a week	41.0%	+3.1
Once per week	34.3%	-5.9
Once a month	10.8%	-3
Once every few months	3.6%	0
Never	2.4%	+0.6

166/189 ANSWERED
MANDATORY

Q11a. Why don't you regularly consume mushrooms?

Response (n=28 respondents)	2021	Dif. to 2019
I forget to buy them	50.0%	N/A
I don't like the taste	17.9%	-82.1
I don't like the texture	14.3%	-60.7
They are too expensive	14.3%	N/A
I don't have any recipes with mushrooms	10.7%	N/A
I don't know how to cook mushrooms	3.6%	N/A
Other	25%	N/A

28/189 ANSWERED
NON-MANDATORY

FINDINGS:

- **Almost all (94%) HCPs eat mushrooms at least once per month**, with the majority (83.2%) doing so **at least once a week**. Whilst consumption has remained fairly stable since 2019, frequency has increased over the past two years.
- Those that never ate mushrooms generally said they **forget to buy them (50%)**, highlighting some work possibly could be done at point of sale to drive top of mind awareness.
- Question 11a only had four respondents in 2019, and no respondents in 2020, hence the large drop in the differences here and lack of robust comparative insights.

Part 6: Mushroom recommendation to clients and rationale

Q12. How often do you specifically recommend mushrooms to your clients?

Response	2021	Dif. to 2019
Always / Often*	48.8%	+28.3
Sometimes	23.5%	+5.2
Rarely	7.2%	-1.7
Never, as I don't see clients	14.5%	-19.4
Never, but I do see clients	6.0%	-12.3

166/189 ANSWERED
MANDATORY

*2019 this option was titled 'Regularly' so results from 2021, as with 2020 have combined Always and Often

Q12a. Help us to understand why you do not recommend mushrooms to your clients.

Response (n=61 respondents)	2021	Dif. to 2019
I do not think about mushrooms specifically	62.3%	+12.3
I do not have time to discuss mushrooms specifically	26.2%	-7.1
I'm not familiar with their health benefits	11.5%	-32.9
I'm not familiar with their nutritional properties	11.5%	-21.8
My clients do not like mushrooms	11.5%	+8.7
My clients do not have cooking skills	6.6%	+1
I do not believe mushrooms are important to recommend	0%	-7.1 (2020)
Other	6.6%	+1

61/189 ANSWERED
NON-MANDATORY

FINDINGS:

- **HCPs recommending mushrooms to their clients increased significantly** over the project (**47.7% to 79.5%**). At baseline only a fifth of HCPs were 'regularly' recommending to their clients. In 2021 this jumped to nearly 1 in 2 recommending 'always' or 'often'.
- The main reason for not recommending by nearly two-thirds of **respondents is that they do not think about mushrooms specifically**.
- **Unfamiliarity with nutrition and health benefits as reason has decreased significantly** from baseline with only 11.5% saying it was a reason compared to 33.3% and 44.4% in 2019.

Part 6: Mushroom recommendations to clients

Q12b. Help us to understand why you recommend mushrooms to your clients.

Response	2021	Dif. to 2019
For their nutritional properties (e.g. low in kJ)	88.9%	+23.8
Vegetarian meal option	88.9%	+30.8
For their health benefits (e.g. heart health, gut health)	85.2%	+36.4
They add extra flavour to meals	75.3%	+7.9
They are easy to cook	72.8%	+19.3
To help increase vitamin D intake	71.6%	+22.4 (2020)
They make meals healthier	61.7%	+12.9
To add texture to meals	60.5%	+15.7 (2020)
Mushrooms are unique	51.9%	+24
To increase satiety	51.9%	+14.4 (2020)
To help decrease meat intake	50.6%	NEW
To help reduce sodium content meals	32.1%	NEW
Majority of my clients or patients like mushrooms	29.6%	+20.3
Other	0.0%	-4.7

FINDINGS:

- Across the board **all options saw an increase in rationale of why mushrooms were recommended to clients** - as this is a multiple choice question, many answers can be selected.
- In 2019, the key reason for recommending was 'Adding flavour' but this is now in fourth place in 2021. Both the **nutritional properties** and **health benefits are driving recommendations**, alongside vegetarian properties which continues to grow in popularity generally.
- **In 2021**, the top five responses were the same as in 2020, with 'they add extra flavour' and 'they are easy to cook' switching places within the ranking.
- All but two options received 50% of respondents' votes or more, showing high engagement with several rationale points for recommending mushrooms.
- The 2021 results show that HCPs are **interested in what can be added to meals** (i.e. texture, flavour) rather than what is reduced by mushroom inclusion (i.e. meat intake, sodium).

Part 8: Perspective of mushrooms within dietary guidelines

Q13. Given mushrooms are neither plant nor animal, and have unique nutritional properties, do you think mushrooms deserve to be given greater focus in the national dietary guidelines?

Response	2021
Yes definitely	50.6%
Maybe - Needs to be considered	40.4%
Unsure	6.0%
No	3.0%

166/189 ANSWERED
MANDATORY

FINDINGS:

- This was a new question for 2021 and therefore there is no comparative data.
- **Only 3% of HCPs don't not feel that mushrooms deserved to be given greater dietary guideline focus**, meaning that the community is either in favour or in favour of considering mushrooms as part of the dietary guidelines.

Part 9: Additional Comments

Q14. Please provide any additional thoughts you have on the information that we are providing on mushrooms - Refer to appendix for all responses.

57/189 ANSWERED
NON-MANDATORY

I'm aware of the benefits of mushrooms, but often forget to recommend them, they're not top of mind. It would be great to see a campaign like '2&5' or '30g nuts' (but) for mushrooms.

(I) really find the information/white paper etc very useful and informative. Great that research questions are being asked.

Very informative, well presented & easy to comprehend.

(Mushrooms are) very versatile - breakfast, lunch and dinner and all different kinds of cuisines e.g. Asian, European.

Visual resources and recipes for patients would be helpful.

I recommend mushrooms as part of cooking mixed meals to clients when they want / need meal ideas, but often when I describe the veggies I use as part of meals, I hear 'I don't like mushrooms'. I think more work needs to be done to make mushrooms cool and for people to give them a go. I actually really like mushrooms personally.

More recipes to encourage intake, especially with non button mushroom types.

You're doing a great job! Just need more exposure so both health professionals & consumers access your materials.

I received your excellent resource via LinkedIn on tanning - very insightful and also a very well presented resource - thank you!

Findings summarised & recommendations

SLIDE	SUMMARY FINDINGS	RECOMMENDATIONS
<p>EDM and Paid social media Slide 13/14</p>	<ul style="list-style-type: none"> • Taking the learnings from 2020, paid social (LinkedIn campaign) was upweighted even further to target HCPs. • No partner activity was implemented due to learnings from 2019 and budget restrictions which yielded little results for a high expense. • Majority of survey responses came from the EDM send outs, which have steadily improved over time. • Following learnings from 2020, all social activity was moved to LinkedIn for better targeting which was reflected in the high calibre of respondents. 	<ul style="list-style-type: none"> • Even though social media and EDM numbers increased, response rates dropped. This could be attributed to the external variables at play during the time the survey was in market (namely, uncertainty of lockdowns, fatigue with online activity and pandemic situation which is consistent in other reports). • While social wasn't as impactful as in previous years for driving numbers, quality of respondents was gained and important when considering future social KPIs.
<p>Part 1 Demographics and location Slide 19/20</p>	<ul style="list-style-type: none"> • In line with the past two surveys, a much higher proportion of females to males took part. • High proportion of respondents from NSW and VIC, same as past surveys. • 262 started the survey, 202 submitted, 189 were valid and 23 were lost during for the below reasons. <ul style="list-style-type: none"> ◦ 9 submissions dismissed who selected 'Not a healthcare professional'; 14 were based outside Australia. • Higher number of nutritionists than previously (12% in 2021 vs 7.7% in 2020 vs 5.5% in 2019). • As a key target for 2021, Naturopath responses increase from 1.5% in 2020 to 10.3% in 2021 	<ul style="list-style-type: none"> • With more prescriptive criteria the total number of responses is lower, but more targeted in the focus areas (i.e. Naturopath and Nutritionist). Recommend keeping this targeting - acknowledging it can affect quantity and future KPI setting.

Findings summarised & recommendations

SLIDE	FINDINGS	RECOMMENDATIONS
<p>Part 2: Health benefits and nutritional properties Slide 21</p>	<ul style="list-style-type: none"> Health benefits and nutritional properties both saw double digit increases in confidence of knowledge. Unfamiliarity decreased, showing that across the board understanding has increased due to the campaign. 	<ul style="list-style-type: none"> Continue to build on the educational program and resource distribution.
<p>Part 2: Health benefits and nutritional properties Slide 22</p>	<ul style="list-style-type: none"> Almost all (97.6%) of the respondents could identify at least one nutritional property of mushrooms, more than a six point increase from 2020 (91.2%). The reinforced repetition of the vitamin D message throughout 2019-2021 continues paying off. For the second year running, Vitamin D saw an increase in selection by 23.7 points (74.1% in 2021 vs 66.1% in 2020 vs 50.4% in 2019) to now be the most popular result with respondents. The majority of nutritional properties saw an increase in responses. Nominated benefits from respondents reflected the key communication messages. For example, this year we saw increase in immunity benefits which shows the messaging is having cut through (eg: 2021 the webinar hero-ed immunity). 	<ul style="list-style-type: none"> Repetition and consistency of messages helps to build brands long-term. Hence continued on-going reinforcement of the strong resonating Vitamin D message would be beneficial. Opportunity to bring this out in consumer communications to amplify the HCP communication further.

Findings summarised & recommendations

SLIDE	FINDINGS	RECOMMENDATIONS
<p>Part 2: Health benefits and nutritional properties Slide 23</p>	<ul style="list-style-type: none"> ● Across the board there was an increase of knowledge of all health benefits listed. ● Vitamin D saw another massive increase with 76.5% of respondents selecting it. ● Only 5.4% could not select a health benefit. This is less than in 2020, showing knowledge has improved YOY. 	<ul style="list-style-type: none"> ● Depending on key focus, either continue with the reinforced repetition of vitamin D or pivot to another benefit to increase awareness of it. ● There is opportunity to further build on increasing awareness around immune benefits and associated bioactives of mushrooms which also provides a point of difference and is a key health trend.
<p>Part 3: How valuable are mushrooms to HCPs? Slide 24/25</p>	<ul style="list-style-type: none"> ● Highlighting the unique properties of mushrooms and their specific benefits and properties continues to pay off. The campaign's focus on the value of mushrooms is strong within respondents. ● As with 2020, 2021 saw an increase by over 9% to them being very important. ● The unique properties of mushrooms continues to be recognised with 93% of respondents viewing them as unique and the number viewing mushrooms as more valuable than vegetables has nearly doubled to around 1/4 since baseline. 	<ul style="list-style-type: none"> ● Continue to build on the unique benefits of mushrooms and pull apart from vegetables. This will likely be helpful to support conversion of those considering to agreeing mushrooms should be given greater focus within dietary guidelines (see later on slide 37)

Findings summarised & recommendations

SLIDE	FINDINGS	RECOMMENDATIONS
Part 4: Knowledge of vitamin D properties Slide 26	<ul style="list-style-type: none"> Nearly three quarters of all respondents (74%) knew that 100g of UV-exposed mushrooms had the highest vitamin D. An increase of almost 25 points in knowledge that placing mushrooms in the sun increased vitamin D content. 	<ul style="list-style-type: none"> The vitamin D message continues to be strong within the resources. Continue to maintain and build on this unique positioning of Vitamin D to further consolidate and build a unique story for mushrooms to set it apart from vegetables.. With key top tier HCP being targeted, option to expand awareness with fitness professionals to help further drive ultimate consumer reach
Part 5: What are the resources like? Slide 27	<ul style="list-style-type: none"> A 13+ point uptick in respondents knowledge and use of resources showing that consistent and varied assets have been effective. 	<ul style="list-style-type: none"> Resources served through social media channels seem to perform well, therefore continue to utilise this channel further to continue to drive reach of both materials and the resource hub
Part 6: Personal consumption habits and rationale Slide 28	<ul style="list-style-type: none"> HCPs who were personally consuming mushrooms increased after taking a slight dip in 2020. More than 12 points up in 2021 were consuming at least one a week. For those who didn't consumer mushrooms the key reasons with more than half the votes of those who don't consumer was that they forget to buy them. 	<ul style="list-style-type: none"> Those who are not consuming mushrooms are not doing so consciously, they are simply forgetting when it comes to making purchase decision. Developing a simple dosage message for mushrooms may be a helpful strategy long term to help drive top of mind awareness message (i.e like one of your five day was for fruit and veg)

Findings summarised & recommendations

SLIDE	FINDINGS	RECOMMENDATIONS
<p>Part 7: Mushroom recommendations to clients and rationale Slide 29/30</p>	<ul style="list-style-type: none"> • There has been a significant shift in HCPs recommending mushrooms to their clients, with a 27+ point increase from 2020 in those recommending 'Always' or 'Often'. • The top reason those who didn't recommend them is that they're not thinking about mushrooms specifically. • Within those who do recommend all rationale options either increased YOY or were new to 2021's survey. 	<ul style="list-style-type: none"> • Whilst across the board the results show a positive increase in mushroom recommendations, we are still losing some HCPs at the conversion stage. This means work continues to be needed in providing easy consumer materials for HCPs to pass on to their clients. • Feedback here, and in the open question, highlights the need for something simple to retain information. Further work could be to define a simple dosage amount for mushroom consumption, and keep communicating that simple message for both HCPs and consumers.
<p>Part 8: Perspective of mushrooms within dietary guidelines Slide 31</p>	<ul style="list-style-type: none"> • A new question for 2021, more than half the respondents felt that mushrooms should be given more consideration when it comes to dietary guidelines. • A further 40% said that maybe they should and would need to consider it further. • Only 3% did not agree that mushrooms should be considered, showing limited resistance in the community to the benefits. 	<ul style="list-style-type: none"> • The community seems to be behind supporting mushroom inclusion in dietary guidelines, however some further work could be done to convince those in the 'maybe' category. • Getting HCPs to see mushrooms as unique and valuable compared to vegetables will be a key part of converting the 'maybes' to 'yeses' • Wider consideration to the 3% who do not agree and understand why this is the case to help better shape future work.

Sentiment results against objectives



Knowledge of the nutritional properties and health benefits of mushrooms.

Confidence in knowledge of health benefits and nutritional properties both saw **double digit increases**
Health Benefits: +32.2
Nutritional properties: +27.6



Perception of mushrooms for health.

Respondents perception that mushrooms are very important **increased +19.1 to 53% (33.9% in 2019)**



Value placed on mushrooms for their properties.

Mushrooms still viewed as **more of or equal** value to vegetables for the third consecutive year
96.4% (90.6% in 2019)



Behaviour around recommending mushrooms.

Recommendations of mushrooms to clients **increased** with +33.5 uplift to 72.3% (**38.8% at baseline**)



Frequency of recommendation or behaviour.

Always or often recommending mushrooms to their clients **increased to 48.8% (20.5% in 2019)**

Learnings & Opportunities



Strategy & Planning: What worked well

SOCIAL TARGETING

Increased investment and tighter audience targeting with the social campaign meant that the quality of respondents was better than previous years.

CAMPAIGN PHASING

The survey came right after several key milestones had been delivered, resulting in information being front of mind for participants.

TAILORED EDMS

Once again the now recognisable designs were clear and direct, whilst also providing additional information. They had a high open rate.

Strategy & Planning: Even better if we...

IN MARKET FLEXIBILITY

The reduced number of respondents compared to previous years can be put down to external variables. Being able to shift the survey out by months could have negated this.

INCENTIVISED SHARING

Respondent numbers may be increased by activating our existing database to engage their own network of relevant parties through incentives (i.e. money or prizes).

REDUCED QUESTIONS FURTHER

Though there were less questions than 2020, survey response time was up on average by 3 seconds. Reducing questions further will increase engagement.

Research Questions: What worked well

SENTIMENT INCREASE

2021 saw another strong significant sentiment increase from 2019. This time the results were even stronger and a larger jump than in 2020.

EDMs

Last year more respondents came from social, but this year it was EDMs. This shows that the assets have increased pertinence with the audience.

QUALIFYING QUESTIONS

Having these questions allowed us to easily remove irrelevant responses, although it did reduce response numbers.

Research Questions: Even better if we...

UP THE PRIZE AMOUNT

Given the external variables, having an even more appealing prize could inspire more responses.

SIMPLIFY SOME LANGUAGE

Completion time could also be reduced by simplifying the wording of some of the questions.

REDUCE LEADING QUESTIONS

Some of the questions are very obvious in what they're asking of the respondents, removing prompts would allow for deeper knowledge.

Takeaways:

TAKEAWAY

**HCPs KNOWLEDGE
OF MUSHROOMS
BENEFITS
INCREASED**

FINDING

Across the board there was significant increase in knowledge of nutritional value and health benefits of mushrooms within the HCP community. More work can be done on both widening the communities engaged (i.e. fitness) and putting mushrooms front of mind further

**HCPs NOW MORE
LIKELY TO
RECOMMEND
MUSHROOMS TO
CLIENTS**

Since the campaign started, HCPs are now more likely than ever to recommend mushrooms to their clients. This can be continually built upon (i.e. with dosage messaging) to further increase consumption

**EXPLORING DIETARY
GUIDELINES**

There is a significant appetite within the HCP community to see mushrooms given greater recognition in dietary guidance. This is something that could be explored further.

Limitations:

Key limitations to consider when interpreting the data:

- The data from year 1, 2 and 3 of the survey are cross-sectional, not longitudinal, with some participants differing from year to year.
- As a result, the tracked sentiment changes over time could be a result of a different set of people being surveyed, rather than a change in the knowledge base of the same group of people.
- In addition, some new survey questions were added or wordings updated from 2019 to 2020 to 2021, in order to improve the readability or breadth of possible responses.
- Responses could have been influenced by the survey topic, preceding questions, and overall heavy mushrooms messaging. For example, in question 9, 91.6% said that UV-exposed mushrooms were the highest source of vitamin D, which has been a hero topic in communications.

Key Performance Indicator Results



KPIs

ITEM Year on Year	2020 SURVEY	KPI 2021 SURVEY			2021 RESULTS	PERFORMANCE
		MEETING	EXCEEDING	SMASHING		
Survey Respondents	195	300	400	500	166	NOT MEETING
Database Growth YoY	1,405	1500	1700	2000	1,925	EXCEEDING
SURVEY KPIs						
Q1. Can specify health benefits of mushrooms	40%	25%	28%	32%	57.2%	SMASHING
Q2. Can specify nutritional benefits of mushrooms	35.9%	23%	28%	32%	50.6%	SMASHING
Q3. Knowledge of Vitamin D as a nutritional property increases	66.1%	60%	65%	70%	74.1%	SMASHING
Q5. Importance of mushrooms - Very Important	43.1%	40%	44%	48%	53%	SMASHING
Q6. Using resources and place value on them (now Q10)	28.2%	28%	30%	34%	41.6%	SMASHING

Setting campaign goals

SURVEY KPIs	BENCHMARK SURVEY	KPI 2021 SURVEY			2021 RESULTS	PERFORMANCE
		MEETING	EXCEEDING	SMASHING		
Q7 (now Q.11). Increase in 'Once per week' personal mushroom consumption	40%	46%	50%	55%	83.2%	SMASHING
Q9 (now Q.12). Decrease in 'not recommending mushrooms'	18%	14%	12%	10%	6%	SMASHING
Q10 (now Q.12a). Decrease in 'I don't think about mushrooms'	50%	45%	43%	40%	62.3%	NOT MEETING
Q11 (now Q.12b). Increase in recommending 'mushrooms for their nutritional properties'	65%	70%	75%	80%	88.9%	SMASHING
Q12. Increase in respondents who have visited the Australia Mushrooms website	26%	32%	34%	36%	N/A	N/A

Next Steps



What's next?

- HORT Innovation to review and provide feedback or any additional requests.
- HORT Innovation to consider learnings for future projects outside of mushrooms activity.

Thank You



Appendix



Appendix: Commentary from survey question 14

RESPONSES BELOW AS RECEIVED FROM RESPONDENTS - SEE PAGE 32 FOR OVERVIEW.

“Question: Please provide any additional thoughts you have on the information that we are providing on mushrooms”

- Would love to know more
- very versatile - breakfast, lunch and dinner and all different kinds of cuisines e.g. asian, european
- I recommend mushrooms as part of of cooking mixed meals to clients when they want / need meal ideas, but often when I describe the veggies I use as part of meals, I hear 'I don't like mushrooms!'; so I think more work needs to be done to make mushrooms cool and for people to give them a go. I actually really like mushrooms personally.
- I'm aware of the benefits of mushrooms, but often forget to recommend them, they're not top of mind; it would be great to see a campaign like 2&5; or 30g nuts for mushrooms.
- Appreciate the evidence and practical info from NRA and Aus Mushrooms
- I think it's important to highlight the fact that we can increase the vitamin D content of mushrooms at home
- You're doing a great job! Just need more exposure so both health professionals & consumers access your materials.
- more recipes to encourage intake esp with non button mushroom types
- Very informative, well presented & easy to comprehend.
- informing people that mushroom needs to be cooked not eaten raw
- The information about vitamin D is important esp for those following a plant-based diet
- i do enjoy them and agree they increase satiety and provide benefits. To be honest, i don't think of them separately and perhaps i need to start to consider
- I think it is key to distinguish them as diff from plant / animal.

Appendix: Commentary from survey question 14

(CONTINUED:)

- It's been great
- Need more and it needs to be more available to health care professionals
- Really find the information/white paper etc very useful and informative. Great that research questions are being asked
- Health professionals are generally well informed but the public needs further education especially in the current obesity crisis which is associated with increased inflammation and puts a population at an elevated risk for illnesses like Covid19.
- Visual resources and recipes for patients would be helpful
- Factsheets with recipes would be useful for patient information
- It could be helpful for instructions for people at the supermarket on sunning mushrooms for Vitamin D
- The Vitamin D info is helpful :)
- I received your excellent resource via LinkedIn on tanning - very insightful and also a very well presented resource - thank you!
- I am very keen on the Vitamin D status for bone health especially with my over 50's women and over 70's men that need higher vitamin D and calcium intakes and the Beta glucans content to help lower cholesterol
- perhaps easier meat free alternatives rather than adding to meat dishes?
- It's great
- Resources and information have been useful particularly given timely themes around immunity and Vit D deficiency over the last few years in lockdown. Although repetitive, it helps drive key messaging.
- It's anti-oxidant and cholesterol free

Appendix: Commentary from survey question 14

(CONTINUED:)

- It's great to have organisations leading the cause!
- The variety of mushrooms needs more attention and if they have different properties.
- I see mushrooms for most people to sit in the vegetable section- no need to confuse people otherwise too much
- many people don't like the flavour mushrooms, this barrier should be addressed
- Useful information
- Any ideas on improving intake would be helpful eg I recommend people grate them (when fresh and at their crispest) into other dishes. Recipes are good but other tips?
- I have not seen any resources provided by you all
- I don't know if you have a picture of available mushrooms in Australia markets with the nutrients contain that can help clients to learn more about different mushrooms and simple recipes on how to use them. Some of the newer mushrooms like lion mane is unknown to a lot of people and an understanding of the nutritional values will be helpful
- I am not sure where to get this information you are providing on mushrooms
- Great source of many dietary nutrients and taste great raw or cooked
- Mushrooms offer multiple health benefits to people are easy to cook and many varieties are available
- The information needs to be more precise and succinct for easy digestion.
- good but do not have much information.
- Knowledge of different types of mushrooms is needed. Different recipes also. The price of mushrooms needs to be considered
- I would love more resources, especially client handouts

Appendix: Commentary from survey question 14

(CONTINUED:)

- Further research into treating cancers
- focus more on immune support and nervous system support
- I have had access to great information from NRAUS through their recent webinar and resources via EDMs and website. very useful resources that should be shared across as many platforms as possible.
- it's great thanks. Would be great to get a summaries both for patient hands and practitioner reference
- I need to relisten to the latest webinar to absorb the information given. I think I may have sent a post seminar request for some recipes or where can be found. Would be a good motivator both to me and potential clients.I am in Melbourne and still in 6th lockdown. Thanks for seminars, are they on a website to relisten please?
- Consume daily!
- Huge and delicious edition to my tool kit
- Recipes are useful
- According to Dr. Kristi Funk woman should eat at least one mushroom per day to help reduce breast cancer risk
- Will Chinese mushrooms have same health benefit?
- The quiz has opened my eyes to place greater value on mushrooms
- More information for starting young children on mushrooms eg amounts, recipes.
- very useful and exciting information
- I have learned a lot about the unique benefits of mushrooms through the resources and information you provide. The information about vitamin d and mushrooms is especially helpful - thank you.

Appendix: Commentary from survey question 14

(CONTINUED:)

- I usually would not focus on recommending a specific type of food, but rather emphasising the benefits of having a varied diet and enjoy as many different types of vegetables as possible.
- Mushroom is an essential fungi with many health benefits. It's one of the most bio compound that you can enjoy freely for it's low in calories and full of minerals and more importantly vitamin D, especially when exposed to the sun.
- Mushroom is one of the main ingredients used in meat analogue manufacturing recently because of its great nutritional value and its meat-like taste
- My business is very small, however I greatly value the information you provide. Mushrooms are a terribly under-utilised and under valued food that will only become more important as food insecurity becomes a wider global issue, and the more information health professionals and the public have access to the better.
- more education to introduce the nutritional significance of mushrooms for human health is needed.
- The effect of UV exposure on the vitamin D content of mushrooms should be more widely known. More research on omega 3 and vitamin B12 content would also be helpful for the significant number of people adopting vegan diets
- Mushrooms are delicious
- Very succinct and useful information
- Can mushrooms cause allergy to some people?
- I don't really know much about mushrooms. More information for health professionals about the impact on mental illness would be appreciated.
- Very good

Appendix: Commentary from survey question 14

(CONTINUED:)

- I think repeating the message would help - advertise widely. I was not aware that you could increase vit D content
- It's very timely as anti inflammatory foods are becoming more recognised as being an important part of everyone's diet
- Mushrooms are great way to introduce less meat meals for children. They are easy for children to slice with a child friendly knife or be torn to pieces for a wild mushroom risotto.
- well thought
- delicious and healthy mushroom dishes easy to prepare
- Can't think of anything atm
- Super, super food
- Mushrooms indeed are valuable if only their accessibility (affordability) can somehow be addressed.
- I love what you guys are doing!
- This has reawakened me to the value of mushrooms.
- Try and get the contents of that webinar out to the general public - place it on YouTube - it was sensational
- Need information on scientific studies and evidence based research re: mushrooms