

Health benefits of seafood:

A review of resources available to General Practitioners and Allied Health Professionals



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Health benefits of seafood: A review of resources available to General Practitioners and Allied Health Professionals

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Executive Summary

This review focused on the collection and critical review of relevant resources that were available to General Practitioners (GPs) and Allied Health Professionals (AHPs) to use with patients as either a prevention or treatment measure for common lifestyle or medical conditions. All resources reviewed were in English and were designed to be used during a five to ten minute consultation.

The identification process realised 120 current resources associated with the health benefits of regular consumption of seafood as part of a healthy diet that could be used by GPs and AHPs. The resource topics included arthritis (seven), cancer (six), dementia (one), dental health (two), diabetes (three), heart health (30), nutrition (40), osteoporosis (six) and preconception, pregnancy and breastfeeding (25).

The critical review of resources revealed information about the format, target group, reference to seafood, credibility and suitability of the identified resources. The majority of identified resources (88.4%, n=106) were available electronically as either PDF files or webpages, a preferable, quick and easy mode of access for GPs and AHPs. Just over half (57.5%, n=69) of the identified resources were targeted at specific audiences. All of the resources made reference to the health benefits of regular consumption of fish (100%, n=120), 22.5% (n=27) made reference to seafood and 5% (n=6) made reference to fish oil as part of a healthy diet.

Only 15% (n=18) of the identified resources were suitable for use with the general Australian population at or below the recommended reading level of Year Eight. The majority (87.5%, n=105) of resources were found to be 'credible' or 'highly credible'. Resources that were found to be 'definitely not credible', 'not credible' or 'somewhat credible' (12.5%, n=15) were primarily due to information being provided by commercial entities with possible competing interests.

In summary, the most pertinent outcome from this research was that only 15% (n=18) of the resources reviewed were suitable for use with the general Australian population at the recommended reading level of Year Eight or lower.

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1.0

Review of current seafood health benefit resources available for use of GPs and health professionals

This review focused on the collection and critical review of relevant resources that were available to General Practitioners (GPs) and Allied Health Professionals (AHPs) to use with patients as either a prevention or treatment measure for common lifestyle or medical conditions. All resources reviewed were in English and designed to be used during a five to ten minute consultation.

1.1 Sourcing resources

Resources were sourced for this research project through multiple avenues including individual organisations, South Australian health information services and Internet search engines. All resources sourced were printed in English and available during 2008.

Based on background research that promoted seafood consumption as part of a healthy diet for certain lifestyle and specific medical conditions,^{1 2 3 4} all the materials available from the following individual organisations were assessed for their relevance:

- Arthritis Australia;
- Australian General Practice Network ;
- Better Health Channel;
- Children, Youth and Women's Health Service;
- Commonwealth Scientific and Industrial Research Organisation (CSIRO);
- Department of Health and Ageing;
- Diabetes Australia;
- Dietetics Association of Australia;
- Heart Foundation;
- New South Wales Department of Health;
- Nutrition Australia;
- Pharmaceutical Society of Australia;
- South Australian Department of Health; and
- South Australian Dental Service.

The South Australian Health Information Services promoted a large range of appropriate resources. These services include a Health Promotion Shopfront located at the Royal Adelaide Hospital (Central Northern Adelaide Health Service) and the Health Information Centre located at the Women's and Children's Hospital (Children, Youth and Women's Health Service). Visiting such services provided an opportunity to access resources that were not well promoted or accessible to the public but could be ordered in hardcopy by organisations and individuals such as GPs and AHPs throughout Australian wide

The two internet search engines used to research and gather resources for this research project were 'HealthInsite' and 'Google Australia'. 'HealthInsite' (www.healthinsite.gov.au) is an Australian Government website that provides up-to-date and quality assessed information on a range of health topics. 'Google Australia' (www.google.com.au) is one of the most popular search engines in Australia.

The following key terms were used to research and source electronic information:

- seafood health benefits;
- fish health benefits;
- seafood healthy eating;
- fish healthy eating;
- seafood and arthritis;
- seafood and cholesterol;
- seafood and heart health;
- seafood and osteoporosis;
- seafood and pregnancy;
- fish and arthritis;
- fish and cholesterol;
- fish and heart health;
- fish and osteoporosis; and
- fish and pregnancy.

1.2 Key criteria for critical review

All resources collected were critically reviewed based on a strict range of criteria in an endeavour to minimise rater bias. Resources were also reviewed for accuracy, bias and obvious commercial interest. A wide range of sources were accessed to ensure that a thorough assessment was conducted. A range of readability formulas, assessment tools and guidelines were used to assess each resource.

The critical review criteria included:

- source of information;
- date of publication;
- key message(s) of the resource;
- key information in relation to seafood;
- appropriateness for use within a five to ten minute consultation;
- ease of readability for public; and
- overall credibility of the resource.

1.3 Appropriateness for use within a five to ten minute consultation

All resources assessed needed to be able to be used by GPs and AHPs within the average timeframe available for the majority of consultations (5 to 10 minutes). This is important because the best outcomes for consumers are seen when health information, discussion and decision making are provided as part of an ongoing professional and trusting relationship with members of a health care team.

Information imparted by medical and health practitioners or displayed in general practitioners' waiting rooms is considered trustworthy in comparison to information from other sources such as the Internet. Providing easily understood and relevant 'take-home' health information as part of a consultation allows patients to be more involved in their own decision making process, and allows time to consider options.

Readability was included as it was essential to assess whether resources were developed in a manner that enabled target audiences to understand the content, thus maximise the value of the resource being used by consumers.

1.4 Overall credibility

The overall credibility of each of the resources was assessed to ensure that the credibility and acceptance of health information was also incorporated into the criteria. This includes:

- the name and expertise of the author(s);
- the name of the publisher, publication date;
- current, accurate and consistent information;
- non-judgmental language;
- unbiased information;
- references to support information related to research and statistics;
- Information that is relevant and related to the consumer's experience;
- disclosure of sponsors;
- quality presentation of the information; and
- references to other relevant literature.

Interviews were also conducted with general practitioners to ensure the time factors were appropriate and the overall credibility was acceptable 'in practice'.

NB: Further information on the criteria used can be found in the (unpublished) dissertation of Jane Taylor held in the closed reserve section of the Curtin University library.

2.0

Review of resources

The criteria headings used to review all resources were:

- Resource title;
- Format of resource (web / hardcopy / PDF etc);
- Source;
- Date of publishing / latest review;
- Key message(s) of resource;
- Key information on fish / seafood;
- What is described as part of a healthy diet (fish / seafood / fish oil);
- Target audience;
- Likely to be used by;
- Likely to be used in a five to ten minute consultation;
- Readability for patients (using SMOG Readability level); and
- Seen to be a credible resource.

3.0 Summary of results

The identification process realised 120 current resources associated with the health benefits of regular consumption of seafood as part of a healthy diet that could be used by GPs and AHPs. The resource topics included arthritis (n=7), cancer (n=6), dementia (n=1), dental health (n=2), diabetes (n=3), heart health (n=30), nutrition (n=40), osteoporosis (n=6) and preconception, pregnancy and breastfeeding (n=25) (see Tables 1-9).

The critical review of resources revealed information about the format, target group, reference to seafood, credibility and suitability of the identified resources. The majority (88.4%, n=106) of identified resources were available electronically as either PDF files or webpages, a preferable, quick and easy mode of access for GPs and Allied Health Professionals. Just over half (57.5%, n=69) of the identified resources were targeted at specific audiences. All of the resources made reference to the health benefits of regular consumption of fish (100%, n=120), 22.5% (n=27) made reference to seafood and 5% (n=6) made reference to fish oil as part of a healthy diet. Only 15% (n=18) of the identified resources were suitable for use with the general Australian population at or below the recommended reading level of Year Eight. The majority (87.5%, n=105) of the critically reviewed resources were found to be 'credible' or 'highly credible' based on the credibility criteria used in this research project. Resources that were found to be 'definitely not credible', 'not credible' or 'somewhat credible' (12.5%, n=15) were primarily due to information sources being commercial sources with competing interests.

In summary, the most pertinent outcome from this research was that only (18%, n=15) of the resources critically reviewed were suitable for use with the general Australian population at the recommended reading level of Year Eight or lower.

Table 1 Arthritis

Resource Title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
10 steps for living well with arthritis	HC/Arthritis Australia/ Apr 2007	Arthritis can be difficult to live with, but there are many simple measures that can help to manage the symptoms and cope with everyday life.	A healthy diet is important to help maintain good health and this includes eating fish. Including foods rich in omega-3 fatty acids as part of a healthy diet may help reduce inflammation. Foods that are high in omega-3s include fish and seafood.	Fish & seafood	Those with arthritis	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN ▪ Physio ▪ Osteopath ▪ Chiropractor 	5
Healthy eating and arthritis	PDF from web ¹ / Arthritis Australia/ 2007	There is no diet that can cure arthritis. The best diet for someone with arthritis is a healthy balanced diet to maintain general health and prevent other medical problems developing. Foods rich in omega-3 fatty acids can help reduce inflammation.	A healthy diet is important to help maintain good health and this includes eating fish. Oily fish such as sardines and salmon have a greater amount of omega-3 fats. Try to eat them at least once a week. Fish oil supplements are high in omega-3 fats.	Fish & fish oils	Those with arthritis	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Community health worker ▪ Dietitian ▪ Physio ▪ Osteopath ▪ Chiropractor 	5
Fish oils	PDF from web ¹ / Arthritis Australia/ 2007	Omega-3 fatty acids may help reduce inflammation in some forms of arthritis. It may help relieve joint pain in a similar way to non-steroidal and anti-inflammatory drugs. Make sure that you are taking the right dose to help with inflammation.	Eating foods rich in omega-3 fats is good for general health. Eat oily fish such as sardines, salmon, herring and mackerel. It is unlikely that you will get enough omega-3 fats from your diet alone to reduce inflammation without fish oil supplements.	Fish & fish oil (capsules and liquid)	Those with arthritis	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN ▪ Physio ▪ Osteopath ▪ Chiropractor 	5
Rheumatoid Arthritis	PDF from web ² / Better Health Channel (Vic Govt)/ Oct 2007	Rheumatoid arthritis affects the joints, particularly the feet, hands and knees. Due to inflammation, the joints are painful, swollen and movement becomes restricted. The inflammation can cause damage to the joints.	A healthy diet can help to manage fatigue. This includes eating deep sea fish regularly for its anti-inflammatory effect.	Fish	Those with rheumatoid arthritis	<ul style="list-style-type: none"> ▪ GP ▪ Physio ▪ Osteopath ▪ Chiropractor 	4
Arthritis and Nutrition	Web ³ / My Dr site - MIMS consumer Health Group/ Aug 2006	There is little scientific evidence that taking expensive food supplements or eating elaborate diets is beneficial. The same results can be obtained by eating balanced meals that keep your weight down while providing all the vitamins and minerals you need.	There are benefits to eating fish as the omega-3 fatty acids found in them can help reduce the number of tender joints and the amount of morning stiffness for people with rheumatoid arthritis.	Fish & fish oil	Those with arthritis	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Physio ▪ Osteopath ▪ Chiropractor 	3

Resource Title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Arthritis – you can do something about it	PDF on web ⁴ / NSW Multicultural Health Communication Service/ Mar 2005	Arthritis that commonly affects older people is called osteoarthritis and the joints of the body become worn and damaged. There is no cure, but a lot can be done to relieve the symptoms.	Eat a variety of healthy foods including fish. Fish has omega-3 fat in it which may help to reduce inflammation.	Fish	Those with osteoarthritis	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN ▪ Physiotherapist ▪ Osteopath ▪ Chiropractor 	5
Rheumatoid arthritis	HC/ Pharmaceutical Society of Australia/ Jan 2006	Rheumatoid arthritis is an immune system disorder which causes swelling, pain and stiffness in joints. It can lead to joint deformity and may also affect other body organs. Treatment started early can prevent or limit damage.	<p>The omega-3 fatty acids found in fish oils can have an anti-inflammatory effect to reduce joint pain and stiffness.</p> <p>Eating foods rich in omega-3 fatty acids as part of a healthy lifestyle may reduce inflammation.</p>	Fish oils (capsules / liquid)	Those with rheumatoid arthritis	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Physiotherapist ▪ Osteopath ▪ Chiropractor 	3

Key:

CHN: Community health nurse

Cred: Credibility 1 (lowest) to 5 (highest).

Table 2 Cancer

Resource Title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Healthy eating and physical activity – to reduce your risk of cancer	HC, PDF on Web ⁴ / QLD Cancer Fund/ July 2006	Healthy eating, regular physical activity and achieving and maintaining a healthy body weight can lower your risk of cancer.	Foods with good fat are part of a healthy diet. This includes oily fish like salmon, mackerel, sardines and tuna. Eat one to two meals of fish (preferably oily) a week.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Healthy eating to reduce cancer risk	HC, PDF on web ⁵ / Cancer Council ACT/ July 2007	To reduce your risk of cancers The Cancer Council ACT recommends a healthy body weight, regular exercise and a healthy diet.	Fish is part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Healthy eating and physical activity	Web ⁶ / Cancer Council NSW/ Feb 2006	Healthy eating and regular physical activity can lower your risk of cancer.	Boost your intake of fish and omega-3 fats as they are associated with a range of health benefits. Eat fish at least twice a week.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Healthy eating and physical activity for adults: how to reduce your risk of cancer	HC/ Cancer Council SA/ unknown	People who eat fruits and vegetables, are active, keep their weight down and avoid drinking alcohol are less likely to get cancer.	Enjoy fish (fresh or canned) one to two times a week as part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Healthy eating and physical activity for children: how to reduce your child's risk of cancer in later life	HC/ Cancer Council SA/ unknown	<p>People who eat fruits and vegetables, are active, keep their weight down and avoid drinking alcohol are less likely to get cancer.</p> <p>Teaching children healthy lifestyle behaviours early helps them to adopt healthy habits that can lead to better health now and in the future.</p>	Offer fish (fresh or canned) one to two times a week as part of a healthy diet.	Fish	Parents of children	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Child health nurse ▪ Dietitian 	5
Healthy eating to reduce cancer risk	HC, PDF on web ⁸ / Cancer Council Vic/ July 2005	To reduce your risk of cancer The Cancer Council Victoria recommends a healthy body weight, regular exercise and a healthy diet.	Fish is part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5

Table 3 Dementia

Resource Title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Dementia – risk reduction	PDF ² / Better Health Channel (Vic Govt)/ Sept 2006	Dementia cannot be prevented or ‘cured’ but the choices that you make in midlife can help you to keep your brain healthy as you age.	A healthy diet can help to keep your brain healthy. Fish (especially oily) is part of a healthy diet - aim to have one to two meals with fish a week.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian 	5

Table 4 Dental Health

Resource Title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Top tips	Web ⁹ / Dental Health Service Vic/ unknown	Eating a wide variety of food is important for good oral health and overall wellbeing.	Fish is part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Dentist ▪ Dental therapist ▪ Dental hygienist 	5
Snack Ideas	HC/ Health Promotion, SA Dental Service/ June 2007	Snacking on sugary food can start tooth decay. Keep your teeth healthy and eat food with little or no sugar between meals.	Canned sardines or tuna make a healthy snack choice.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Dentist ▪ Dental therapist ▪ Dental hygienist 	5

Table 5 Diabetes

Resource Title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Food choices for people with diabetes	HC/ PDF on web ¹⁰ / Diabetes Australia/ Aug 2007	Healthy eating for people with diabetes is no different to that which is recommended for everyone. By choosing healthy food and being active blood glucose and weight can be managed.	The fats found in fish (polyunsaturated) are good for health – especially those in oily fish. Eat more fish - at least three times a week. Seafood is also part of a healthy diet and is a good source of protein.	Fish and seafood	Those with diabetes	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	4
Healthy food for healthy living	PDF on web ¹¹ / International Diabetes Institute/ 2002	Healthy eating for people with diabetes is no different to that which is recommended for everyone. By choosing healthy food and being active blood glucose and weight can be managed.	Fish and seafood are a part of a healthy diet when eaten 'moderately'.	Fish and seafood	Those with or at risk of developing diabetes	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Healthy eating for diabetes	PDF on web ¹² / QLD Health/ Feb 2005	Diabetes occurs when a hormone called insulin does not work properly. Healthy eating can help to control diabetes.	Fish is part of a healthy diet. The type of fat found in fish is healthy. Fish should be included at least twice a week.	Fish	People with diabetes	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5

Table 6 Heart Health

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Cholesterol explained	PDF on web ² / Better Health Channel (Vic Govt)/ June 2006	There is no need to eat foods high in cholesterol. Too much cholesterol in your diet can lead to heart disease.	Fish (at least twice a week) is part of a healthy diet. Seafood is a healthy food but is high in cholesterol – it is fine to eat in moderation as long as your overall diet is low in saturated fats.	Fish and seafood	People with or at risk of high cholesterol	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Cholesterol – healthy eating tips	PDF on web ² / Better Health Channel (Vic Govt)/ July 2007	Cholesterol is a type of fat that is needed for many bodily functions. It is also an essential component of cell membranes. It is a problem only when there is too much of it in the blood.	Fish (at least twice a week) is part of a healthy diet that will help to reduce your cholesterol levels.	Fish	People with or at risk of high cholesterol	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Heart disease and food	PDF on web ² / Better Health Channel (Vic Govt)/ July 2007	Heart disease is the leading cause of death in Australia. Food is directly involved in many of the risk factors for coronary heart disease. Paying attention to what you eat is one of the most important preventative measures you can take.	Oily fish is part of a healthy diet and can help protect against heart disease as it lowers cholesterol, improves blood vessel elasticity and thins the blood. Eat fish at least once a week.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Fish oils help keep the heart running smoothly	PDF on web ¹³ / CSIRO/ Nov 2007	The best source of omega-3 fatty acids is fish and fish oils. Omega-3 fatty acids protect against heart rhythm disorders and have benefits for blood clotting and blood vessel function. Eat more fish for better health. Fish and seafood are good sources of omega-3 fatty acids.	Eat more fish for better health. Fish and seafood are good sources of omega-3 fatty acids. The most beneficial amount of fish oil is currently unknown. It is better to eat fish meals than use supplements.	Fish, seafood and fish oil	General population	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian 	5
Cholesterol, Triglycerides and heart disease	HC/ Heart Foundation/ March 2007	Blood cholesterol and blood triglycerides are fatty substances found in the blood. People can lower their blood cholesterol levels by eating a healthy diet that is low in saturated fat.	Fish (at least twice a week) is part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Dietary Fat and Heart Disease	PDF on web ¹⁴ / Heart Foundation/ Feb 2004	Fats found in food are a mixture of saturated, polyunsaturated and monounsaturated. Saturated fats raise blood cholesterol, polyunsaturated and monounsaturated fats lower blood cholesterol.	Fish is part of a healthy diet and contains polyunsaturated fat. Eat fish at least twice a week.	Fish	Those at risk of developing heart disease	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Enjoy healthy eating. A guide to keeping your blood cholesterol in check (Pamphlet)	HC/ Heart Foundation/ Dec 2006	Eating a healthy diet is very important for reducing your cholesterol levels and improving your heart health.	Fish is part of a healthy diet and contains a high amount of healthy fat. Fish helps to reduce your risk of heart disease. Eat fish at least twice a week. All types of fish are good choices. Seafood is also a good choice as it is low in saturated fat.	Fish and seafood	Those at risk of high cholesterol	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	5
Enjoy healthy eating. A guide to keeping your blood cholesterol in check (Magnet)	HC/Heart Foundation/ unknown	Eating a healthy diet is very important for keeping your cholesterol levels in check.	Fish is part of a healthy diet. Eat fish at least twice a week.	Fish	Those at risk of high cholesterol	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	4
Healthy eating for the heart	PDF on web ¹⁴ / Heart Foundation/ Feb 2004	Nutrition plays a role in four of the risk factors for heart, stroke and blood vessel disease – high blood lipids (fats), blood pressure, diabetes and being overweight.	Fish is part of a healthy diet. Have it at least twice a week.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	5
High blood pressure – the facts	HC/Heart Foundation/ June 2007	High blood pressure is one of the most common disorders affecting the heart and blood vessels. High blood pressure rarely gives warning signs and can be a silent killer. Healthy eating is particularly important in controlling high blood pressure and reducing your risk of heart disease.	Fish is part of a healthy diet that may help to reduce high blood pressure.	Fish	Those with high blood pressure	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	5
Live healthy to live longer – your guide	HC/ Heart Foundation/ 2005	Your heart needs care for life. A healthy heart is about enjoying a healthy lifestyle and making this a part of every day life. It is about living healthily to live longer. It's also about making positive steps to reduce risk factors.	Moderate amounts of fish as part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	5
Nourish your heart	Web ¹⁵ / Heart Foundation/ unknown	Enjoying a variety of foods from the different food groups is the key to healthy eating.	Fish is part of a healthy diet. Have fish at least twice a week.	Fish	General population – especially women due to location on website (women and heart disease)	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Questions and Answers – General Position Statement – Phytosterol/ stanol enriched foods	PDF ¹⁴ / Heart Foundation/ Aug 2007	Plant sterol enriched foods can be included in a healthy eating plan. For good health it is important to enjoy a variety of foods every day.	Fish is part of a healthy diet.	Fish	Those at risk of developing, or with, high cholesterol	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	5
Women and heart disease	HC/ Heart Foundation/ 2006	Heart disease is the number one killer of women in Australia. The biggest risk to your heart is the gradual clogging of the arteries that supply blood to the heart.	Eating fish (at least twice a week) is part of a healthy diet which can help prevent heart disease.	Fish	Women	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	5
Your blood pressure	PDF on web ¹⁴ / Heart Foundation/ Dec 2003	Blood pressure is the pressure of the blood in the arteries as the heart pumps it around the body. It does not stay the same all the time. There are things that you can do to prevent your blood pressure increasing and control the risk of heart disease.	Enjoy fish as part of a healthy diet to prevent your blood pressure increasing and control the risk of heart disease.	Fish	Those with, or at risk of high blood pressure	<ul style="list-style-type: none"> ▪ GP 	5
Eating for a healthy heart	Web ¹⁶ / My Dr website - MIMS consumer Health Group/ July 2006	You can make a huge difference to your heart and to your general health by just making a few simple changes to your way of eating.	Eat fish (fresh or canned and not fried) at least twice a week.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	3
Heart Disease: Reduce the Risk	Web ¹⁷ / My Dr website - MIMS consumer Health Group/ July 2006	Heart disease is rarely caused by one thing. It is important to know the risk factors and to try and avoid them.	Fish is part of a healthy diet – eat it regularly (at least twice a week).	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN 	3
Heart Health: Be Physically Active and Enjoy Healthy Eating	Web ¹⁸ / My Dr website - MIMS consumer Health Group/ April 2004	Small changes to your eating and physical activity habits can make a big difference to your heart health.	Fish is part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	3
Triglycerides	Web ¹⁹ / My Dr website - MIMS consumer Health Group/ March 2007	Triglycerides are a type of fat found in your blood and fat cells. Triglycerides are the main form of fat stored in the body. You can lower the amount of triglycerides that you have in your body by eating healthily.	Fish can help you to lower your triglycerides level and are part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	3

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
The importance of lower cholesterol	PDF on web ²⁰ / Northern Rivers Division of General Practice (Lismore NSW)/ unknown	Lowering cholesterol levels in the blood has significant health benefits. Reducing cholesterol through the diet is preferable.	Omega-3 fatty acids are good for you. Polyunsaturated fats found in seafood are recommended.	Seafood	Those with or at risk of high cholesterol	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	4
Blood pressure	Web ²¹ /NSW Health/ unknown	Blood pressure is the pressure of the blood in the arteries as the heart pumps blood around the body. Blood pressure is normal. We all need it to stay alive.	Eating plenty of fish can help control blood pressure.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN 	5
Cardiovascular disease	Web ²² /NSW Health/ unknown	Cardiovascular disease is a term used to describe a vascular condition that can affect the heart and blood vessels including: heart attack and angina, cerebrovascular disease (including stroke), high blood pressure, blood clotting and other heart or blood vessel diseases.	Eating plenty of fish can help control blood pressure and prevent cardiovascular disease.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN 	5
Cholesterol: too much is dangerous. Asian foods	PDF on web ²³ / NSW Multicultural Health Communication Service/ March 2005	Too much cholesterol in the blood increases the risk of heart attack or stroke. Knowing what foods to eat and enjoying regular physical activity can help to keep cholesterol under control.	Having fish (canned or fresh) at least twice a week can help keep your cholesterol at a healthy level. Shellfish is fine in moderation if your cholesterol is at a healthy level.	Fish and seafood	Asian people	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	5
Cholesterol: too much is dangerous. European and Middle Eastern foods	PDF on web ²³ / NSW Multicultural Health Communication Service/ March 2005	Too much cholesterol in the blood increases the risk of heart attack or stroke. Knowing what foods to eat and enjoying regular physical activity can help to keep cholesterol under control.	Having fish (canned or fresh) at least twice a week can help keep your cholesterol at a healthy level. Shellfish is fine in moderation if your cholesterol is at a healthy level.	Fish and seafood	European and Middle Eastern people	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	5
Cholesterol: too much is dangerous. Samoan and Tongan foods	PDF on web ²³ / NSW Multicultural Health Communication Service/ March 2005	Too much cholesterol in the blood increases the risk of heart attack or stroke. Knowing what foods to eat and enjoying regular physical activity can help to keep cholesterol under control.	Having fish (canned or fresh) at least twice a week can help keep your cholesterol at a healthy level. Shellfish is fine in moderation if your cholesterol is at a healthy level.	Fish and seafood	Samoan and Tongan people	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Eating well to prevent heart disease and stroke	PDF on web ²³ / NSW Multicultural Health Communication Service/ May 2003	Any healthy changes that you make to your diet should be lifelong.	Fish have good unsaturated fats. Eat fish that is fresh, frozen or canned (in spring water) at least twice a week	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN 	5
How to keep your blood pressure healthy	PDF on web ²³ / NSW Multicultural Health Communication Service/ Sept 1997	Blood pressure is the force that drives blood through your veins and arteries. If it becomes too high it can damage arteries making it easier for them to become blocked and cause heart attack or stroke. Healthy eating, reducing salt intake and regular exercise can help prevent high blood pressure.	Eating moderate amounts of fish can help to reduce high blood pressure.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN 	5
Summary Cholesterol and Heart Health	Web ²⁴ / Nutrition Australia/ May 2007	We need a certain amount of cholesterol in our bodies, but having more than the right amount is potentially harmful. A high level of LDL cholesterol is strongly associated with increased risk of heart disease.	Eating one to two fish meals per week reduces the risk of heart disease	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	4
Fats and cholesterol	HC/ Pharmaceutical Society of Australia/ July 2003	Our bodies need cholesterol and triglycerides (fat), but having too much cholesterol or fat in our blood can increase our chances of developing high blood pressure, heart disease and stroke. They can be lowered by healthy eating, lifestyle changes and medicines.	Fish is part of a healthy diet to help reduce bad cholesterol. Fish oils are polyunsaturated fats. Have fish at least twice a week as part of a healthy diet.	Fish and fish oil	General population	<ul style="list-style-type: none"> ▪ GP 	1
Helping Your Heart	Web ²⁵ / Victor Chang Cardiac Research Institute/ unknown	Healthy eating means enjoying a wide variety of nutritious foods with the ultimate goal of reducing heart disease risk factors - high blood cholesterol levels, high blood pressure, excess weight and high blood sugar levels if diabetic. Healthy food for your heart is healthy for all the family, and it can be simple and tasty.	Seafood is a great alternative to meat and poultry. The fats in fish are known to be heart-healthy, and most experts would recommend that you eat fish at least two to three times a week. Canned fish is also suitable.	Fish and fish oil	General population	<ul style="list-style-type: none"> ▪ GP 	5

Table 7 Nutrition

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Antioxidants	PDF on web ¹ / Better Health Channel (Vic Govt)/ Nov 2007	An overload of free radicals has been linked to certain diseases, including heart disease, liver disease and some cancers. A diet high in antioxidants may help reduce the risk of these diseases. Antioxidants are found in certain healthy foods and neutralise free radicals.	Seafood – contains copper, manganese, selenium and zinc which are good sources of antioxidants. Fish – contains zoochemicals which is a good source of antioxidants.	Fish and seafood	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Calcium	PDF on web ¹ / Better Health Channel (Vic Govt)/ Feb 2008	Calcium is vital for healthy teeth and bones.	Fish with edible bones are a good source of calcium.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian 	5
Calcium – children	PDF on web ¹ / Better Health Channel (Vic Govt)/ Nov 2006	Calcium is an important part of the daily diet, especially for children. It is essential for the growth of strong teeth and bones.	Fish with edible bones (sardines or salmon) are a good source of calcium for children that refuse to drink milk.	Fish	Parents of children	<ul style="list-style-type: none"> ▪ GP ▪ Dietitian ▪ CHN ▪ Child Health Nurse 	5
Fats and oils	PDF on web ¹ / Better Health Channel (Vic Govt)/ Feb 2008	Fat is important for many body processes and you need to eat some fat in your diet.	Fish contains omega-3 fats which are polyunsaturated fats. Have fish at least twice a week. The benefits of omega-3 fats include: lower triglyceride levels; improved blood vessel elasticity; normal heart rhythm; thinner the blood, which is less sticky and less likely to clot; reduced inflammation; reduced blood pressure; preventing and treating depression; and contributing to the normal fetal brain development.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Fish	PDF on web ¹ / Better Health Channel (Vic Govt)/ Nov 2007	Australians should eat more fish. Fish is low in fat, high in protein and an excellent source of omega-3 fatty acids. Eating fish regularly (once or twice a week) may reduce the risk of a range of diseases. The best source of omega-3 fatty acids is in fish, not fish oil capsules.	Eating fish regularly may reduce the risk of: Asthma; cardiovascular disease; dementia; depression; diabetes; poor eyesight; inflammatory conditions; and prematurity.	Fish and seafood	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Food variety and a healthy diet	PDF on web ² / Better Health Channel (Vic Govt)/April 2006	Food variety means eating a wide variety of foods from each of the five food groups, in the amounts recommended. Eating many different foods helps maintain a healthy and interesting diet and provides adequate nutrition. Eating a mixture of foods can help prevent diseases such as diabetes, cancer and cardiovascular disease.	Fish are a part of a healthy and varied diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Iodine explained	PDF on web ² / Better Health Channel (Vic Govt)/Feb 2008	Iodine is found in dairy products, seafood, kelp, eggs, some vegetables and iodised salt. It is important for essential hormone development in the human body.	<p>Iodine is found in seafood. Any type of seafood is a rich source of iodine.</p> <p>Eating seafood (including fish) once a week is enough to fulfill the average iodine requirement and eating it two to three times a week will give you benefit from the fish oils.</p>	Fish and seafood	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Nutrition – women's extra needs	PDF on web ² / Better Health Channel (Vic Govt)/Aug 2007	A woman's reproductive life means that her nutritional needs differ greatly from those of a man. Menstruation, pregnancy, breastfeeding and menopause are times of increased nutritional demand.	<p>Seafood is a good source of zinc which is needed to maintain healthy cells.</p> <p>Fatty fish are a good source of vitamin D.</p>	Fish and seafood	Women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife 	5
Feeding your baby in the first year	HC, PDF on web ²⁶ / Centre for Health Promotion, Children, Youth and Women's Health Service (SA)/ unknown	Babies need the right foods at the right times to grow, learn to eat and help them learn to talk. Breastmilk is the best food for babies for the first six months, then smooth foods at six to seven months and then lumpy foods until one year.	Fish is a good food to prepare for your baby.	Fish	Parents of children under 1 year old	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Community health worker ▪ Child health nurse 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Snacks for children aged 1 year and over	HC, PDF on web ²⁶ / Centre for Health Promotion, Children, Youth and Women's Health Service (SA)/ unknown	Children need a range of healthy foods to learn and play.	Fish is a healthy snack for children.	Fish	Parents of children over one year	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Community health worker ▪ Child health nurse 	5
Healthy eating	Web ²⁷ / Child and Youth Health, Children, Youth and Women's Health Service (SA)/April 2008	Eating healthily can make you look better and feel better, even small changes in the way you eat can make a difference.	<p>Fish is part of a healthy diet.</p> <p>Fish and seafood provide nutrients such as omega-3 fatty acids which are very necessary.</p>	Fish and seafood	Youth	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Healthy eating guidelines	Web ²⁸ / Choice magazine – online/ Mar 2003	Healthy eating guidelines are: eat plenty of fruit and veggies, eat plenty of cereals, preferably wholegrain, include lean meat, fish, poultry and/or alternatives such as legumes and nuts, limit saturated (and trans) fat, include reduced-fat dairy foods and/or alternatives in your diet, drink plenty of water, choose foods low in salt, limit alcohol, don't eat too much sugary food.	Fish is a good source of iron. Two to three fish meals a week are recommended for omega-3 benefits.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Community health worker ▪ Dietitian 	5
Australian Guide to healthy eating – background information for consumers	HC/Dept of Health and Ageing/1998	Enjoy a variety of healthy foods every day including fruits, vegetables, legumes, milk, yoghurt, cheese, water, bread, cereals, rice, pasta and noodles.	As part of a healthy diet, fish provides some of the important nutrients the body needs. Canned fish is a nutritious substitute for fresh fish. Eat moderate amounts of fish.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Australian Guide to healthy eating – summary information	HC/Dept of Health and Ageing/1998	Enjoy a variety of healthy foods every day including fruits, vegetables, legumes, milk, yoghurt, cheese, water, bread, cereals, rice, pasta and noodles.	As part of a healthy diet, fish provides some of the important nutrients the body needs. Canned fish is a nutritious substitute for fresh fish. Eat moderate amounts of fish.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Australian Guide to healthy eating - poster (A4 and A3)	HC/Dept of Health and Ageing/1998	Enjoy a variety of healthy foods every day including fruits, vegetables, legumes, milk, yoghurt, cheese, water, bread, cereals, rice, pasta and noodles.	Enjoy fish as part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Food for health – dietary guidelines for children and adolescents in Australia	HC/Dept of Health and Ageing/2003	<p>Enjoy a wide variety of nutritious food and drink plenty of water.</p> <p>Encourage and support breastfeeding. Children and adolescents need sufficient nutritious foods to grow and develop normally.</p> <p>Care for your child's food: prepare and store it safely.</p>	Enjoy fish as part of a varied diet.	Fish	Parents and carers of children and adolescents	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Child health nurse ▪ Dietitian 	4
Food for health – dietary guidelines for Australian adults	HC/Dept of Health and Ageing/2003	<p>Enjoy a wide variety of nutritious food. Encourage and support breastfeeding.</p> <p>Prevent weight gain: be physically active and eat according to your energy needs.</p> <p>Care for your food: prepare and store it safely.</p>	Enjoy fish as part of a varied diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	4
Food for health – dietary guidelines for Australians	HC/Dept of Health and Ageing/2003	<p>Enjoy a wide variety of nutritious food and drink plenty of water.</p> <p>Encourage and support breastfeeding. Children and adolescents need sufficient nutritious foods to grow and develop normally.</p> <p>Care for your and your child's food: prepare and store it safely.</p>	<p>Enjoy fish as part of a varied diet. Try to eat one to two fish meals a week.</p> <p>Fish is an excellent source of omega-3 fats, iron and protein.</p>	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Child health nurse ▪ Dietitian 	4
Indigenous Lifescrpts – healthy eating action plan	PDF on web ²⁹ / Dept of Health and Ageing/2008	Eating well will help to maintain health, increase energy and help with some medical conditions.	Eat more fish as part of your healthy eating plan.	Fish	General Indigenous population	<ul style="list-style-type: none"> ▪ GP 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Eating fish	PDF on web ³⁰ / Department of Health and Human Services Tas/ unknown	All fish and seafood are excellent sources of protein, vitamins and minerals. All fish are good for health with the higher fat varieties having extra benefits of omega-3 fatty acids. Aim to eat fish at least three times a week.	All fish and seafood are excellent sources of protein, vitamins and minerals. All fish are good for health with the higher fat varieties having extra benefits of omega-3 fatty acids. Aim to eat fish at least three times a week.	Fish and seafood	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Calcium	Web ³¹ / Dietitians Ass of Australia/ Jan 2008	Calcium is important for strong bones and healthy teeth.	Fish with edible bones are a good source of calcium as part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Mercury in fish	Web ³² / Dietitians Ass of Australia/ Jan 2008	While there are many benefits of eating fish, if you are pregnant, planning on becoming pregnant or preparing meals for a young child, you need to be careful about the types of fish you eat. Some fish contain high levels of mercury which can be harmful to your developing baby and to young children.	<p>Fish should be eaten as party of a healthy diet at least twice a week.</p> <p>Fish is an excellent source of protein, low in saturated fat and contain omega-3 fatty acids. It is also a good source of vitamins (especially vitamin D) and iodine.</p>	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife ▪ Child health nurse 	5
Advice on fish consumption – mercury in fish	HC/ Food Standards Australia and New Zealand/ unknown/	There are many nutritional benefits of eating fish. All fish contains small amounts of mercury, some more than others. Eating too much fish with 'high' mercury levels is bad for you especially for those planning pregnancy, those that are pregnant and children under six.	Fish is part of a varied and healthy diet it is low in saturated fat, an excellent source of protein, essential omega-3 fatty acids and iodine.	Fish	Those planning to become pregnant, those that are pregnant Parents of children under six	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife ▪ Child health nurse 	5
Healthy eating	PDF on web ³³ / Jean Hailes Foundation for Women/ Dec 2005	Poor eating has a direct impact on our health. Being overweight can stop us from being our best. It you're not eating well, your body struggles to stay in balance.	Eat one to three serves of fish a week; fish contain omega-3 fatty acids which are powerful protectors of the heart and blood vessels.	Fish	Women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Could you be iron deficient?	HC/ Meat and Livestock Australia/ Mar 2003	There are three easy steps to an iron-rich diet: choose foods high in absorbable iron at each meal, combine non-meat meals with good sources of vitamin C to increase absorption of non-haem iron, drink tea and coffee between meals.	Canned fish is a source of haem iron.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	2

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Fatty acids in the diet	Web ³⁴ / My Dr website - MIMS consumer Health Group/ May 2002	Fats are made up of many different fatty acids. Fatty acids have an important role in preventing heart disease, skin conditions and inflammatory diseases. Fish are an excellent source of omega-3 fatty acids. Two to three meals of fish a week will provide sufficient amounts of fatty acids.	Fish are an excellent source of omega-3 fatty acids. Two to three meals of fish a week will provide sufficient amounts of fatty acids.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Physio 	3
Nutrition: Benefits	Web ³⁵ / Foundation 49 – Men's Health/ Sept 2006	A healthy diet can not only help reduce cancer risk, but also protect against heart disease, stroke and other health conditions.	Fish are a rich source of healthy unsaturated fats called omega-3 fatty acids.	Fish	Men	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Physio 	3
Get the good eating habit	HC/Heart Foundation/ Mar 2004	For good heart health enjoy healthy eating, be active every day, be smoke free and achieve and maintain a healthy body weight.	Enjoy a wide variety of foods including fish. Have fish at least twice a week.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Losing weight the healthy way	HC/Heart Foundation/ April 2006	Achieving a healthy weight is a balancing act between what goes in and what is used up.	Fish and seafood are part of a healthy diet that can contribute to maintaining or achieving a healthy weight.	Fish and seafood	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
The Aboriginal and Torres Strait Islander Guide to Healthy Eating	HC/Northern Territory Government – Department of Health and Community Services/ unknown	Food is required every day from each of the five food groups for good nutrition and health. Healthy eating throughout life will help reduce the risk of health problems later in life such as diabetes, heart disease, cancer and obesity.	Fish and seafood are good sources of protein, iron and zinc.	Fish and seafood	Aboriginal and Torres Strait Islanders	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Community health worker ▪ Aboriginal health worker 	4
Facts on fat	PDF on web ³⁶ / NSW Multicultural Health Communication Service/ June 2005	All fats are very high in energy and will increase your weight if eaten in excess. Foods contain a combination of three types of fat: saturate, monounsaturated and polyunsaturated. The different fats have different effects on your blood cholesterol.	Omega-3 fatty acid is a polyunsaturated fat and is a healthy fat. It will help to reduce high blood triglycerides, reduce high blood pressure and reduce the risk of blood clots. Limit seafood that is high in cholesterol (prawns, calamari and octopus) to no more than once a week.	Fish and seafood	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Good reasons to eat fish	PDF on web ³⁶ / NSW Multicultural Health Communication Service/ Mar 2005	Eating fish at least twice a week is good for your health, it helps prevent heart disease and stroke, fish is low in fat and good for your bones.	<p>The omega-3 fatty acids help prevent heart disease and stroke.</p> <p>Fish is low in fat which helps maintain a healthy weight.</p> <p>Some canned fish (salmon and sardines) contain edible bones which are a good source of calcium.</p> <p>Fish is good for people with diabetes because it is low in fat and helps to prevent heart disease and stroke.</p>	Fish	General population	<ul style="list-style-type: none"> GP CHN Dietitian 	5
What are omega-3 fats and what is the science behind the claims relating to foods high in omega-3 fats	Web ³⁷ / Nutrition Australia/ Feb 1999	Omega-3 fats are polyunsaturated fats that are found in significant quantities in several plants and plant oils and in even greater quantities in many varieties of seafood. Omega-3 fats are beneficial in at least three areas of human health: heart disease, inflammatory disease, and development of vision and brain function in babies.	<p>Eating fish regularly is associated with a reduced risk of heart disease.</p> <p>Rheumatoid arthritis and other inflammatory diseases (eg psoriasis) generally respond positively to increased consumption of foods containing omega-3 fats.</p>	Fish	General population	<ul style="list-style-type: none"> GP CHN Dietitian Midwife Child health nurse 	5
Weight and health	HC/ Pharmaceutical Society of Australia/Oct 2006	The main way to lose weight and improve health is to change eating habits and increase physical activity.	To reach and maintain a healthy weight, eat a moderate amount of fish is recommended as part of a healthy diet.	Fish	General population	<ul style="list-style-type: none"> GP CHN Dietitian 	1
Choosing good food	Web ³⁸ / Raising Children Network/ unknown	If your child eats a variety of healthy foods they will get the nutrients they need and develop healthy eating habits for life. Help your child make good food choices by offering them lots of different healthy foods.	Fish supplies vital iron, zinc and vitamin B12 as well as protein – these are things children need to grow. Fish is a good source of omega-3 fatty acids, which help the brain to develop.	Fish	Parents of children aged one to eight years old	<ul style="list-style-type: none"> GP CHN Dietitian Child health nurse 	5
What's so healthy about seafood?	HC/ Seafood Services Australia/ Unknown	Seafood is an important part of a healthy diet and that includes whole fish, not just the fish oils. Fish is a good source of protein, iron, zinc and iodine.	Seafood is an important part of a healthy diet and that includes whole fish, not just the fish oils. Fish is a good source of protein, iron, zinc and iodine.	Fish and seafood	General population	<ul style="list-style-type: none"> GP CHN Dietitian 	1

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Checklist for the 45 – 49 year old health check Incorporating the Smoking, Nutrition and Physical Activity (SNAP) guide to behavioural risk factors in general practice.	PDF on web ³⁹ / Royal Australian College of General Practitioners/ Oct 2004	Taking the time to identify potential and early problems can help to prevent chronic disease and allow for early intervention.	Fish is part of a healthy diet.	Fish	General population aged 45 – 49 years old	<ul style="list-style-type: none"> ▪ GP 	5
Health benefits	Web ⁴⁰ / WA Fishing Industry Council	Substantial evidence suggests that people at risk from coronary heart diseases, heart arrhythmia, rheumatoid arthritis, diabetes, obesity and hypertension may benefit by making seafood a cornerstone of a healthy balanced diet. Eat one to two serves of fish a week.	Substantial evidence suggests that people at risk from coronary heart diseases, heart arrhythmia, rheumatoid arthritis, diabetes, obesity and hypertension may benefit by making seafood a cornerstone of a healthy balanced diet. Eat one to two serves of fish a week.	Fish	General population	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	1
Women's Health in the Middle Years	HC/ Women's and Children's Hospital, Children, Youth and Women's Health Service (SA)/ Feb 2004	During the middle years, women experience many changes and face a number of issues related to lifestyle and health. You may be able to prevent some illnesses through making healthy lifestyles choices.	Fish is part of a healthy diet.	Fish	Women in the middle years (middle aged)	<ul style="list-style-type: none"> ▪ GP 	5
Nutrition – student fact sheet	Web ⁴¹ / Women's Health QLD Wide/ Nov 2007	During adolescence, young women's eating habits often change due to spending more time with friends, part-time work and a generally more independent lifestyle. They tend to have more meals outside of the home, thus making their own decisions regarding what to eat. Therefore, providing young women with information on the nutritional requirements for a person of their age may help them to make better food choices.	Fish is an important part of a healthy diet. It is a good source of iron, calcium and protein – all of which are important for adolescent girls.	Fish	Young women Parents of young women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5

Table 8 Osteoporosis

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Osteoporosis	PDF on web ² / Better Health Channel (Vic Govt)/ Sep 2006	With osteoporosis bones become less dense, lose strength and break more easily due to calcium loss. Breaks are most common in the spine, hip and wrist and often occur as the result of a minor fall. It is never too late to seek treatment.	Canned fish with small edible bones, like sardines, is a good source of calcium to help prevent osteoporosis.	Fish	Those at risk of osteoporosis	<ul style="list-style-type: none"> ▪ GP 	5
Osteoporosis	Web ⁴² / Dietitians Ass of Australia/ Jan 2008	Osteoporosis is a condition of brittle bones affecting many Australians. Eating enough calcium rich foods throughout life can help to prevent osteoporosis.	Fish with edible bones contains calcium that can help to prevent osteoporosis.	Fish	Those at risk of developing osteoporosis	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	4
Calcium	Web ⁴³ / Osteoporosis Australia/ unknown	Calcium is essential for building and maintaining bones. It combines with other minerals to form the hard crystals that give bone its strength. Almost all the body's calcium (about 99%) is found in the bones.	Eat canned fish with bones, particularly canned salmon and sardines (the fish bones contain calcium).	Fish	Those at risk of developing osteoporosis	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Calcium, Vitamin D and osteoporosis	PDF on web ⁴⁴ / Osteoporosis Australia/Mar 2006	Osteoporosis is a disease in which the bones become fragile and brittle. They fracture more easily than normal bone. Calcium is important for building strong bones in childhood and helping protect us from developing osteoporosis later in life.	<p>Fish with edible bones are a source of calcium.</p> <p>Small amounts of vitamin D can be found in fatty fish like salmon, herring and mackerel.</p>	Fish	Those at risk of developing osteoporosis	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5
Osteoporosis	HC/ Pharmaceutical Society of Australia/ Aug 2006	Bones can become so weak that the fracture very easily. This is called osteoporosis and it is most common in postmenopausal women.	A healthy well balanced diet that includes fatty fish can help prevent osteoporosis.	Fish	Those at risk of developing osteoporosis	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	1
Osteoporosis	Web ⁴⁵ / Women's Health QLD Wide/Nov 2007	Osteoporosis is a disease which affects the skeleton and is characterised by low bone mass, deterioration of bone tissue and a consequent increase in bone fragility and susceptibility to fracture. Many people unaware they suffer from it until they sustain a fracture.	Non-dairy sources of calcium include: canned fish with bones such as salmon and sardines. 100g canned salmon/sardines is equal to approximately 300mg of calcium	Fish	Women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	4

Table 9 Preconception, pregnancy and breastfeeding

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Good Nutrition in pregnancy	HC/ACT Health/ June 2007	A healthy pregnancy is important for you and your baby. Even though you are eating for two there is no need to eat twice as much. It is the quality of the food not the quantity which matters most.	Fish is part of a healthy diet in pregnancy. Fish and seafood are good sources of iron, iodine, calcium, vitamin D and omega-3 fats.	Fish and seafood	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife 	5
Mercury in fish	PDF on web ² / Better Health Channel (Vic Govt)/June 2006	Mercury is a naturally occurring element that is found in air, water and food. Most people are exposed to mercury via food. Unborn babies are at the greatest risk from too much mercury as too much in their system can slow their development in the early years of life. Fish is still an important part of a healthy diet for pregnant women – just choose to eat fish and seafood with lower levels of mercury.	Fish is an important part of a healthy diet. Some of the health benefits include high in protein, low in saturated fat, high in unsaturated fat and high in omega-3 oils.	Fish and seafood	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife 	5
Pregnancy and diet	PDF on web ² / Better Health Channel (Vic Govt)/Nov 2007	Good nutrition during pregnancy keeps the mother and baby healthy. It is important to eat a wide variety of healthy foods to ensure that nutritional needs are being met.	Fish is part of a healthy diet for pregnant women. Pregnant women should eat two to three serves of low mercury fish a week for good health.	Fish	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife 	5
Pregnancy – risks	Web ⁴⁶ / Child and Youth Health, Children, Youth and Women’s Health Service (SA)/ Aug 2007	During your pregnancy it is very important to avoid some things that can harm your developing baby.	There are several nutritional benefits from eating fish, it is an excellent source of protein and is rich in important vitamins and minerals such as vitamin D and iodine and is high in unsaturated fat and omega-3 fatty acids. Pregnant women should eat two to three serves of fish a week, but ensure that the fish that you eat has low levels of mercury.	Fish	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife 	5
Healthy eating a various life stages – pregnant women	Web ⁴⁷ / Dept of Health and Ageing/ Aug 2006	Healthy eating is important for pregnant women and their unborn babies.	Fish is a nutritious food that is part of a healthy diet for pregnant women. Seafood is a good source of zinc.	Fish and seafood	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Healthy eating your prescription for pre-pregnancy, pregnancy and breastfeeding Pregnancy Lifescripts (GP)	HC/Dept of Health & Ageing/Apr 2007	Healthy eating is especially important when a woman is planning a pregnancy, pregnant or breastfeeding	Fish is part of a healthy diet during preconception, pregnancy or breastfeeding. Fish and seafood are good sources of iodine.	Fish and seafood	Women that are planning a pregnancy, pregnant or breastfeeding	<ul style="list-style-type: none"> GP 	5
Healthy eating your prescription for pre-pregnancy, pregnancy and breastfeeding Pregnancy Lifescripts (consumer)	HC/Dept of Health & Ageing/Apr 2007	Healthy eating is especially important when a woman is planning a pregnancy, pregnant or breastfeeding.	Fish is a good source of iron. Seafood is a good source of iodine.	Fish and seafood	Women that are planning a pregnancy, pregnant or breastfeeding	<ul style="list-style-type: none"> GP 	4
SA Department of Health - Pregnancy website	Web ⁴⁸ / Dept of Health (SA)/ unknown	If you are thinking about having a baby or are already pregnant, there are some things you can do to help. A healthy lifestyle may mean that it is easier to conceive (get pregnant) and it will also help your baby to develop.	Eating fish regularly is part of a healthy diet when you are trying to get pregnant or are already pregnant. Fish is a good source of calcium, iron and protein.	Fish	Women preparing for pregnancy and those that are pregnant	<ul style="list-style-type: none"> GP CHN Dietitian Midwife 	5
Having a baby in Victoria – website	Web ⁴⁹ / Dept of Human Services (Vic) /unknown	Planning your pregnancy should include getting the best available information before you conceive. It is possible to improve your health before conception, minimise the risk to your baby and for some women increase the likelihood of conceiving. It is also important to get the best possible information once you are pregnant so that you can stay in the best possible condition for your baby.	Fish is part of a healthy diet when you are trying to conceive or are pregnant as it has a number of nutritional benefits. Where possible eat a variety of fish whenever you like, as long as the mercury levels of the fish are low.	Fish	Women preparing for pregnancy and those that are pregnant	<ul style="list-style-type: none"> GP CHN Dietitian Midwife 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Mercury in Fish	PDF on web ⁵⁰ / Food Standards Australia and New Zealand/ Mar 2004	Fish is an excellent source of protein, is low in saturated fat and contains polyunsaturated fatty acids such as essential omega-3 polyunsaturates. It is also a good source of some vitamins, particularly vitamin D and iodine. It is recommended to eat one to two serves per week. All fish contains small amounts of mercury, some more than others. Eating too much fish with 'high' mercury levels is bad, especially for those planning pregnancy, those that are pregnant and children under six because of the harmful effects.	Fish is part of a varied and healthy diet it is low in saturated fat, an excellent source of protein, essential omega-3 fatty acids and iodine. Eat fish one to two times a week.	Fish	Those planning to become pregnant, those that are pregnant Parents of children under six	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife ▪ Child health nurse 	5
A healthy fish message for women planning pregnancy and mums to be	HC/ NSW Food Authority/ Mar 2005	Fish are full of many nutritional benefits for pregnant women and young children. Too much of a good thing can be bad – especially for fish with high levels of mercury.	Fish is a good source of protein, iodine, vitamin B12 and omega-3 fatty acids which are all good for a developing baby. Aim to eat two to three serves per week of fish or seafood with low mercury levels.	Fish and seafood	Women planning a pregnancy or already pregnant	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife 	5
Fish and mercury FAQs	Web ⁵¹ / NSW Food Authority/ Jul 2006	Fish is part of a healthy diet – you just need to be careful with how much and what types you eat.	Fish is part of healthy diet and has many health benefits including that it is low in saturated fat and is an excellent source of protein, omega-3 fatty acids, iodine and some vitamins. You need to be careful to only eat fish that have low levels of mercury when you are pregnant.	Fish	Pregnant or breastfeeding women Parents of young children	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife ▪ Child health nurse 	5
Pregnancy and food	PDF on web ⁵² / NSW Food Authority/ Mar 2005	It is important that you select a nutritious diet from a wide variety of foods. Food safety is also very important with the foods that you eat, especially in pregnancy.	Fish is rich in protein and minerals, low in saturated fat and contains omega-3 fatty acids. Be careful what fish you choose to eat as some have high levels of mercury.	Fish	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian ▪ Midwife 	4
Having a baby	HC/NSW Health/2006	There are many questions that you have in pregnancy about the different stages of pregnancy – this book is here to help provide the answers.	Fish is a healthy food for you and your baby.	Fish	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ CHN ▪ Dietitian 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Best food choices for breastfeeding mothers	PDF on web ⁵² / QLD Health/ Jan 2007	Healthy eating is important when you are breastfeeding.	Fish is a healthy food choice in pregnancy.	Fish	Breastfeeding mothers	<ul style="list-style-type: none"> ▪ GP ▪ Midwife ▪ Dietitian 	5
Iron for pregnant women	PDF on web ⁵³ / QLD Health/ Jan 2007	When you are pregnant your body needs more blood because you and the baby are growing. Iron is needed to make the blood healthy.	Coloured flesh fish has higher levels of iron than light flesh fish. Fish is a good source of iron.	Fish	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ Midwife ▪ Dietitian 	5
Nutrition guidelines for pregnancy	PDF on web ⁵³ / QLD Health/ Jan 2007	Nutrition requirements are increased in pregnancy, but you only need a small amount of extra energy. It is important that you and your baby get everything you need through good nutrition.	Fish is a healthy food choice in pregnancy. It is an excellent source of protein, low in saturated fat, high in omega-3 fish oils and an excellent source of iodine.	Fish	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ Midwife ▪ Dietitian 	4
Healthy eating for pregnancy and breastfeeding	Web ⁵⁴ / QLD Govt – Townsville Health Service District /July 2007	Good nutrition is always essential for good health. It is particularly important during pregnancy.	Fish is part of a healthy diet. Seafood is an excellent food to eat regularly during pregnancy as it provides lots of nutrients, including omega-3 fats.	Fish and seafood	Pregnant and breastfeeding women	<ul style="list-style-type: none"> ▪ GP ▪ Midwife ▪ Dietitian 	5
Eating fish during pregnancy	Web ⁵⁵ / Royal Hospital for Women (NSW)/2006	In general, eating fish is an important part of a healthy diet and should continue to be part of your diet during pregnancy. However, some fish may contain high levels of mercury and it is important not to eat too much of these.	A typical serving of fish is between 80 and 170 grams and pregnant women can safely eat two serves a week of most fish and only 170 grams a week of large fish such as tuna.	Fish	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ Midwife ▪ Dietitian ▪ CHN 	5
Food safety in pregnancy	Web ⁵⁶ / Women's Royal Hospital – Vic /Mar 2008	You need to be careful about the foods that you eat and what you drink during pregnancy to ensure that your baby has the best start in life.	Fish is a good source of omega-3 fatty acids, which are needed for brain and nervous tissue development in the baby. Oily fish such as salmon, sardines, herring, mackerel and tuna are the best sources. In general one to three serves per week of fish are recommended for all members of the population. However due to possible higher mercury levels, certain types of fish should be limited during pregnancy and breastfeeding.	Fish	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ Midwife ▪ CHN 	5

Resource title	Format/ Source/Date	Key Message	Key information	Healthy diet description	Target audience	Likely to be used by	Cred.
Eating for two: Healthy eating and pregnancy	HC/WA Dept of Health/ 2004	Contrary to popular belief, eating for two is not an excuse to fill up on just any food that takes your fancy. You do have increased nutrition because your food must provide all the nutrients for the baby as well. It is important to eat the right amounts of healthy foods.	Fish is part of a healthy diet during pregnancy. Eat fish two to three times a week.	Fish	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ Midwife ▪ Dietitian 	5
Eating well in pregnancy	HC/ Women's and Children's Hospital, Children, Youth and Women's Health Service (SA)/ Feb 2004	Healthy eating during pregnancy is important to give your baby a healthy start.	Fish is a good source of iron and fish with bones are a good source of calcium. Eating two to three serves of most types of fish a week is recommended.	Fish	Pregnant women	<ul style="list-style-type: none"> ▪ GP ▪ Midwife ▪ Dietitian 	5
Preparing for pregnancy	HC/ Women's and Children's Hospital, Children, Youth and Women's Health Service (SA)/ Dec 2002	There are things that you can do before and during pregnancy to give your baby a healthier start. The sooner you start the better.	Fish is part of a healthy diet when planning to get pregnant.	Fish	Women planning to get pregnant	<ul style="list-style-type: none"> ▪ GP 	5
Preconception Health	PDF on web ⁵⁷ / Women's Health QLD Wide/May 2007	Pregnancy is a major life event and places many demands on a woman's body. The time before pregnancy is therefore, an ideal period to prepare for pregnancy and parenthood. Making changes to one's life at this time can help reduce problems during pregnancy and assist in recovery from birth.	<p>While women planning a pregnancy can include fish as a part of a healthy diet they do need to limit their intake of fish types that may have higher levels of mercury.</p> <p>Fish is a good source of iron and calcium.</p>	Fish	Women planning to get pregnant	<ul style="list-style-type: none"> ▪ GP ▪ Midwife ▪ Dietitian ▪ CHN 	5

4.0

Websites associated with resources reviewed

The following is a list of websites associated with resources that had the potential to be used by GPs or AHPs when consulting with patients or clients about a healthy diet.

1. www.arthritisaustralia.com.au
2. www.betterhealthchannel.vic.gov.au
3. www.mydr.com.au/default.asp?article=3105
4. www.mhcs.health.nsw.gov.au/mhcs/index.html
5. www.qldcancer.com.au
6. www.actcancer.org
7. www.cancercouncil.com.au/editorial.asp?pageid=361
8. www.cancervic.org.au
9. www.dhsv.org.au/content.asp?z=3&c=9&p=159
10. www.diabetesaustralia.com.au
11. www.diabetes.com.au
12. www.health.qld.gov.au/nutrition
13. www.csiro.au/resources/ps8k.html
14. www.heartfoundation.com.au
15. www.goredforwomen.com.au/care_for_your_heart/nourish_your_heart.htm
16. www.mydr.com.au/default.asp?article=3105
17. www.mydr.com.au/default.asp?article=3102
18. www.mydr.com.au/default.asp?Article=4119
19. www.mydr.com.au/default.asp?article=2468
20. <http://nrdgp.org.au/directory/documents/23/cholesterol.pdf>
21. www.health.nsw.gov.au/topics/bloodpressure.html
22. www.health.nsw.gov.au/topics/cardiovascular.html
23. www.mhcs.health.nsw.gov.au/
24. www.nutritionaustralia.org/food_facts/faq/summary_cholesterol_faq.asp
25. www.victorchang.com.au/public/HelpingYourHeart.cfm?cid=34
26. www.chdf.org.au
27. www.cyh.com/HealthTopics/HealthTopicDetails.aspx?p=240&np=297&id=1998
28. [www.choice.com.au/viewArticle.aspx?id=103594&catId=100406&tid=100008&p=1&title=Healthy+eating+guidelines+\(archived\)](http://www.choice.com.au/viewArticle.aspx?id=103594&catId=100406&tid=100008&p=1&title=Healthy+eating+guidelines+(archived))
29. www.adgp.com.au
30. www.dhhs.tas.gov.au/healthyliving/nutrition/
31. www.daa.asn.au/index.asp?PageID=2145834407
32. www.daa.asn.au/index.asp?PageID=2145834482
33. www.jeanhailes.org.au
34. www.mydr.com.au/default.asp?Article=382
35. www.49.com.au/index.php?option=com_content&task=view&id=66&Itemid=19
36. www.mhcs.health.nsw.gov.au/
37. www.nutritionaustralia.org/Food_Facts/FAQ/omega3_faq.asp
38. http://raisingchildren.net.au/articles/choosing_good_food.html
39. www.racgp.org.au
40. www.wafic.org.au/enjoy_seafood/health_benefits.phtml

41. www.womhealth.org.au/studentfactsheets/nutrition.htm
42. www.daa.asn.au/index.asp?PageID=2145834416
43. www.osteoporosis.org.au/osteo_prevention_calcium.php
44. www.osteoporosis.org.au
45. www.womhealth.org.au/studentfactsheets/osteoporosis.htm
46. www.cyh.com/HealthTopics/HealthTopicDetails.aspx?p=114&np=304&id=1964
47. www.health.gov.au/internet/healthyactive/publishing.nsf/Content/pregnant-women
48. www.health.sa.gov.au/PREGNANCY/DesktopDefault.aspx?tabid=45
49. www.health.vic.gov.au/maternity/
50. www.foodstandards.gov.au/
51. www.foodauthority.nsw.gov.au/consumer/pregnancyanswers.asp
52. www.foodauthority.nsw.gov.au/
53. www.health.qld.gov.au/nutrition
54. www.health.qld.gov.au/townsville/tour_baby/pregnancy4.asp
55. www.sesiah.health.nsw.gov.au/rhw/default.asp?page=449&template=6&leftnav=54
56. www.thewomens.org.au/Foodsafetyduringpregnancy
57. www.womhealth.org.au/factsheets/preconception.htm

5.0

Conclusions

With support from appropriate health care professionals, written health information can provide accurate information to facilitate informed health choices.⁴² Such health information can enable health professionals to assist patients to make changes to behaviours that can positively impact on their own health.

This research project identified 120 relevant Australian health information resources that were suitable for use with a range of patients by GPs and AHPs, during a five to ten minute consultation. The majority of the resources (87.5%, n=105) were 'credible' or 'highly credible'. Resources that were 'definitely not credible', 'not credible' or 'somewhat credible' (12.5%, n=15) were primarily due the source of information being from commercial entities with possible competing interests.

All (120) of the resources reviewed made reference to the regular consumption of fish as part of a healthy diet. Almost a quarter of the resources made reference to either the regular consumption of seafood (22.5%, n=27) or fish oil (5.0%, n=6) as part of a healthy diet. The majority of resources (88.3%, n=106) were available in electronic format (either PDFs or websites) a preferable, quick and easy mode of access for GPs and AHPs.

In summary, the most pertinent outcome from this research was that only 18% (n=15) of the resources critically reviewed were suitable for use with the general English speaking Australian population (recommended reading level of Year Eight or lower).^{30 33 10 18} Clearly, it is not sufficient to provide resources with relevant information to assist GP and AHP with patient care if these resources are not developed in a manner that make them easily understood end users. Therefore, it is essential that all resources developed should not only contain accurate information but also be rigorously tested with specific target groups prior to distribution.

6.0

References and Bibliography

1. Torphy, J. 2006 'Eating Fish: Health Benefits and Risks' *Journal of the American Medical Association*, vol. 296 (15), pp. 1926.
2. Daniels, J., Longnecker, M., Rowland, A., Golding, J. and The ALSPAC Study Team – University of Bristol Institute of Child Health 2004 'Fish Intake During Pregnancy and Early Cognitive Development of Offspring' *Epidemiology*, vol. 15(4), pp. 394 – 402.
3. Mozaffarian, D. and E. Rimm 2006 'Fish intake, contaminants and human health: evaluating the risks and the benefits' *Journal of the American Medical Association*, vol. 296(15), pp. 1885 – 1899.
4. Breslow, J. 2006 'n-3 Fatty acids and cardiovascular disease', *The American Journal of Clinical Nutrition*, vol. 83(suppl), pp. 1477S – 1482S.
5. Meyer, B., Mann, N., Lewis, J., Milligan, G., Sinclair, A. and P. Howe 2003 'Dietary Intakes and Food Sources of Omega-6 and Omega-3 Polyunsaturated Fatty Acids' *Lipids*, vol. 38(4), pp. 391 – 398.
6. National Health and Medical Research Council (NHMRC) 2003 *Dietary Guidelines for Australian Adults*, Commonwealth of Australia.
7. William Collins Sons & Co. Ltd 1988 *The Collins Concise Dictionary of the English Language*. Australia.
8. Wilson, P. 2002 'How to find the good and avoid the bad or ugly: a short guide to tools for rating quality of health information on the internet' *British Journal of Medicine*, vol. 324, pp 598 – 602.
9. Haddow, G. 2003 'Focusing on Health Information: How to Assess Information Quality on the Internet' *Australian Library Journal*, vol. 52(2), pp. 169 – 178.
10. National Health and Medical Research Council (NHMRC) 2000 *How to present the evidence for consumers: preparation of consumer publications*, Commonwealth of Australia.
11. Gemoets, D., Rosemblat, G., Tse, T and R. Logan 2004 'Assessing Readability of Health Information: An Exploratory Study' *MedInfo 2004: Proceedings of the 11th World Congress on Health Informatics*, edited by Fieschi, M., Coiera, E. and Y. Li., International Medical Informatics Association (IMIA). pp. 869 – 873.
12. Children, Youth and Women's Health Service 2006 *Developing quality consumer health information*, Government of South Australia.
13. Meric, F., Bernstam, E., Mirza, N., Hunt, K., Ames, F., Ross, M., Kuerer, H., Pollock, R., Musen, M. and E. Singletary 2002 'Breast cancer on the world wide web: cross sectional survey of quality of information and popularity of websites' *British Journal of Medicine*, vol. 324, pp 577 – 581.
14. Silberg, W., Lundberg, G. and R. Musacchio 1997 'Assessing, controlling, and assuring the quality of medical information on the internet: Caveant lector et viewor – let the reader beware' *The Journal of the American Medical Association* vol. 277, pp. 1244 – 1245.
15. Bates, B. R., Romina, S., Ahmed, R. and D. Hopson 2006 'The effects of source credibility on consumers' perceptions of the quality of health information on the Internet' *Informatics of Health and Social Care*, vol. 31(1), pp. 45 – 52.
16. Charnock, D. 1998 *The DISCERN Handbook*. Abingdon: Radcliffe Medical Press.
17. Currie, K. Sprink, J. and M. Rajendran 2000 *Well-Written Health Information: A Guide*, Department of Human Services Victoria.
18. Coulter, A., Entwistle, V. and D. Gilbert, D. 1998 *Informing patients: An assessment of the quality of patient information materials*. London, Kings Fund.
19. Lee, D., Armour, C. and I. Krass 2007 'The development and evaluation of written medicines information for Type 2 diabetes' *Health Education Research*, vol. 22(6), pp. 918 – 930.
20. Wohlers, M. 2000 'Health Information on the Internet: Retrieval and Assessment Strategies for Consumers' *Health Issues*, vol. 64, pp. 26 – 31.
21. Center for Health Care Strategies, Inc. (CHCS) 2005 *Health Communication and Cultural Diversity*, New Jersey, USA.
22. Children, Youth and Women's Health Service 2006 *Evaluating health information with consumers*, Government of South Australia.

23. Eysenbach, G, 2008, 'Credibility of Health Information and Digital Media: New Perspectives and Implications for Youth' *Digital Media, Youth and Credibility*. Edited by Metzger M. and Flanagin A., The MIT Press, Cambridge, USA. pp. 123 – 154.
24. Degner L., Kristjanson L., Bowman D., Sloan, K., Carriere, C., O'Neil J., Bilodeau, B., Watson, P. and B. Mueller 1997 'Information needs and decisional preferences in women with breast cancer' *Journal of the American Medical Association*, vol. 277, pp. 1485 – 1492.
25. Center for Health Care Strategies, Inc. (CHCS) 2005 *What is Health Literacy?*, New Jersey, USA.
26. Hopper, K., TenHave, T., Tully, D. and T. Hall 1998 'The Readability of Currently Used Surgical/Procedure Consent Forms in the United States' *Surgery*, vol. 123(5), pp. 496 – 503.
27. Davis T., Arnold, C., Berkel, H., Nandy, I., Jackson, R. and J. Glass 1996 'Knowledge and Attitude on Screening Mammography among Low-Literate, Low-Income Women' *Cancer*, vol. 78(9), pp. 1912 – 1920.
28. Baker, D., Parker, R., Williams, M., Pitkin, K., Parikh, N., Coates, W. and M. Imara 'The Health Care Experience of Patients with Low Literacy' 1996 *Archives of Family Medicine*; vol. 5(6), pp. 329 – 34.
29. Hawe, P. Degeling, D and J. Hall 2002 *Evaluating Health Promotion: A Health Worker's Guide*. MacLennan & Petty Limited, Australia.
30. Center for Health Care Strategies, Inc. (CHCS) 2005 *Tools to Evaluate Patient Education Materials*, New Jersey, USA.
31. Doak, C., Doak, L., and J. Root 1996 *Teaching Patients with Low Literacy Skills*. Second ed. Philadelphia PA: J. B. Lippincott Company.
32. Hochhauser M. 2000 'The Informed Consent Form: Document Development and Evaluation' *Drug Information Journal*, vol. 34, pp. 1309 – 1317.
33. Children, Youth and Women's Health Service 2006 *Making your health information clear and credible*, Government of South Australia.
34. Tu, H. and J. Hargraves 2003 'Seeking health care information: Most consumers still on the sidelines' *Issue Brief, Center for Studying Health System Change*, vol. 61, pp. 1 – 4.
35. Kunst, H., Groot, D., Latthe, P., Latthe, M. and K. Khan 2002 'Accuracy of information on apparently credible websites: Survey of five common health topics' *British Medical Journal*, vol. 324, pp 581 – 582.
36. Kim, P., Eng, T., Deering, M. and A. Maxfield 1999 'Published criteria for evaluating health related websites: A review' *British Medical Journal*, vol. 318, pp 647 – 649.
37. Department of Health and Ageing 'How to Assess Health Information Online' HealthInsite website www.healthinsite.gov.au . Last assessed 27/04/08.
38. The Australian General Practice Network 'Lifescrpts'; The Australian General Practice Network website <http://www.agpn.com.au/site/index.cfm?display=5267> . last accessed 22/5/08
39. The Australian General Practice Network '45 Year Health Check'; The Australian General Practice Network website <http://www.agpn.com.au/site/index.cfm?display=21387> last accessed 22/5/08
40. Food Standards Australia and New Zealand (FSANZ) 2004 *Media Release: FSANZ updates on advice on mercury in fish (Australia only)*.Australia.
41. Center for Health Care Strategies, Inc. (CHCS) 2005 *Resources for Health Literacy Information and Publications*, New Jersey, USA.
42. Center for Health Care Strategies, Inc. (CHCS) 2005 *Preparing Patient Education Materials*, New Jersey, USA.
43. Simopoulos, A. 2002 'Omega-3 Fatty Acids in Inflammation and Autoimmune Diseases' *Journal of the American College of Nutrition*, vol. 21(6), pp. 495 – 505.
44. The Royal Australian College of General Practitioners 2006 'Patient Care' The Royal Australian College of General Practitioners website <http://www.racgp.org.au> last accessed 14/05/08
45. Center for Health Care Strategies, Inc. (CHCS) 2005 *Preparing Patient Education Materials*, New Jersey, USA.
46. Center for Health Care Strategies, Inc. (CHCS) 2005 *Strategies to Assist Low-Literate Health Care Consumers*, New Jersey, USA.

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