Advanced Skills Term Project in Aboriginal Health

Mooditj Miyal- Healthy Eyes

Dr Kristin White – ACRRM Registrar
kristin.white@swams.com.au
Phone: 0457257242

South West Aboriginal Medical Service
Bunbury Western Australia

Aboriginal Dot Art Eye is a piece of digital artwork by Lioudmila Perry which was uploaded on June 23rd, 2019.

Mooditj Miyal

Healthy Eyes: Empowering Health Worker Staff to Perform Retinal Screening

Abstract

Diabetic retinopathy is a leading cause of blindness and vision impairment worldwide, impacting a significant number of Aboriginal and Torres Strait islander people diagnosed with type II diabetes. Of the current 1424 ATSI clients under care at the South West Aboriginal Medical Service, 228 have been diagnosed with type II diabetes. Several barriers have been identified that limit the effectiveness of adequate eye care of these ATSI clients. The aim of this project's new procedural and policy changes is to develop and implement a new standardised pathway that would improve the rate of retinal screening and follow up for ATSI clients as well as effectively empower and build capacity in the Aboriginal health professional workforce. Through the implementation of various educational, systematic and procedural changes in the SWAMS clinic will allow for better client care management through a streamlined retinal screening program that is failsafe and robust well into the future.

About our Health Service

The South West Aboriginal Medical Service (SWAMS), is an Aboriginal Community Controlled Health Organisation (ACCHO) in the South West region of Western Australia. SWAMS provides a range of medical and clinical services to Aboriginal and Torres Strait Islander people living within Noongar country. SWAMS employs 100 staff, 49 which are Aboriginal.

Currently, services are provided by General practitioners and other health professionals including Aboriginal health Practitioners (AHPs), Aboriginal Health Workers (AHWs), Indigenous Outreach Workers (IOWs), Registered nurses (RNs), Chronic Conditions clinicians, Diabetic Educator, Exercise Physiologist, Care Plan Coordinator, Child and Maternal Health team as well as Administration, Reception staff and a transport team. The organisation also boasts a Mental Health Team and a Social Worker. SWAMS has a number of visiting consultants relevant to diabetes care including an ophthalmologist, endocrinologist and cardiologist. These consultants hold specialist clinics within the main clinic in Bunbury every 3 months.

Although the organisation has a number of outreach clinics throughout the South West, presently there is no ability to perform retinal screening in these centres. This is due to physical constraints of moving the large and cumbersome retinal camera itself. Wheels fitted to the apparatus allows for movement between clinic rooms however, regrettably, not for the ease of transfer between the outreach van and outreach centres.

As of 8 June 2021, SWAMS Bunbury has 1424 current Aboriginal and Torres Strait Islander clients over the age of 18. The organisation defines a current client as someone that has been seen in the clinic at least twice within the last two years.

The current electronic Health Management system used in SWAMS is Communicare.

Project Aim:

The aim of this project, was to develop a standardised pathway for Aboriginal Health Professionals within SWAMS, to take retinal photographs, upload the photographs into Communicare, send the photographs to the Lions Eye Institute for review and then action recommendations, as required.

This project involved reviewing the current documentation and existing processes to ensure there was a robust system in place to improve the rate of retinal screening and follow-up for current Aboriginal and Torres Strait clients with a diagnosis of diabetes attending SWAMS clinic in Bunbury, Western Australia.

This project was designed to empower and build capacity in the Aboriginal Health professional workforce and ensure that the screening cycle remains robust and sustainable into the future. It also enabled clinicians to feel confident that the health needs of current clients are being met by the enhanced retinal screening process and follow-up cycle. Most importantly, with the improved process, diabetic patients attending SWAMS will be ensured of early diagnosis of diabetic retinopathy to enable treatment as early as possible to assist in preventing vision loss.

Barriers and gaps related to detection, management and follow-up of retinopathy in diabetic patients at SWAMS have recently been identified by several means. This project involved the development of a new, simple, and less time-consuming resources, systems and procedures, to upskill Aboriginal Health Professionals who take retinal photos and action follow-ups for Aboriginal and Torres Strait Islander clients identified with diabetes. Upskilling of our current Aboriginal Health Professional workforce will form a vital part of the project whilst the improved process will ensure the retinal screening cycle at SWAMS is sustainable into the future.

In consultation with SWAMS Chronic Conditions Team, Aboriginal Health professionals, Registered Nurses, and General Practitioners, the aim of this project was to determine the existing level of screening taking place, ascertain from staff any further barriers or gaps not already identified and then address each stage of the process. This resulted in developing new policies and protocols in collaboration with SWAMS staff, to improve the screening, identification, management and follow up of SWAMS diabetic patients.

Project Importance

Diabetic Retinopathy is a leading cause of preventable blindness and vision impairment (1) and is the fifth leading cause of blindness worldwide, (2) with visual impairment in 1 in 52 and blindness in 1 in 39 people with diabetic retinopathy in the general populace. (3)

Of the 1424 current SWAMS Aboriginal and Torres Strait Islander clients, 228 clients have a diagnosis of type 2 diabetes.

According to the National Eye Health Survey (NEHS);

"An estimated 18,300 Aboriginal and Torres Strait Islander people aged 40 and over experienced vision impairment and blindness in 2016. The leading causes of vision impairment were uncorrected refractive error (63%), cataract (20%) and diabetic retinopathy (5.4%)". (4)

Despite this, there appears to be very limited data on the prevalence and incidence of diabetes among Aboriginal and Torres Strait Islander communities with even less statistics available on the incidence of diabetic retinopathy in this target group. (5) This important, nonetheless limited research, indicates that effective and timely screening for diabetic retinopathy has a significant impact on those afflicted with diabetes, by preserving vision and avoiding blindness and allowing ongoing independence and productivity. Australian statistics show that vision impairment and blindness have major economic consequences with the cost of diabetes related eye disease, estimated at more than $28,000 per person per year, which equates to more than two billion

dollars annually in Australia alone. (6) According to the World Health Organisation, vision impairment and blindness have major economic consequences in terms of use of health and social care resources and impact on economic productivity. (1)

Fundamental to improving the health of Indigenous Australians is the provision of good quality eye health services. (7) The most effective method to successfully reduce the risk of vision impairment and blindness is if clients diagnosed with diabetes are screened and treated. (1) A pioneer in Aboriginal eye health, Associate Professor Angus Turner Director of Lions Outback Vision and winner of the West Australian of the Year 2019, set up a Health Worker driven retinal screening program in 2010 and has since established the Lions Outback Vision Service to remote and Indigenous communities of WA. Turner's work is ongoing with his aim to eliminate preventable blindness and vision loss and bring Indigenous eye health issues to the fore.

Dr James Muecke AM, winner of the 2020 Australian of the Year award, is an eye surgeon and a pioneer for blindness prevention. His focus is on the leading causes of blindness in adults and describes diabetes as a "spiralling epidemic and the fastest growing cause of vision loss in Aboriginal people". A guide by the World Health Organisation, Diabetic Retinopathy Screening: a short guide 2020, states that the only way to successfully reduce the risk of vision impairment and blindness is if those with diabetes are offered excellence in research, robustness of data, adherence to screening guidelines and offered timely treatment and interventions. **(1)** Muecke's objective is to create a world where everyone has the opportunity of vision and treats the right to see as a basic human right.

Ethical approval

Ethical approval to conduct this project was gained through the West Australian Aboriginal Health Ethics Committee (WAAHEC), reference number 986 (See appendix 1) and the Censor in Chief of the Australian College of Rural and Remote Medicine (ACRRM).

Literature Review

Diabetic retinopathy is a complication of diabetes mellitus which generally has no symptoms, until the very late stages, by which time it is often too late for effective treatment. (8) Garg & Davis outlined the pathophysiology of diabetic retinopathy as being 'orderly and predictable', with long term hyperglycaemia causing vascular endothelial damage. Long term hyperglycaemia causes microaneurysms, intraretinal haemorrhages and focal areas of retinal haemorrhage and, at this point, is classed as nonproliferative diabetic retinopathy (NPDR). Further damage occurs to the vessels as the retinopathy progresses, leading to retinal nonperfusion and widespread ischaemia. The retinopathy is now classed as severe NPDR and even at this stage most patients remain asymptomatic. If diabetic retinopathy is not caught early enough, the use of laser photocoagulation and/or vascular endothelial growth factor (VEGF) inhibitors, are less beneficial in reducing the progression of disease and preventing visual loss. (9)

The article in the Medical Journal of Australia in 2017 by Joshua Foreman, Stuart Keel, Jing Xie, et. al., reflects that despite adherence rates to diabetic eye examination being reported as higher than previously estimated, up to 50% of all Indigenous Australians did not have an eye examination following current guidelines placing them at risk of vision threatening retinopathy. (10) With

adequate screening and timely management, vision loss from diabetes is largely avoidable and cost effective. (6)

In a summary report by the University of Melbourne Indigenous Eye Health Unit, it has been highlighted that blindness rates in Indigenous people are six times higher than in non-Indigenous people with 94% of this vision loss being preventable or treatable. Also of note was the finding that 35% of Indigenous adults have not undergone an eye examination. These results were based, in part, on the National Indigenous Eye Health Survey and formed part of their recommendations for the "Close the Gap for Vision" Framework, to improve the quality and sustainability of eye care in Indigenous adults. (7)

Neil Bramwell, in his 2020 article published in the Australian Doctor, stated that the implementation of a national screening program in Iceland has decreased the prevalence of diabetic blindness from 2.4% to 0.5% between 1980 and 1994. Wales had similar success with the incidence of diabetic clients, with sight impairment almost halved over an eight-year period, when a systematic approach to screening was adopted. The author states that research indicates that one in four Australians with diabetes will be diagnosed with diabetic retinopathy and calls for a National system that is both robust and efficient in tracking patient screening and results. (11) The Australian Government unveiled a funding initiative in 2018, in partnership with Diabetes Australia for a National diabetes eye screening program. Diabetes Australia, along with Vision 2020, Occulo and Specsavers, have set up a national program to develop an electronic eye health record for clients with diabetes that are registered with the National Diabetes Services Scheme (NDSS). The electronic record will include retinal photographs which will enable eye care professionals, general practitioners and diabetes healthcare professionals to share secure information with client consent. (6, 12)

A research paper by Lisa Crossland and Claire Jackson published in 2017, on Successfully implementing a diabetic retinopathy screening service in general practice identified four areas to enable the successful screening of diabetic clients; 1 up-to-date and accurate diabetes registers; 2 the need for a champion for diabetic retinopathy screening within the practice; 3 the need for a dedicated and appropriate space to conduct screening and; 4 opportunities for continuing professional development. Also of note was the suggestion that front desk staff should be able to explain to the client that they were due for retinal screening and that their appointment would take 5-10 minutes longer. (13)

In a short guide published by the World Health Organisation in 2020, a list of people with diabetes, including their current contact details and demographics, should be kept. Reception staff should be responsible for ensuring contact details and demographics are up to date and be trained in the clinical management system to ensure this process is fail-safe. (1)

Aboriginal Health Workers (AHWs) and Community Liaison staff (CLS), play a vital role in the coordination of eye health services in the community. AHWs and CLS can provide a bridge for essential eye health services by cultural mediation, explaining the need for screening and assisting with patient engagement. It was found that client liaison and case management is central to the co-ordination of Indigenous eye health programs. (14) Doctor and healthcare worker involvement is key to ensuring that diabetic clients receive the appropriate screening, within the recommended timeframe, in order to reduce the incidence of diabetic retinopathy. (11) Patient engagement with the screening program, requires the advocacy of AHWs with education around the process and the importance of screening. (15) Not having these vital roles within the Primary Health setting has

been found to be a barrier to effective referral pathways with many studies identifying lack of coordination as the key barrier to the provision of eye health services to Indigenous Australians. (14) Studies show that throughout Africa, Asia and parts of Latin America, trained local and regional health care workers are able to more effectively deliver care. These workers were known, and trusted by the community, enabling them to share culture and experiences and provide health education. Motivation of patients to undergo regular eye examinations and follow-up is dependent on local populations and health care workers. (16) According to the National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan 2021-2023, Aboriginal and Torres Strait Islander health professionals deliver better health outcomes for ATSI clients. This has been attributed to their cultural insights and ability to deliver services based on the community's needs, cultures and relationship to the land.(17)

There is a need to take into account turnover of staff in the organisation and ensure that remaining staff who perform retinal screening continue to have support and training to maintain competence so the retinal screening process is sustainable. (1)

Regional eye health coordinators (REHCs) were employed in Aboriginal Health Services following a national review of Indigenous Australian eye health in 1997. Unfortunately, over the years their responsibilities had expanded so much, that it was impossible for them to meet the expectations of this initiative. This left gaps within the primary health care field including a lack of time allocated to eye health. A lack of prioritisation surrounding eye health was accredited to the time it takes to provide these tests and arrange appointments, counselling and educating patients, arrange transportation and then do the follow-up. It is believed that in some organisations, time allocation is often not endorsed or supported by the employing Aboriginal Health Service. Eye care for Aboriginal and Torres Strait Islanders can be improved through more efficient and robust coordination, with defined roles and responsibilities of the coordinator anticipated to improve efficiency and patient outcomes. (18)

For sustainability of an eye health program within a practice, a 'champion' or clinical lead, who has overall responsibility of retinal screening, as well as dedicated staff to perform photography, is a key initiative in maintaining and coordinating a robust diabetic retinal screening program. (1, 13, 19) The World Health Organisation proposes that all screening services should have a local clinical coordinator to ensure the quality of the service, by promoting the use of correct local clinical guidelines and protocols. It is proposed that part of the coordinators role is to promote these strategies allowing employees access to current training, appropriate local clinical guidelines and protocols. (1, 16) A barrier to the provision eye health services to Indigenous people is the lack of coordination. This is a recurring theme in Australian driven research. (7, 18)

The clinical lead's role involves the use of a recall system to ensure that clients have been recalled and informed that they are due for their retinal screen in a timely manner. A critical part of the clinical lead's role is keeping up to date and accurate records of clients diagnosed with diabetes and also includes follow up of clients that have been referred for treatment or review by an ophthalmologist but have either not attended the appointment or no correspondence has been received from the treating/reviewing specialist.(1, 13) Results of previous screening tests and investigations need to be entered into the clients notes, be easy to identify and be accessible to health professionals within the organisation. Regular audits should be undertaken to ensure clients diagnosed with diabetes are identified within the clinical software and that retinal screening has been performed and required referral for ophthalmology is completed within the recommended clinical time frames. Clients with diabetes should be given information, ideally in the form of a pamphlet, which outlines information on diabetic retinopathy and the need for regular screening. In

order for a screening program to be more effective in reducing vision loss and blindness is if clients are screened and treated for diabetic retinopathy in a timely manner. (1)

One method of screening for diabetic retinopathy involves the use of a non-mydriatic retinal camera. This is considered to be the most effective screening method and has been validated in multiple studies. (1, 9) The camera is easy to operate, there is no need to dilate the pupil. This avoids visual discomfort and the risk of triggering acute angle closure glaucoma in predisposed clients. It is non - invasive and can be operated after minimal training. (9, 20) Although the photos need to be read by a suitably qualified ophthalmologist, optometrist or GP, the screening test can be successfully performed by AHPs, AHWs and nurses. In one study, no difference in retinal image quality was found between a qualified professional ophthalmic photographer and an operator with an hour of training in camera use and experience with 10 patients. This demonstrates that formal certification is unnecessary for operators. (21) Retinal photography can be performed by trained Aboriginal Health Professionals, the clients photos are saved to a USB drive, and then uploaded to the clients files in the clinical management software system. (19) Support and training should include regular educational updates related to the use of the retinal camera to maintain competence and ensure the use of the correct clinical guidelines and protocols. This is an integral part of ensuring the screening process is sustainable. (1, 19) A policy needs to be in place to outline the training requirements for staff performing retinal screening and timeframes outlined for regular review of the competency. (1)

Digital retinal photography is also considered to be the most cost effective diabetic retinopathy screening method. (1) By using Aboriginal Health professionals and nurses within the health centre to perform screening there may be an increase in acceptance of testing and therefore an improvement in the number of clients screened. (5)

Non-mydriatic cameras require no pharmaceutical induced pupil dilation but do however require a dark space for maximum pupil dilation. (1) The camera needs to be permanently set up in its own room and switched on at the beginning of each day. (19) There is a need for a permanently allocated and appropriate space to perform screening, with dedicated staff to perform the photography. (13)

Gidgee Primary Health Service, which is situated in North West Queensland, produced a paper in 2019 on Integrating Retinal Camera Screening in Aboriginal Community Controlled Health Organisations, with the purpose of providing a leading practice example. The staff were trained using the Provision of Eye Health Equipment and Training (PEHET) in 2018, which was funded by the Commonwealth Government and as this initiative also funded a non-mydriatic retinal camera. Their organisation has trained local staff to lead the work around the use of the retinal screening camera and found this to be widely accepted among the local community. The staff have used a range of methods for screening their diabetic clients including designated clinics opportunistic screening and word of mouth. They also promote their screening program through various social network and media systems, the local council and posters displayed in the waiting rooms of the clinic. (19)

To be effective, the process of retinal screening requires a fail-safe pathway where clients are not lost along the screening pathway. The information identifying clients eligible for retinal screening needs to be up to date and accurate. If a client is referred to an outside provider for treatment or follow up and they fail to attend, and information is not shared between organisations, the screening program will not be effective. This lack of information will make auditing the quality of the pathway and client outcomes an impossible task. The results of screening tests and ophthalmologist reviews and treatment should be recorded in the clients notes to enable tracking of these clients throughout the screening and treatment process. (1)

Methodology

As part of the project, a Survey Monkey with 6 questions, 2 of them forming the base line of the project, was generated. The aim of the survey was to explore the perceived barriers to retinal screening within the organisation and suggestions to improve the process. It was sent out to AHWs, AHPs, IOWs and RNs currently employed at SWAMS Bunbury.
Of the 13 staff employed in the above roles, 9 responded. The title of the survey was: 'Understanding the barriers and problem-solving Retinal Screening within SWAMS' and was designed so that no respondent was identifiable.

Informal discussions with staff were also held to ascertain what ideas if any they felt could be implemented within the organisation to assist in improving the retinal screening process.

An audit using Communicare software was undertaken to determine the number of clients diagnosed with diabetes within the organisation, how many of these clients had had retinal screening and whether the screening was within the recommended guidelines, how many clients had been referred for ophthalmology review and whether there was a recall in place. The audit consisted of data over a 3-year period

Interpretation of results

The common themes using both the Survey Monkey (See appendix 2) and informal discussions for gathering information on perceived barriers were:

- Lack of training and confidence in the use of the retinal camera
- No dedicated room for use of the camera
- Complex policy and protocols
- Lack of resources for Aboriginal Health professionals to assess whether photos taken are of good quality
- Turnover of Aboriginal Health staff
- A perception that this was not part of their role in the clinic.

Suggestions on improving the retinal screening process:

- Dedicated room set up for the camera
- An available health worker to do the screening each day in the clinic
- Increase staff confidence by training more health workers in the use of the camera
- Ensure that clients are 'flagged' for retinal screening when they come for an appointment to allow opportunistic screening
- Improved patient education
- Educating all staff that diabetes eye screening is everybody's business
- Training reception to flag patients need for increased appointment time

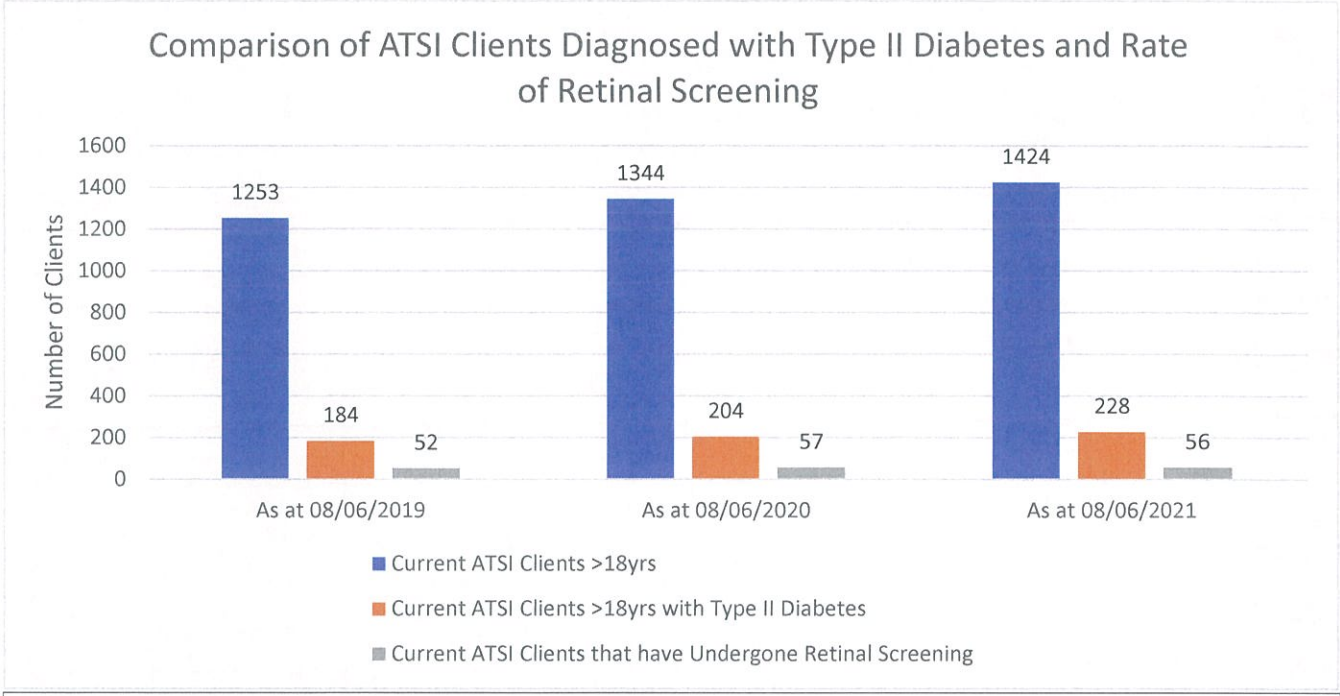


Figure 1: Comparison of Retinal Screening between Current ATSI Clients Diagnosed with Type II Diabetes between 2018-2021. The data is comprised of results from a Communicare audit.

56 clients had a retinal screen between 8/06/2020 and 08/06/2021: 24.5%

57 clients had a retinal screen between 8/06/2019 and 08/06/2020: 28%

52 clients had a retinal screen between 8/06/2018 and 08/06/2019: 28%

Of the current clients audited with Type II Diabetes between 2018 and 2021:

14 clients had the recommended yearly screening: 6.14%

34 clients had 2 retinal screens within the last 3 years: 14.9%

57 clients had 1 screening within the last 3 years: 25%

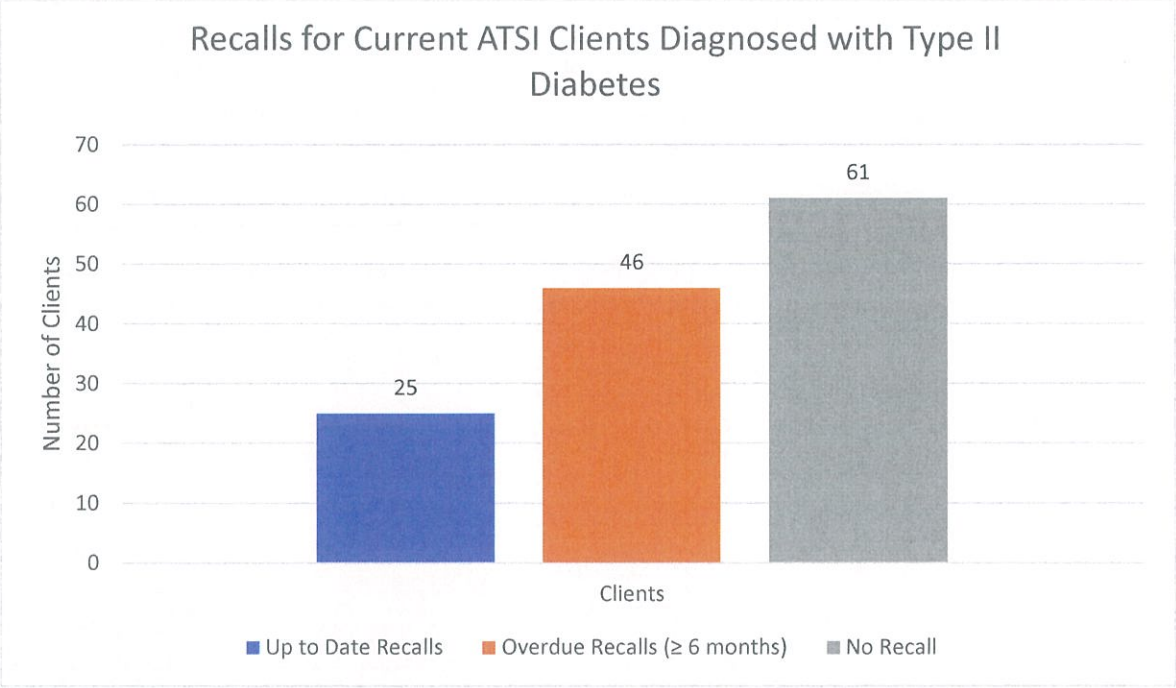


Figure 2: Recalls for current ATSI clients diagnosed with diabetes Type II between 2018-2021. The data is comprised of results from a Communicare audit.

Discussion of major findings

Analysis of the results identified ten themes as barriers to effective diabetic retinal screening for current clients within SWAMS. These included a lack of training and skills competency in the use of the retinal camera, a non-dedicated procedural room to limit light interference and store the camera apparatus, complex policies and protocols in the performance of retinal screening, an insufficient number of trained Aboriginal health professionals able to perform screening, a lack of dedicated available staff to perform retinal screening, a high turnover of Aboriginal health staff which reduces the established rapport with Aboriginal clients due to the loss of relationships developed with existing staff, and lack of resources to educate clients on the importance of retinal screening. Through improved training, Aboriginal health professionals will display an increase in care coordination and advocacy towards retinal screening and the significant impact of diabetic retinopathy on eye health.

The provision of eye care services can be significantly improved, given the doubt held by clients due to the lack of information and education on the benefits of retinal screening. In order to improve the rate of retinal screening and sustainability of the retinal screening program within SWAMS, a "champion" or clinical lead is a key initiative in maintaining and coordinating screening services. The "champion" clinical lead has responsibilities in not only performing retinal screening, maintaining regular client information and ensuring recalls are up to date by engaging with clients. This is in an effort to promote awareness and education on the benefits of following the recommended guidelines for retinal screening. By addressing these perceived barriers significant improvements can be made to deliver better client care and improved outcomes for ATSI clients diagnosed with type II diabetes within SWAMS.

The results attained from the audit of Communicare on current ATSI clients diagnosed with Type II diabetes demonstrated a significantly low rate of retinal screening (Average of clients screened between 2018-2021: 26.83%) with a concerningly low rate of clients receiving the recommended yearly screening over the course of the years of 2018 to 2021 (6.14%). Results also found that client recalls for retinal screening were inconsistent and lower than the numbers recommended by the by the National Health and Medical Research Council (NHMRC). The audit using Communicare software identified 228 ATSI clients diagnosed with type II diabetes as current clients of SWAMS. A manual audit was also undertaken to correlate data and found that of those 228 clients initially seen, only 133 were currently being managed by SWAMS for their diabetes management and care. The remaining 95 clients were identified as transient clients not reliant on SWAMS to manage their diabetes.

The retinal screening recall system and policy currently being utilised by SWAMS has been ineffective at successfully managing client care due to having to manually create the recall within client files. This non-automated process is reliant upon personnel input which as the data shows, the rate of non-recalls is significantly higher than the rate of recalls. Results of previous screening tests need to be entered into the clients notes, be easy to identify and accessible by health professionals within the organisation. Currently, SWAMS is only conducting opportunistic screening due to the absence of a clinical lead whose role is to action recalls and coordinate staff to ensure that recalls are up to date and that retinal screening is being performed. Increased client involvement and up-to-date consistent care are considered two fundamental components of quality eye-care. The current procedure for conducting retinal photography and uploading images to be sent off for review has been branded confusing and time consuming. This is a result of the multiple steps needed in order to take, store and send photographs (see appendix 3).

A new procedural policy has been designed and implemented in order to streamline the process of uploading, storing and sending photographs throughout retinal screening for SWAMS staff (see appendix 4). The new procedure for uploading the retinal photographs negates the need for a USB and allows for direct upload into the system. To increase the efficiency and accuracy of regular retinal photography, an automated method for sending the photographs to Lions Eye Institute for assessment has been designed. Communicare will retrieve the data and images for any retinal photographs taken on a daily basis and compose an email to the Lions Eye Institute with relevant client information and images attached and confirm delivery.

An automated recall system has been implemented to work in conjunction with the retinal photography system to ensure that clients files are updated with recall information from the time of diagnosis. These new systems implemented will be cost and time effective, failsafe and sustainable in providing better management for SWAMS clients.

Evaluation of success

An essential part of the project was to engage local staff in the proposed changes and these changes were made in collaboration with local Aboriginal SWAMS staff.

In collaboration with the SWAMS practice manager a procedural room has been repurposed to be dark enough to allow for retinal screening and large enough to perform visual acuity as outlined by the Lions Eye institute. A work order is in place to provide a power source which allows for the camera to be turned on in the morning and utilised for both opportunistic and booked retinal screenings.

The implementation and identification of a retinal screening 'Champion' has been discussed with management. An AHP has expressed interest in performing the role of 'Champion' and offered suggestions as to the dedicated times and days needed to perform the outlined tasks. The recent COVID pandemic and high staff turnover has created barriers for this process however negotiations and discussions continue and a resolution is likely.

All staff involved in the retinal screening process will be trained through the Lions Eye Institute to ensure they are confident in the procedure needed for retinal screening and the use of the retinal camera.

The Health Promotion Team has created a poster designed to engage the local Indigenous population which will be placed in all high traffic areas and social media to maximise exposure of the SWAMS retinal screening program (See appendix 5).

The updated procedural policy for uploading retinal photographs as well as the automated recall system will ensure that clients diagnosed with Type II diabetes will be screened in a timely manner. The automated system for sending the retinal photographs at the end of each day will reduce the turn-around time from photographs being taken, reviewed and then recommendations made and executed.

Conclusion

The aim of the project 'Moodijt Miyal' is to reduce the risk of vision impairment and blindness through the early identification and effective treatment of diabetic retinopathy in current clients over the age of 18 who have been diagnosed with Type II Diabetes in SWAMS. By use of both a Communicare audit and manual audit assessing the current retinopathy screening data it was evident that timely retinal screening, review and follow-up was below the recommended guidelines set out by the NHMRC.

The updated Retinal screening procedure for SWAMS will allow for a more effective management model for clients diagnosed with Type II diabetes. By implementing procedural, educational and systematic changes throughout the SWAMS clinic the retinal screening process will be streamlined allowing for a reduction in human error. Futhermore the time between photographs being taking and client follow up will be reduced allowing for better Retinopathy case management. Having a dedicated retinal screening 'Champion' will ensure that there is a sole focus on advocacy, outreach, education and implementation within the SWAMS clinic. Over the coming months the aim will be to fully incorporate the updated procedural policies and necessary education within the SWAMS clinic. In accordance with Continuing Quality Improvement (CQI) principals a second Survey Monkey with questionnaire as well as a repeat Communicare audit will be performed in 6 months to assess the effectiveness of the changes .

References

1. Europe WROf. Diabetic retinopathy screening: a short guide. Copenhagen:; 2020.
2. Bourne RR, Stevens GA, White RA, Smith JL, Flaxman SR, Price H, et al. Causes of vision loss worldwide, 1990-2010: a systematic analysis. Lancet Glob Health. 2013;1(6):e339-49.
3. Leasher JL, Bourne RR, Flaxman SR, Jonas JB, Keeffe J, Naidoo N, et al. Erratum. Global Estimates on the Number of People Blind or Visually Impaired by Diabetic Retinopathy: A Meta-analysis From 1990-2010. Diabetes Care 2016;39:1643-1649. Diabetes Care. 2016;39(11):2096.
4. Australia CfERAV. The National Eye Health Survey 2016: Full report of the first national survey to determine the prevalence and major causes of vision impairment and blindness in Australia. 2016.
5. Health HPGfa-Do. part 2 Diabetic Retinopathy.
6. National Diabetes Eye Screening Program [press release]. 2020.
7. Taylor HR BA, Anjou MD, McNeil RJ. The Roadmap to Close the Gap for Vision. Melbourne: Indigenous Eye Health Unit, Melbourne School of Population and Global Health, The University of Melbourne; 2013 April 2013.
8. Diabetic retinopathy: Classification and clinical features [Internet]. UpToDate. 2018. Available from: https://www.uptodate.com/contents/diabetic-retinopathy-classification-and-clinical-features.
9. Garg SD, RM. Diabetic Retinopathy Screening Update. Clinical Diabetes. 2009;27.
10. Foreman J, Keel S, Xie J, Van Wijngaarden P, Taylor HR, Dirani M. Adherence to diabetic eye examination guidelines in Australia: the National Eye Health Survey. Med J Aust. 2017;206(9):402-6.
11. Bramwell N. Keeping an eye on diabetic retinopathy. Australian Doctor. 2020 April 2020:4-6.
12. Australian government funds new National Diabetes Eye Screening Program [press release]. 2018.
13. Lisa Crossland CJ. Successfully implementing a diabetic retinopathy screening service in general practice: What does the evidence tell us? AFP. 2017;46(7):529-35.
14. Yashadhana A, Lee L, Massie J, Burnett A. Non-clinical eye care support for Aboriginal and Torres Strait Islander Australians: a systematic review. Med J Aust. 2020;212(5):222-8.
15. Moynihan V, Turner A. Coordination of diabetic retinopathy screening in the Kimberley region of Western Australia. Aust J Rural Health. 2017;25(2):110-5.
16. Organisation WH. Prevention of blindness from diabettes mellitus: report of a WHO consultation in Geneva, Switzerland 9-11 November 2005. Switzerland; 2006.
17. Group NAaTSIHWPR. National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan 2021-2031. 2020.
18. Anjou MD BA, Taylor HR. We Can See the Gap. Regional Eye Health Coordination for Indigenous Australians. Aboriginal & Islander Health Worker Journal. 2012;36(2):12-6.
19. Prepared with Gidgee Healing Normanton by Indigenous Eye Health TUoM. Integrating Retinal Camera Screening in Aboriginal Community Controlled Health Organisations (ACCHOs): A leading-practice example. 2019.
20. Cunha LP, Figueiredo EA, Araujo HP, Costa-Cunha LVF, Costa CF, Neto JMC, et al. Non-Mydriatic Fundus Retinography in Screening for Diabetic Retinopathy: Agreement Between Family Physicians, General Ophthalmologists, and a Retinal Specialist. Front Endocrinol (Lausanne). 2018;9:251.

21. Murray RB, Metcalf SM, Lewis PM, Mein JK, McAllister IL. Sustaining remote-area programs: retinal camera use by Aboriginal health workers and nurses in a Kimberley partnership. Med J Aust. 2005;182(10):520-3.

Appendices

Appendix 1- WAAHEC Approval

WAAHEC Western Australian Aboriginal Health Ethics Committee

Approval Letter

Date: 12/06/2020

Dear Dr White

HREC Reference number: 986

Project title:

Mooditj Miyal
Healthy Eyes: Empowering Health Worker Staff to Perlorm Retinal Screening

Thank you for submitting the above research project for ethics approval. The research project was considered by the WA Aboriginal Health Ethics Committee (WAAHEC) at the meeting held on 03/06/2020 . I am pleased to advise that the WAAHEC has reviewed and approved the following documents submitted for this project:

Document(s):

WAAHEC scanned (1)

450 Beaufort Street, Highgate WA 6003 / PO Box 8493, Stirling Street, Perth WA 6849
Phone: (08) 9227 1631 **Fax:** (08) 9228 1099 **Email:** ethics@ahcwa.org **Web:** www.ahcwa.org.au **ABN:** 48 114 220 478 **ACN:** 114 220 478

Appendix 2 – Survey Monkey Results

Understanding the barriers and problem solving Retinal Screening within SWAMS

RESPONDENTS: 9 of 9

ADD TO DASHBOARD SAVE AS

QUESTION SUMMARIES INSIGHTS AND DATA TRENDS INDIVIDUAL RESPONSES

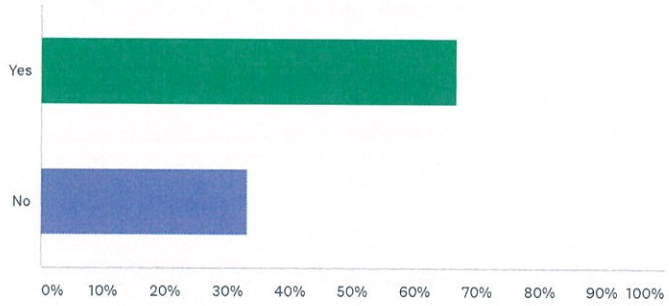
Page 1

Q1

Customize Save as

Did you know that the retinal screening initiative was set up in 2016 by Dr Angus Turner as a Health Worker driven initiative - ie was meant to empower Aboriginal Health workers to deliver retinal screening to their communities independently from other health professionals ?

Answered: 9 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	66.67%	6
No	33.33%	3
TOTAL		9

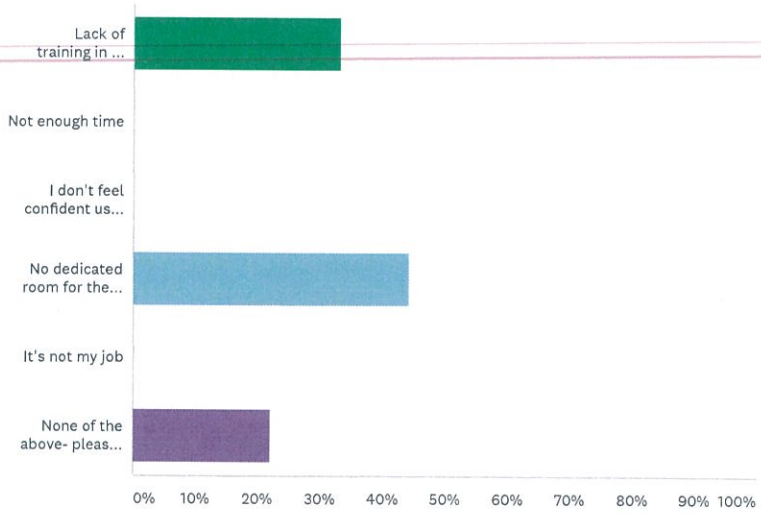
Comments (0)

Q2

Customize Save as

Can you outline below YOUR OWN belief about the major barrier for retinal screening at SWAMS

Answered: 9 Skipped: 0



ANSWER CHOICES	RESPONSES	
Lack of training in use of retinal camera	33.33%	3
Not enough time	0.00%	0
I don't feel confident using the camera	0.00%	0
No dedicated room for the camera	44.44%	4
It's not my job	0.00%	0
None of the above- please add your comments below	22.22%	2
TOTAL		9

Comments (6)

ANSWER CHOICES RESPONSES

RESPONSES (6) WORD CLOUD TAGS (0) Sentiments: OFF

PAID FEATURE
Text Analysis lets you search and tag comments and see word clouds of frequent words and phrases. To get this feature, upgrade to a paid plan.

Upgrade Learn more »

Add tags Filter by tag Search responses

Showing 6 responses

There are a number of reasons. One no dedicated room for the camera, then when there was a room there was time constraints. The best I have seen the screening been completed was when it was put on the service recording for the treatment room staff to do this screening. There has then been the issues that nurses cannot claim. The thing was when it was only up to the AHP/W to do they probably did not always have the time and the screening would often get missed. Also i have found you need to capture the patient on the day to do the screening or it is very hard to get them back.

2/11/2021 2:48 PM View respondent's answers Add tags

Also there in no room unless someone sets it up in their room for the day and be allocated to do it. Lack of training because some people dont want to learn how to

2/11/2021 2:47 PM View respondent's answers Add tags

I think all the above are barriers for staff at SWAMS to perform Retinal screening

2/11/2021 2:40 PM View respondent's answers Add tags

i believe it need to have its own room and all staff trained to be competent in using it, AHP's can all claim for completing this task through medicare. more education and training may be needed or staff to use correctly when screening.

2/11/2021 2:37 PM View respondent's answers Add tags

Quite a few of these- can you give options to tick more than one?

2/8/2021 2:25 PM View respondent's answers Add tags

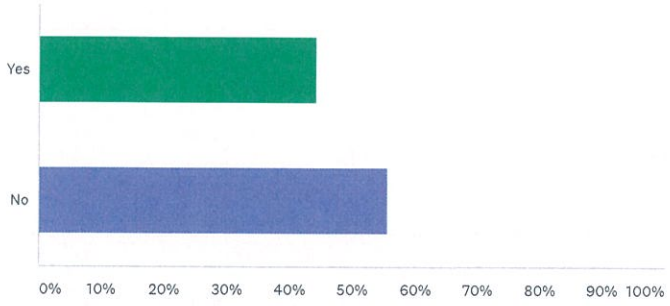
Have not been trained to use it

2/8/2021 11:12 AM View respondent's answers Add tags

Q3 Customize Save as

Did you know that SWAMS cannot claim the annual MBS item 2517 if retinal screening is not done ?

Answered: 9 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	44.44%	4

ANSWER CHOICES	RESPONSES	
No	55.56%	5
TOTAL		9

Comments (3)

RESPONSES (3) WORD CLOUD TAGS (0) Sentiments: OFF

PAID FEATURE
Text Analysis lets you search and tag comments and see word clouds of frequent words and phrases. To get this feature, upgrade to a paid plan.

Upgrade Learn more »

Add tags Filter by tag Search responses

Showing **3** responses

very interesting
2/11/2021 2:47 PM View respondent's answers Add tags

To be honest, I have no idea when I can claim a 2517- but may that is a different topic
2/8/2021 2:25 PM View respondent's answers Add tags

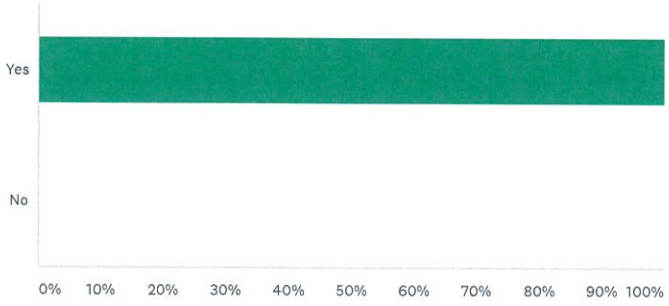
but what if it was done elsewhere e.g. external optometrist?
2/8/2021 11:20 AM View respondent's answers Add tags

Q4

Customize Save as

Did you know that retinal screening can aid in the prevention of blindness in our diabetic clients?

Answered: 8 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	100.00%	8
No	0.00%	0
TOTAL		8

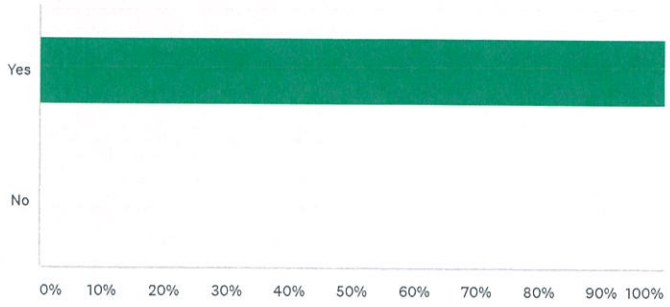
Comments (2)

Q5

Customize Save as

Do you have any suggestions on how we can improve the retinal screening process at SWAMS?

Answered: 9 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	100.00%	9
No	0.00%	0
TOTAL		9

Comments (9)

ANSWER CHOICES ▾ RESPONSES ▾

RESPONSES (9) WORD CLOUD TAGS (0) Sentiments: OFF

PAID FEATURE
Text Analysis lets you search and tag comments and see word clouds of frequent words and phrases. To get this feature, upgrade to a paid plan.

Upgrade Learn more »

Add tags ▾ Filter by tag ▾ Search responses

Showing **9** responses

Have a dedicated person allocated each day to do the screening or if this is not possible continue to allow the treatment room staff to screen. You need someone allocated daily as when this patient comes in, this is the time you need to opportunity offer to screen then. In my experience when this happened, a lot of patient have agreed to have this screening completed. Maybe put a suggestion into medicare if nurse can claim on retinal screening as this is helping aboriginal patients, if they are screening.

2/11/2021 2:48 PM View respondent's answers Add tags ▾

making smooth pathway for clients to get it done. more training for staff members. more education to clients on how quickly;y it takes to do one. more eye education

2/11/2021 2:47 PM View respondent's answers Add tags ▾

Provide necessary training. Have the camera in a central location so appropriate staff can access it

2/11/2021 2:44 PM View respondent's answers Add tags ▾

We have a dedicated area where we can set up and all staff need to be on board and trained .

2/11/2021 2:40 PM View respondent's answers Add tags ▾

having an AHP dedicated to completing 715 and retinal photos in a room.

2/11/2021 2:37 PM View respondent's answers Add tags ▾

Room set up, let clinicians know who is trained, someone needs to check the appt book and ensure that when diabetic comes in and are due- that they get flagged (and done)

2/8/2021 2:25 PM View respondent's answers Add tags ▾

Availability of health worker and space to be able to do this

2/8/2021 12:16 PM View respondent's answers Add tags ▾

- increase staff confidence and training including grading of retinal photos, avoids cumbersome procedures of having offsite interpretation - consider embed an optometrist/optometrist student in future

2/8/2021 11:20 AM View respondent's answers Add tags ▾

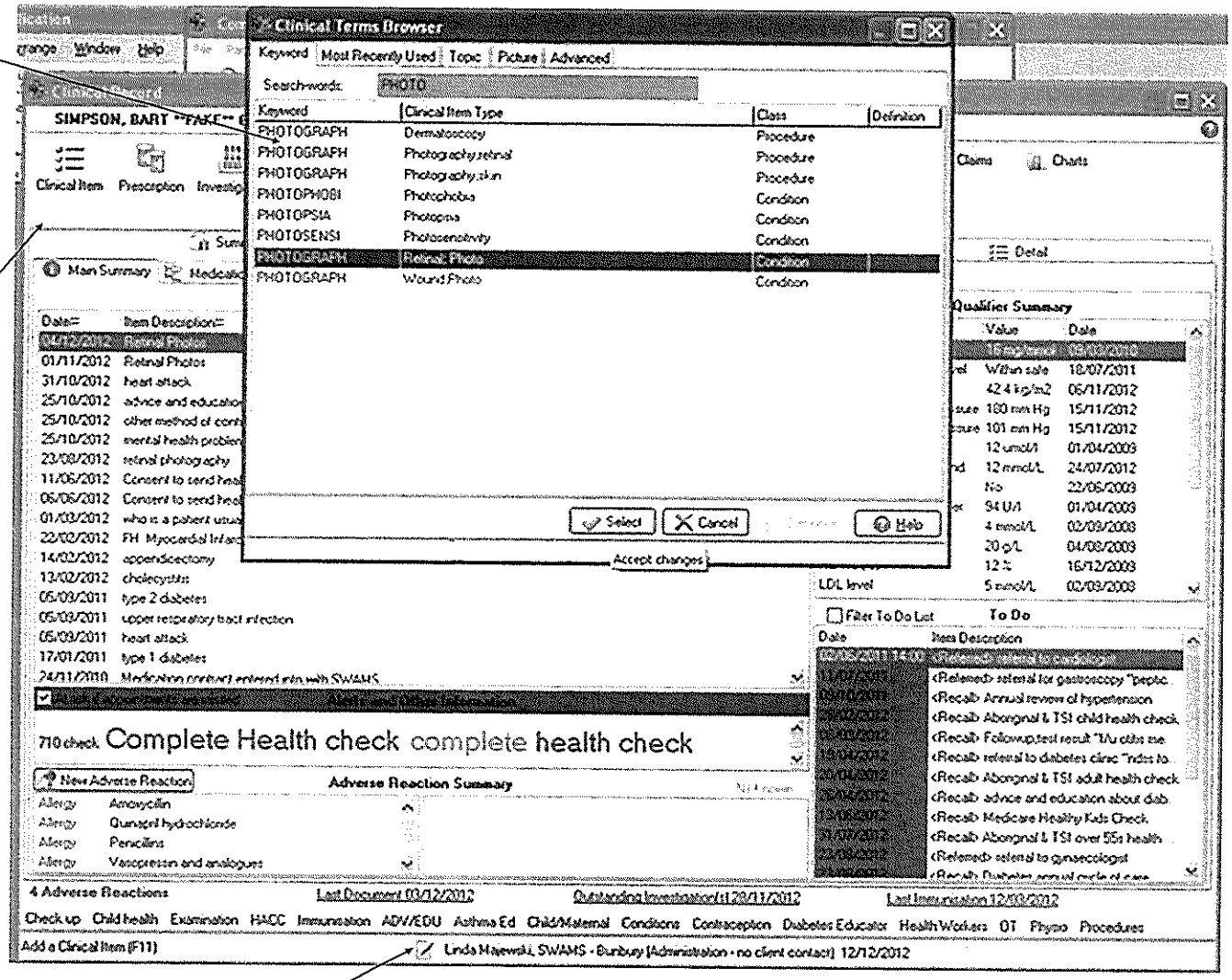
By training more people

2/8/2021 11:12 AM View respondent's answers Add tags ▾

Appendix 3 – Old Retinal Photography Procedure

How to add a retinal photo to Communicare

3. Click on **Keyword** type in "**PHOTO**". Select "**Photograph—retinal Photo** (purple writing). This only needs to be done the 1st time you add a photo, next time select most recently used it will be in there.



2. Open Client File Click on Clinical Item

1. Click on the pen at the bottom of the page and complete providers, Mode and Place, Add correct date Etc.

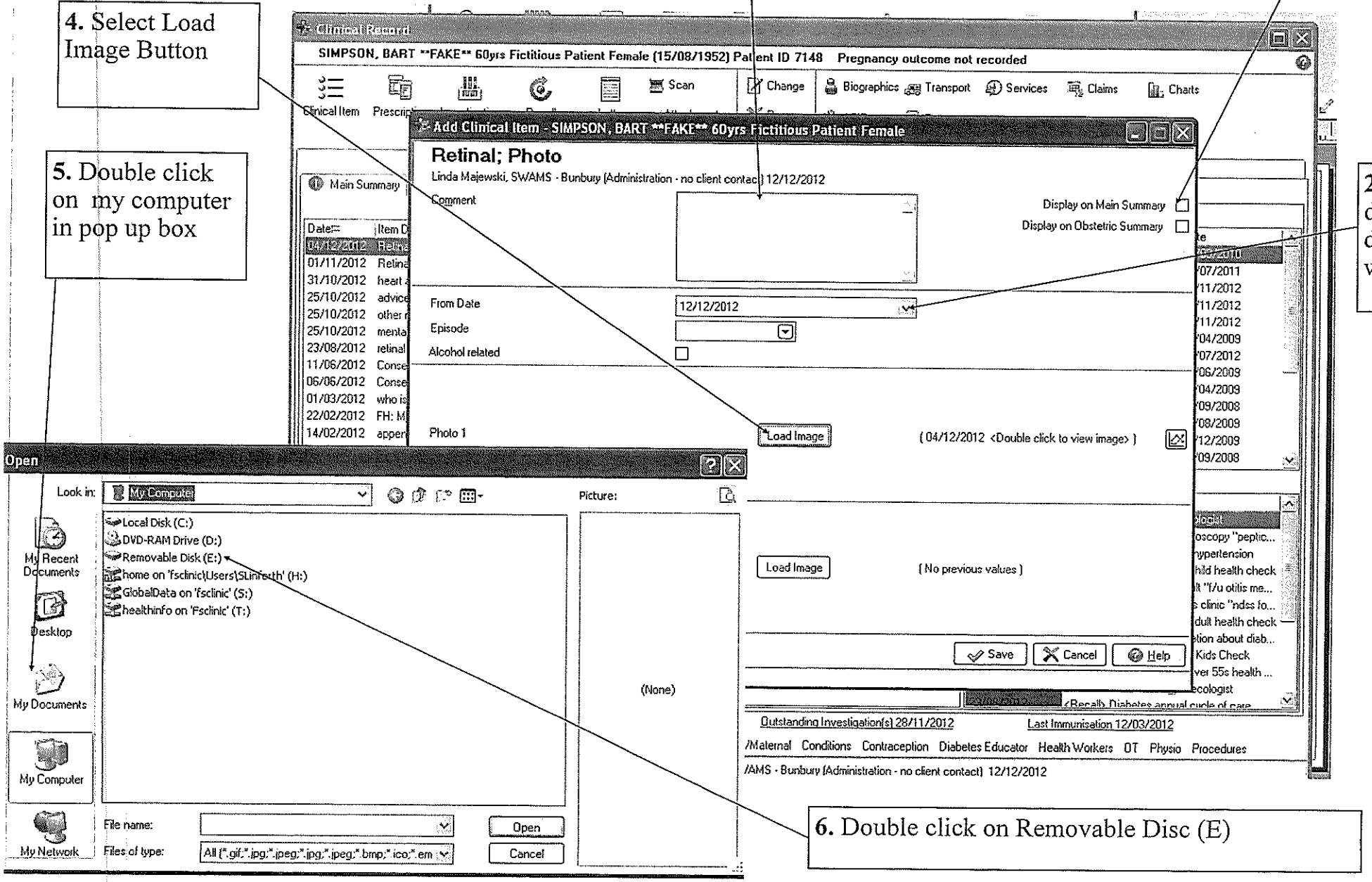
3. In Comment Box write date photo sent to Angus. This is where to write Angus results when he mails back his review notes for each patient. Set recall at this time see page ???????????

1. Click in the check box "**Display on Main Summary**"

4. Select Load Image Button

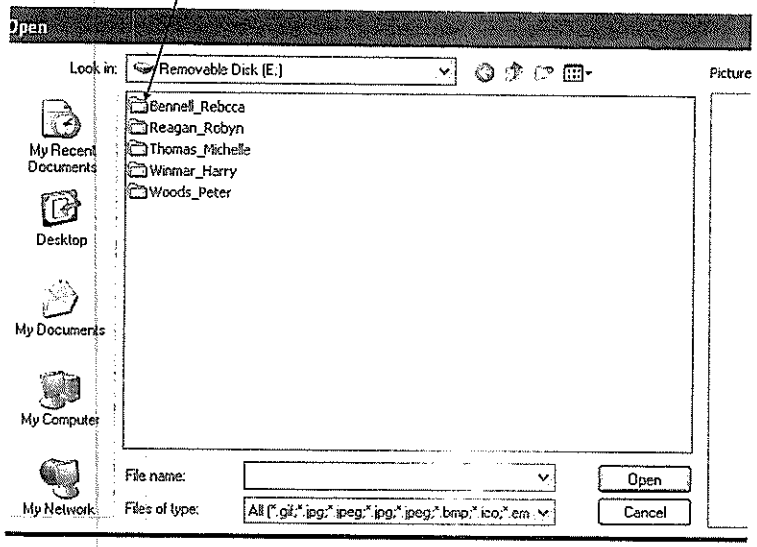
5. Double click on my computer in pop up box

2. Check the date is the date the photo was taken.

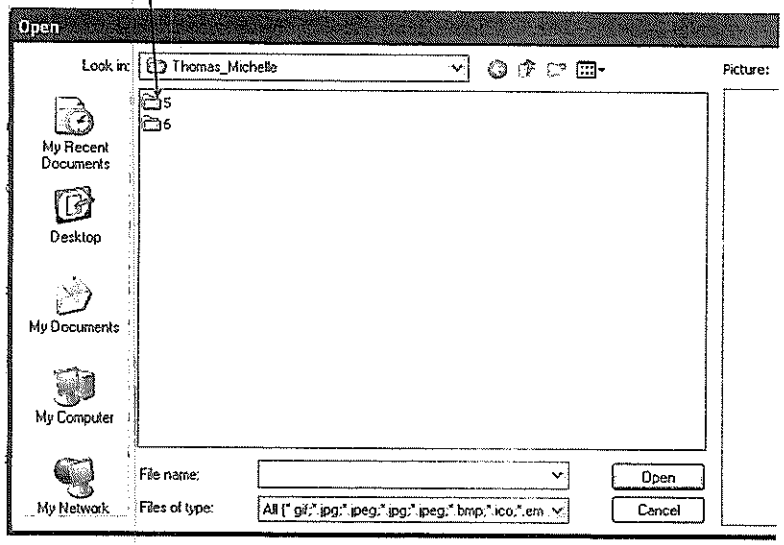


6. Double click on Removable Disc (E)

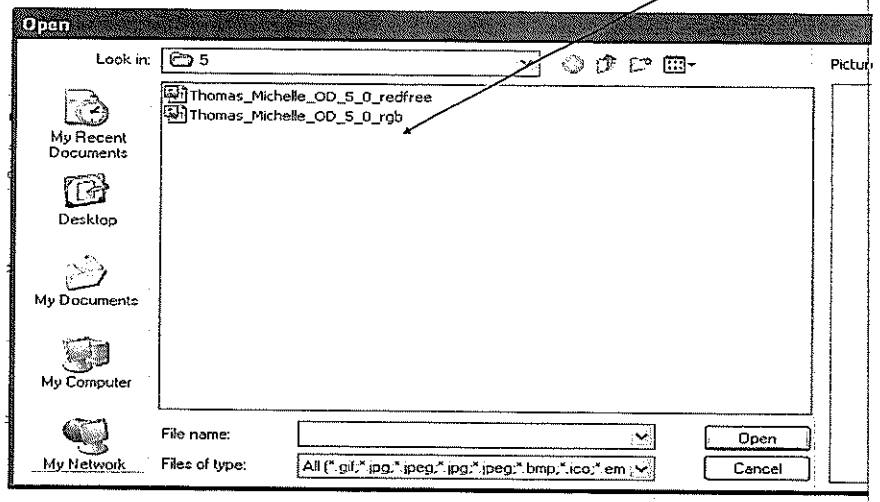
1. Select required patient—double click to



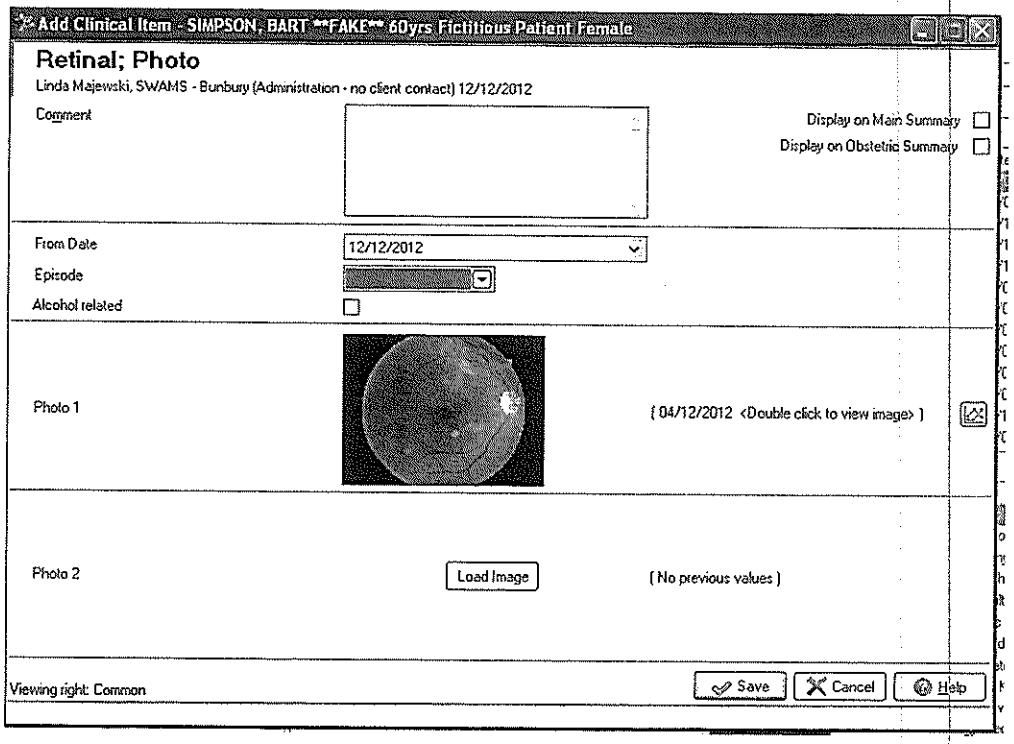
2. Select the 1st file and double click to open



3. Double click the file ending with rgb (this is the colour file)

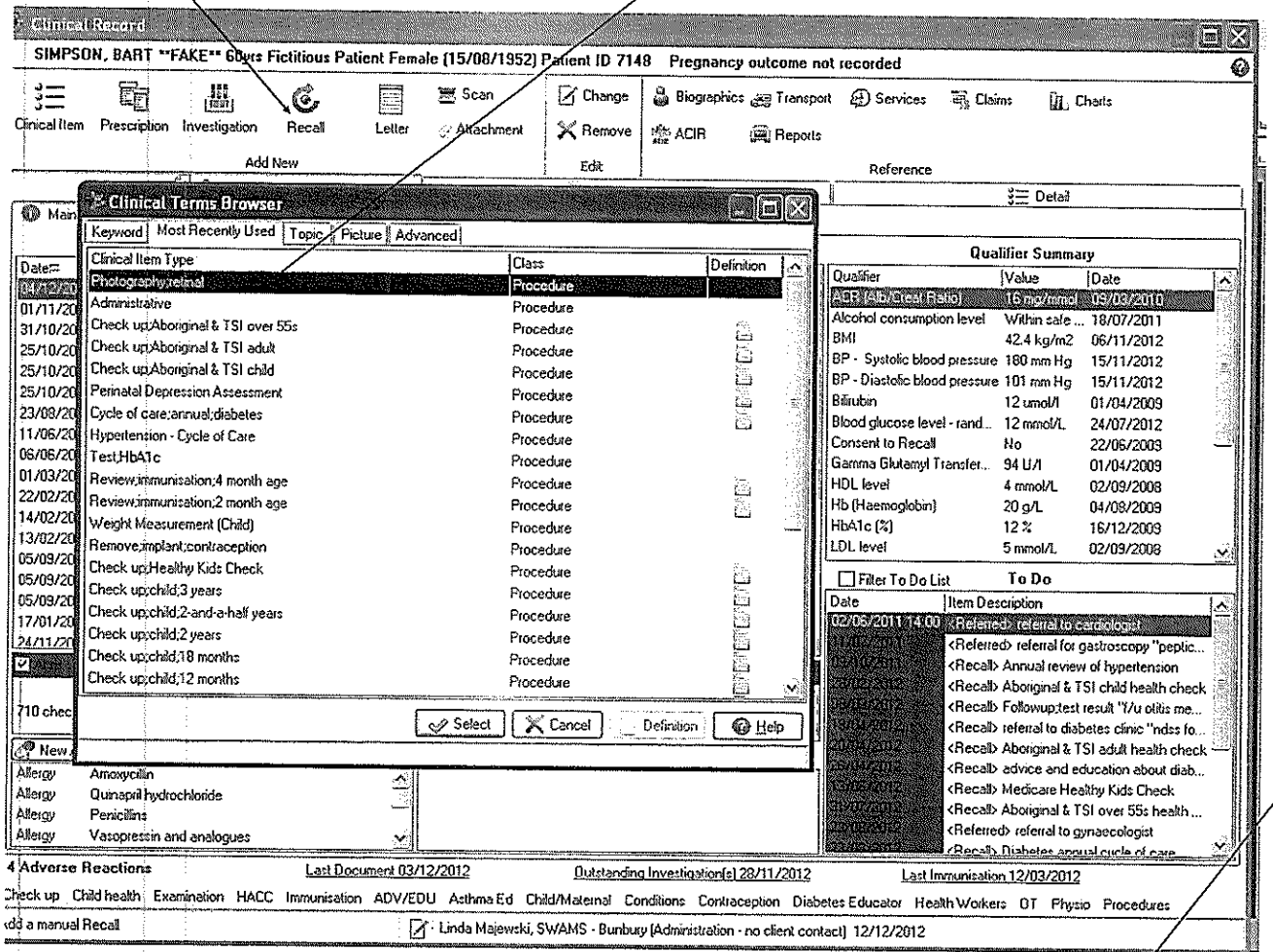


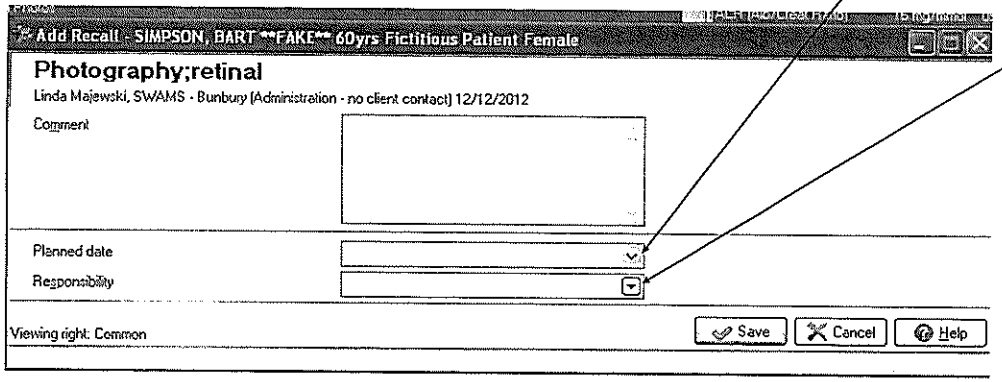
4. A picture of the eye is added to the clinical record. Repeat for the 2nd photo selecting the second photo at step 2.



1. Click on the recall button

2. In the pop up box select "**Photography, Retinal**"





3. Select Proposed date and set date for 12 Months time

4. Select responsibility and set to Health worker

The recall will appear on the right hand side of the summary page, check to see if it is there and that all details are correct.

TO CHECK RECALLS DUE:

Select Report

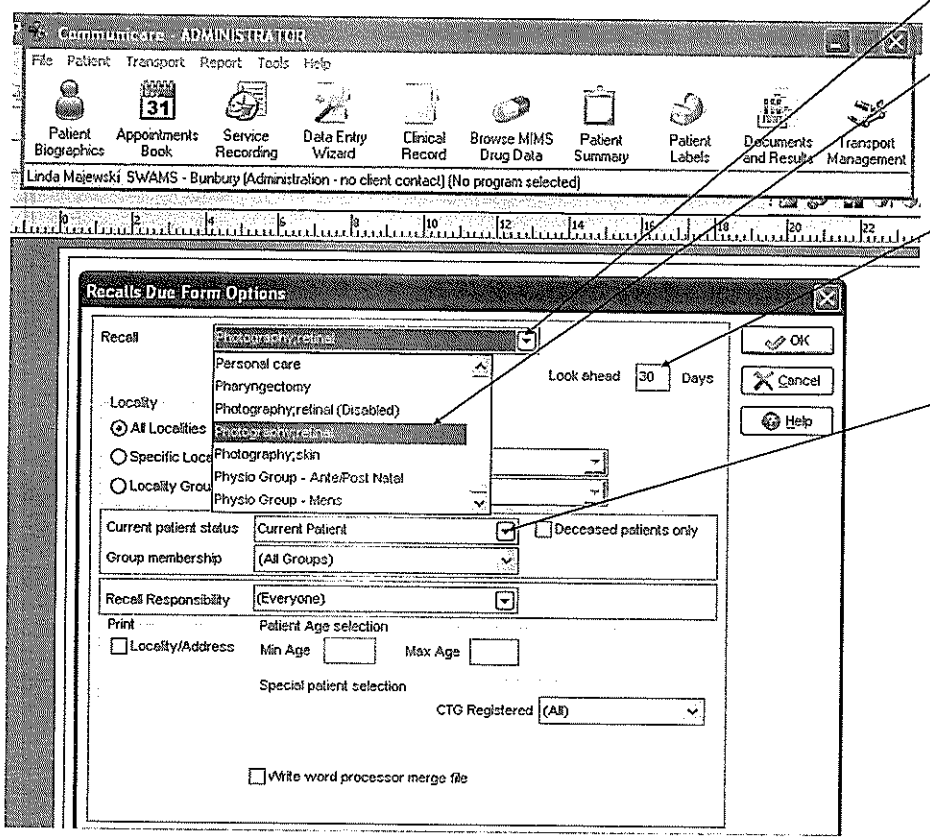
- Select Recalls
  - Select Recalls Due Form
    - Select Yes

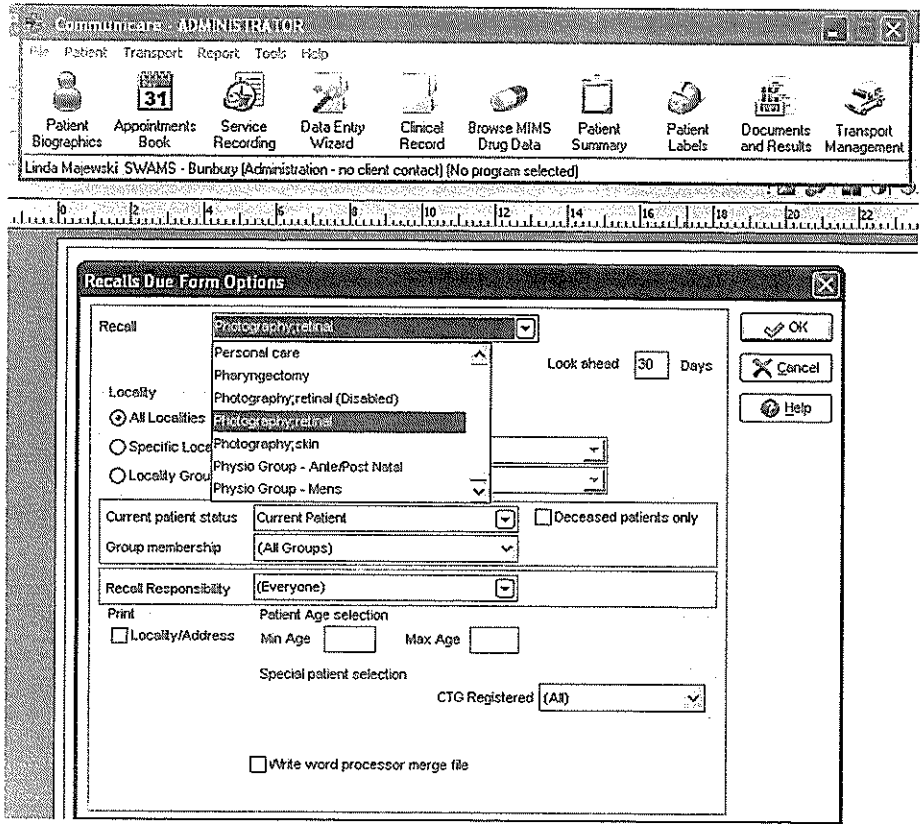
1. Select the drop down box and type in photo, select photography retinal

2. Type in 30 days

3. Run this report for current and transient patients (2 reports)

4. Leave all the other options as they are and press OK

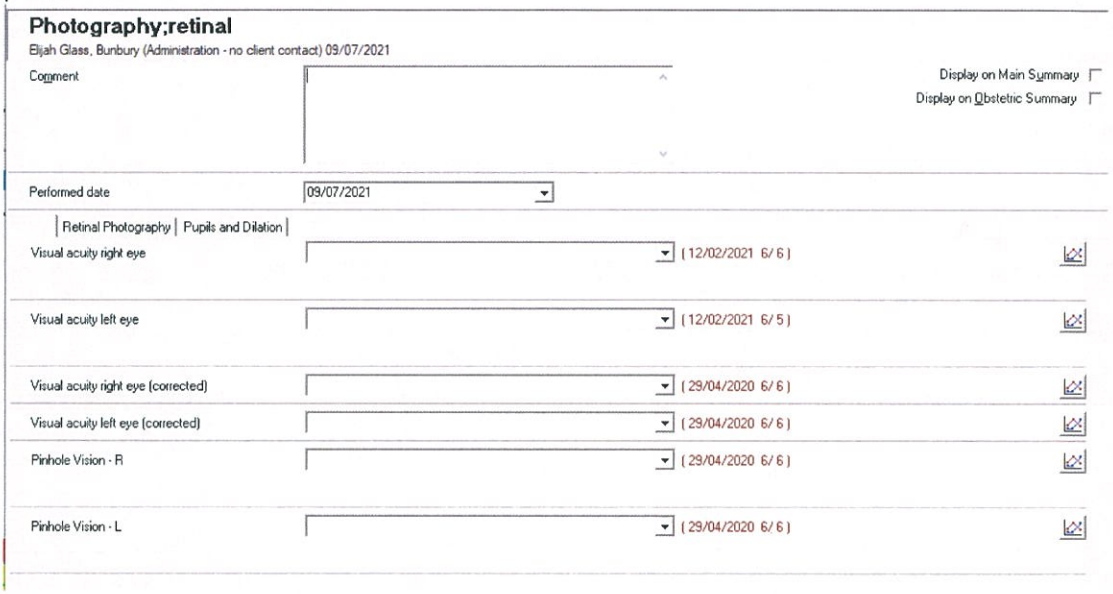



Communicare - ADMINISTRATOR
File Patient Transport Report Tools Help
Patient Biographics
Appointments Book
Service Recording
Data Entry Wizard
Clinical Record
Browse MIMS Drug Data
Patient Summary
Patient Labels
Documents and Results
Transport Management
Linda Majewski SWAMS - Bunbury (Administration - no client contact) (No program selected)
Recalls Due Form Options
Recall
Photography;retinal
Personal care
Pharyngectomy
Photography;retinal (Disabled)
Photography;retinal
Photography;skin
Physio Group - Ante/Post Natal
Physio Group - Mens
Look ahead
30
Days
OK
Cancel
Help
Locality
All Localities
Specific Loca
Locality Grou
Current patient status
Current Patient
Deceased patients only
Group membership
(All Groups)
Recall Responsibility
(Everyone)
Print
Locality/Address
Patient Age selection
Min Age
Max Age
Special patient selection
CTG Registered
(All)
Write word processor merge file

Appendix 4 - New Retinal Photography Procedure

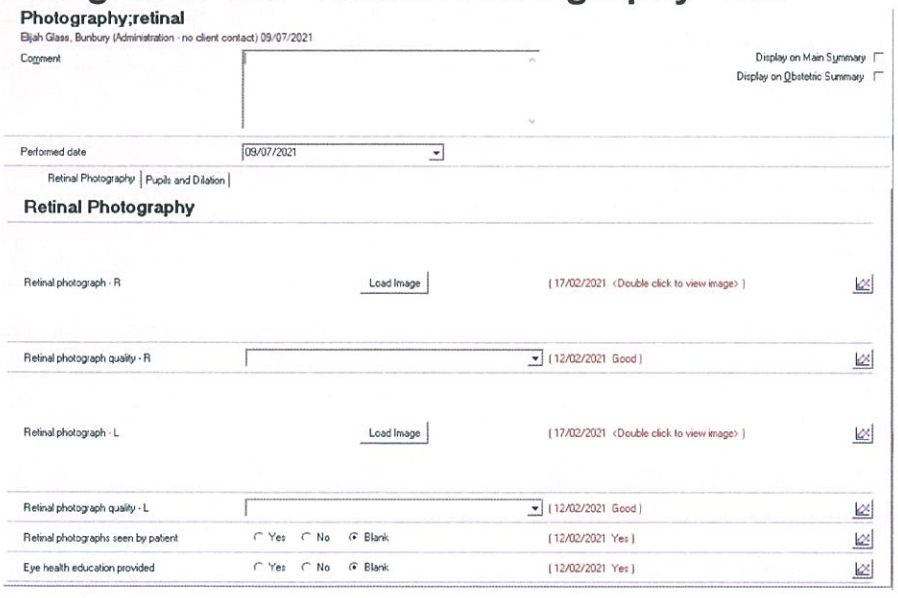
Retinal Photography Procedure.

1. **Take the photos** using the DRS retinal camera. Photos will automatically be saved to "S:\DRS"
2. **Open the clinical Item called "Photography;retinal"** in the patients file on Communicare



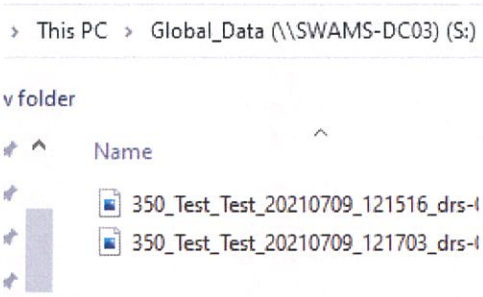
(Fig 1)

3. **Fill out** the relevant fields on the first tab pictured in figure 1. Ensure that the performed date matches the date on which the photos were taken.
4. **Navigate to the "Retinal Photography" tab**



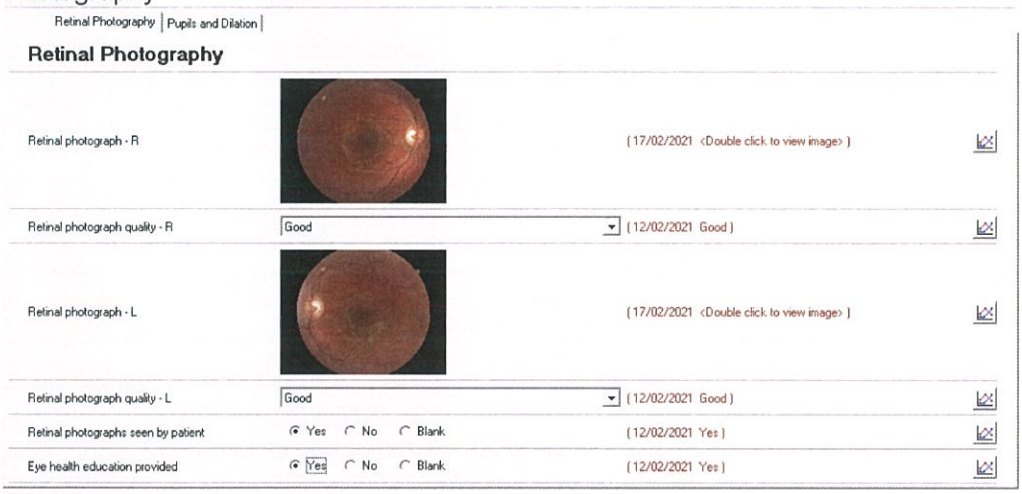
(Fig 2)

5. **Click "Load Image"** and navigate to "S:\DRS" select the file corresponding to the right patient and date. Remember that the right eye is always done first. The numbering after the name is the date in the "YYYY MM DD" format.

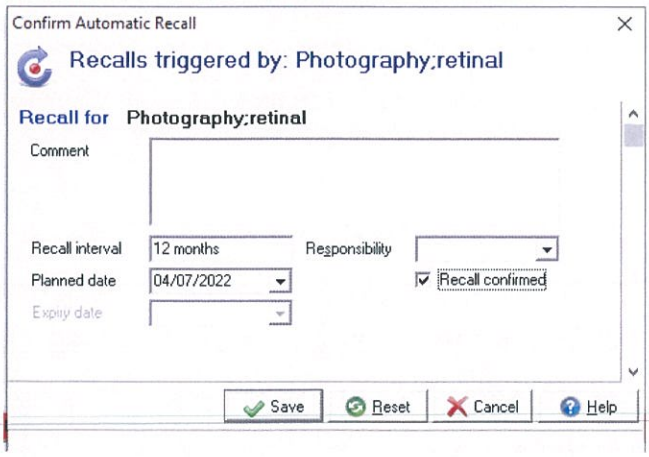


(Fig 3)

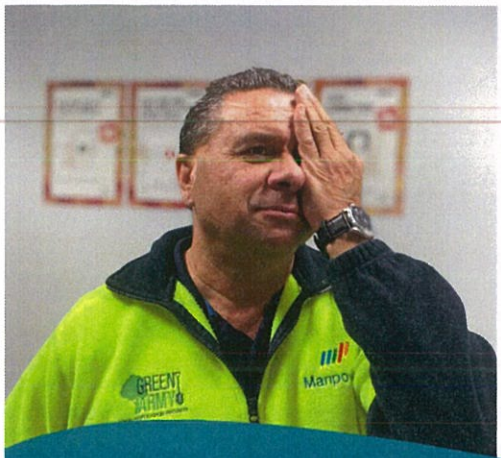
6. **Complete the remaining fields** on the tab labeled "Retinal Photography"



7. **If necessary** click on and complete the "Pupils and Dilation" tab. Generally this is only utilized for specialist clinics.
8. **Finalize** the item by clicking "Save"
9. **A Recall** will automatically be triggered upon the completion of the item for 12 months. Select "Recall confirmed" and then "Save"



Appendix 5 – Poster



Moorditj Miyal

Healthy Eyes

Did you know that 94% of vision loss and blindness is preventable?
It is essential for clients who have diabetes to have yearly eye screening for good eye health.

Did you know that you can get your eyes tested at SWAMS?
If you feel that your eyesight has been letting you down lately, come in and see us. Our friendly staff can help you.

"Everyone deserves the right to see."
Make an appointment with SWAMS today!

South West AMS
Aboriginal Medical Service
Our Health, Our Way

Bunbury Clinic

Unit 5/55 Forrest Avenue
Bunbury WA 6230

Phone: (08) 9726 6000
Toll Free: 1800 779 000
Fax: (08) 9791 7655
Email: records@swams.com.au

Find us on: facebook

Toll Free number: 1800 779 000

Website: www.swams.com.au