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***The supportive footwear strategy:
healthy footwear - healthy lifestyle***

INTRODUCTION

Footwear related injury accounts for up to one third of hospitalisations for diabetic foot disease (Payne 1998). Footwear is a risk factor in many falls, although the exact extent of this risk is unknown (Chipman 1981; Connell and Wolf 1997; Robbins, Waked et al. 1997). Dolinis found that the presence of corns or bunions was an independent risk factor for falling in older people (Dolinis, Harrison et al. 1997). As poorly fitting shoes are one cause of corns, footwear could reasonably be targeted in falls prevention (Nancarrow 1999). Many interventions to prevent falls and foot ulcers are initiated by health service providers either after the fall has happened, or when a person attends a health service with an existing foot ulcer. The aim of the Supportive Footwear Strategy was to determine whether an education program for footwear retailers is an appropriate mechanism to trigger referrals to health professionals *before* serious complications arise.

Retailers play an important role in health promotion. This role is poorly documented in the health literature. The most common examples of the health-promoting role of retailers result from legislation, such as smoking and alcohol restrictions (Schofield, Weeks et al. 1994; 1997). Supermarkets and food outlets are used to support healthy food choices (Lee, Hobson et al. 1996; van der Feen de Lille, Riedstra et al. 1998). Pharmacies play a role in public education campaigns, such as asthma and skin cancer prevention (Hodges, Wilkie et al. 1993; Leinweber, Campbell et al. 1995). Footwear retailers are a logical choice for lower limb health promotion as they generally specialise only in footwear and attendance at a footwear retailer may be the only time many people have their feet viewed.

METHODS

The following three stage process was undertaken.

STAGE ONE: NEEDS ANALYSIS

Consultation with older people to determine their footwear limitations, needs and barriers. Two focus groups were held with older people with diabetes at a local health centre to

determine issues surrounding access to appropriate footwear. The feedback received from the focus groups was used to inform the delivery of the Supportive Footwear Strategy.

STAGE TWO: TRAINING OF FOOTWEAR RETAILERS

All podiatrists, footwear retailers and pharmacists in the ACT and surrounding regions were sent an initial letter explaining the details of the project, to obtain expressions of interest. 57 footwear retail outlets were invited, 54 pharmacies and 28 podiatrists. Approximately 50 expressions of interest were received. Based on this initial response, and some very enthusiastic responses from many groups, the project proceeded.

Consultation was undertaken with the ACT Division of General Practice, footwear retailers, consumers (older people with foot problems, people with diabetes, arthritis and stroke sufferers), diabetes educators and private podiatrists in the development of a curriculum for the Supportive Footwear Strategy training.

A questionnaire was sent to all the footwear retailers in the ACT to ascertain their levels of foot health knowledge and the demographic details of the people in the industry. The questionnaire also asked retailers to nominate the amount of in-store training they receive and areas they would like to learn more about. Thirty five responses were received. In some cases, multiple responses were received from the one footwear retail outlet. As the responses were anonymous, we do not know the proportion of the footwear retailers that these responses represent.

Media coverage was used to launch the project and a series of displays were established in major shopping centres during “National Foot Health Week” to raise community awareness of the project. General practitioners were informed of the project through the ACT Division of General Practice newsletter.

THE TRAINING SESSION

A single training session was held which consisted of a 3 hour information session with a six-month follow-up event and the fostering of networks between participants. All footwear retailers, pharmacists and podiatrists in the ACT Yellow Pages were invited to attend a formal information session.

The syllabus was developed based on the feedback of the focus groups, in consultation with other stakeholders, and on the basis of the information in the questionnaires sent to footwear retailers. The themes covered were: falls in the elderly, lower limb risks associated with diabetes and commonly encountered foot problems. The theme of the training was “Have you seen your feet lately” and a poster was developed to reflect this theme. Three other posters were developed illustrating the risks of numb feet, the risk of falling associated with poor footwear and a diagram of a shoe showing important points of good fit.

The syllabus on the evening involved:

- Lower limb risk factors associated with diabetes
- A discussion by a diabetes educator titled “what is diabetes”
- A physiotherapist presented information on the causes and prevention of falls in the elderly
- A presentation of physical aids which can be used by people who have difficulty with mobility, such as long shoe horns, devices for putting on stockings, and elastic laces
- A workshop, where all participants undertook a lower limb risk assessment and undertook small group discussions

The information was provided by podiatrists, a physiotherapist and diabetes educator in a didactic manner, followed by multi-disciplinary workshops in which all participants un-

dertook a foot assessment. Participants were provided with a 'Semmes-Weinstein monofilament', a nylon bristle which buckles when pressed against the skin to apply 10g of pressure. The monofilament is used to identify peripheral neuropathy, which is a major risk factor for ulceration in people with diabetes or neurological disorders (Collier and Brodbeck 1993; Klenerman, McCabe et al. 1996). The monofilament is a practical tool for use in a primary care setting due to its low cost, portability and ease of application. It can be self administered by people with diabetes but is most commonly used by health professionals (Birke and Rolfsen 1998). There is no published precedent for the use of the monofilament by footwear retailers.

Posters and brochures illustrating the main themes of the training were provided to each participant for distribution or display at their outlet. The content of the brochures and posters was based on the Australian Podiatric Guidelines for Diabetes, Second Edition (Evans and Jones 1997), and published literature where available. Diabetes educators, podiatrists and consumers were consulted during the development of the resources to gain consensus on the appropriateness and clarity of the messages they disseminated.

Two brochures were developed for the Supportive Footwear Strategy for dissemination by Footwear retail outlets and Pharmacies, one on the foot problems associated with diabetes and the other on common foot problems. A small pilot of the brochures and subsequent evaluation at the follow-up training session led to the development of a single brochure only.

Other resources provided to the attendees included a summary of all the presentations given on the evening and a list of all attendees. Additionally, a certificate of completion was given to all participants who attended.

Participants were encouraged to bring displays and marketing materials for their own organisations so that professional relationships could be established to enhance the sustainability of the project.

STAGE THREE: FOLLOW-UP AND EVALUATION

Follow-up was undertaken six months later to gain feedback from practitioners; reinforce the health promotion issues discussed in the first event; to strengthen the networks created in the first session and to answer any questions from the first information session. Participants that could not attend this event were interviewed by telephone and mailed the second knowledge questionnaire.

RESULTS

Short term and intermediate outcomes were identified, based on an existing health promotion evaluation model (King 1996) which are summarised in Table 1. The main outcome indicators were increased referrals to podiatrists by footwear retailers, increased contact between podiatrists and footwear retailers, improved knowledge of the lower limb risks associated with diabetes and the identification of people at risk of developing lower limb complications. The long-term goals of reduced rates of ulceration, amputation and falls in the elderly could not be measured within the scope of this project, nor directly attributed to the intervention.

Outcomes of Stage One

Two focus groups, consisting of people with diabetes and their carers, were undertaken at a local health centre with 23 and 21 people attending respectively (a total of 19 people

with diabetes). The participants were clients (and their carers) of the health centre who see the practice nurse for care and management of their diabetes.

The main themes that arose from the group were the high price of suitable footwear and the unattractive appearance. Some women felt that the shoes which fulfilled most of the criteria were ‘very ugly’ or ‘masculine’ or ‘felt like wearing great clodhoppers’. Also of concern to this group was the contradictory messages received from different health professionals and footwear retailers. Some participants had seen podiatrists who advocated for the use of open toed sandals, yet our checklist calls for protection of the feet which implies that the toes should be covered. Another theme that emerged from this session was access to suitable shoe shops – most are in town centres and require at least one bus ride to get there. This information was used in the development of the Supportive Footwear Strategy Training evening.

Outcomes of stage 2 – process evaluation

Of 53 Footwear retail outlets in the ACT, 20 were represented at the training evening, two had closed down and a further 3 specialised in footwear for specific purposes and felt that the information obtained from this session would not be relevant to their needs. This resulted in a total of 71 footwear retailers, thirty podiatrists, five diabetes educators and eight pharmacists attending the training. The footwear retailers had a mean duration in the industry of 7.25 years median 3.5 (range 1 month to 44 years). Fifty four percent of participants worked part time and forty percent full-time in the footwear industry. The participants had a mean age of 30 (14.8) years, median age of 23 years, and range 15 – 59.

Table 1: Summary of results of the Supportive Footwear Strategy

	Outcomes	Measure	Result
Short Term - Process indicators	Attendance by footwear retailers	% of invited footwear retailers attending	38% outlets
	Use of posters in practices and retail outlets	Interviews with retailers	100% podiatrists 60% retailers
	Participant feedback on venue, time, quality of presentations	Evaluation form completed at the end of the training session	100% (n=60) found training session useful
Intermedia- te	Increased referrals to podiatrists by footwear retailers and pharmacists	Interviews with podiatrists and retailers	All podiatrists reported increased referrals
	Increased contact between podiatrists and footwear retailers / pharmacists	Interviews with podiatrists and retailers	All participants reported increased contact
	Knowledge of lower limb risk factors by attendees (pre-post questionnaire)	Pre and post questionnaires undertaken by attendees	Breadth of knowledge increased
	Identification of people at risk of falling or developing ulcers	One month diary completed by all retailers following the training session when a person was screened / identified as having a foot problem / referred to GP or podiatrist.	Poor rates of completion
Long term (improved health status)	Reduced rates of ulceration Reduced rates of amputation Reduced rates of falls in the elderly	Hospital morbidity data-set, community health information.	Not recorded for this evaluation.

Footwear retailers who attended represented specialty shoe stores, sports shoe stores and ‘quality’ retail outlets. There was no representation from ‘budget’ shoe stores or variety stores, despite invitations being sent to these groups. Evaluation forms were received from 60 participants. The results are summarised as follows;

- 100% felt that the training session was “very useful” or “extremely useful” to their every day work (including podiatrists and pharmacists)
- all the podiatrists and 60% of the retailers said they used the posters in their practice/store
- open ended responses included;
 - “use of the monofilament helpful”
 - “the use of devices for older people or people with disabilities was very useful”
 - “falls in the elderly not as useful as other information”
 - “creation of networks very useful”
 - “good to meet local podiatrists”
 - “helped answer a lot of questions about foot problems we see”
 - “more confident to ask people about foot problems now”

Outcomes of stage 3 – impact evaluation

Participants were mailed an open-ended questionnaire prior to attending the first training evening asking about their background in the footwear retail industry, their lower limb knowledge and information they would like to learn more about. A similar questionnaire was given to participants at the follow-up evening. The knowledge demonstrated by participants in the first questionnaire was varied, with diabetes and “poor circulation” listed as common causes of foot problems, but no mention of the risk of falling. Participants from sporting outlets demonstrated excellent understanding of biomechanical issues and provided more specific details on other foot problems, such as those associated with diabetes. The answers to the knowledge question in the second questionnaire were much broader in scope and mentioned “nerve damage” associated with diabetes as a risk factor rather than just “poor circulation” and participants listed the risk of falling as a complication of foot problems.

Participants were asked to describe how their practice had changed as a result of attending the Supportive Footwear Strategy. One participant stated “our practice has not changed at all, we always provide the best shoe fit” whilst two others responded that they had increased referrals to physiotherapists for falls management and many increased referrals to podiatrists or recommendations for customers to see their GP. Participants from all fields responded that the most beneficial part of the strategy was the networks created with other practitioners to facilitate referrals for clients.

To quantify the number of people identified through the Supportive Footwear Strategy, all retailers were given a ‘month to a page’ diary on which they were asked to denote when they used the monofilament or identified someone who was at risk of developing foot problems. The rates of completion of this diary were low (n=5) due apparently to high rates of casual staff employment and a lack of ownership of the completion of the diaries. Additionally, the use of the monofilament by footwear retailers was not seen as appropriate. One retailer, a former nurse, said “*using the monofilament is too medical. It somehow seems inappropriate for us to use it*”... “*people come to us for fashion reasons, not health reasons – it would be like me going to my doctor and him saying you look very attractive today. It is not what people expect.*” Retailers said that displaying the posters and distributing brochures had created quite a lot of interest by customers and that customers who had the brochure were more likely to ask the retailer about foot care issues.

All podiatrists reported increased rates of referrals by footwear retailers. The majority of participants reported that they experienced increased contact between the footwear retailers, pharmacists and podiatrists in their local areas, and half the podiatrists who attended the

Supportive Footwear Strategy training had made additional contact with the retailers in their area subsequent to the evening. Referrals to GPs could not be assessed in this study due to the large number of GPs in the ACT and surrounding regions (n>250).

Participants were asked to discuss ways to sustain the project and they requested the development of a newsletter to be circulated to footwear retailers, pharmacists, GPs, podiatrists, and diabetes educators. The newsletter would serve to inform participants about foot health issues and raise community awareness of the Supportive Footwear Strategy project.

DISCUSSION

The evaluation demonstrated that footwear retailers are interested in information about foot health and that provision of information by retailers increases referrals to podiatrists. The project sustainability, at least in the short-term, was enhanced through the creation of networks between health service providers and retailers. The footwear retailers expressed clear views on their role within the Supportive Footwear Strategy. Most felt that they could not become 'medical practitioners' rather it was their role to provide customers with information about their footwear, or referrals if appropriate, and this was facilitated through the provision of brochures and posters.

Participant bias was evident in those who attended the Supportive Footwear Strategy evening. There was strong representation from sporting outlets, expensive shoe stores and those that advertise on the basis of "quality footwear". No representatives from budget footwear outlets attended the training evening and as a number of people purchase low cost shoes this is a serious flaw in the protocol. All department and variety stores that sell shoes were invited to participate however none of these groups sent representatives. There is no available data to enable a comparison of the demographics of the footwear retailers, however there does appear to be high representation from full-time staff who have been in the industry for a long time.

The results seen in the ACT may not be generalisable to settings where either primary care support from podiatrists is unavailable or where footwear retailers are not present. An example of this was seen in the New South Wales Southern Highlands, where footwear retailers were eager to participate in the intervention, but the only practicing podiatrist in the area was not. This barrier could be overcome if local general practitioners were prepared to provide appropriate support.

To overcome the issues of low interest from variety stores and budget shoe stores, the issuing of brochures at the point of sale may be sufficient for the dissemination of information about foot problems. This would be a far more cost-effective intervention, and avoid the problem of 'medicalising' the fashion industry. However, participants in the Supportive Footwear Strategy felt that the information was beneficial and the networks between providers have been maintained over the short term, so there may be some additional benefits to training retailers. Due to the mutual pecuniary benefits, this may be better offered by the Podiatry Association or podiatrists in their local communities rather than through a mass campaign like the Supportive Footwear Strategy.

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ABSTRACT

Objective: To investigate whether footwear retailers can play a role in the early identification of and referral for foot problems which could lead to ulceration or increased risk of falling.

Method: Footwear retailers, podiatrists, pharmacists and diabetes educators from the Australian Capital Territory (ACT) and surrounding areas participated in “The Supportive Footwear Strategy“, a training session designed to help them identify people at risk of developing serious foot problems and provide them with resources to inform customers about lower limb risks. Participants were trained in the use of the Semmes-Weinstein monofilament, to enable them to detect peripheral neuropathy and provided with information resources.

Results: Retailers reported increased rates of referrals to podiatrists and general practitioners as a result of attending the training session, however this cannot be quantified from this study. The use of posters and brochures in retail outlets supported footwear retailers in their ability to inform customers of potential foot problems. The retailers felt that the use of the monofilament was inappropriate, as it is “too medical”.

Conclusion: Footwear retailers can play a role in the identification of and referral for foot problems, however the information needs to be in a format which is acceptable to the footwear retailer in their role as a salesperson and not appear to attempt to cross the boundary into providing medical care.

Implications: Footwear retailers are an accessible outlet for the dissemination of information about lower limb complications.

