

*Implementation of primary care  
alcohol screening, brief  
interventions and referral as  
routine practice in PHC in South  
Africa*

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# *What is Screening, Brief Intervention and Referral (SBIR)?*

- **S**creening to find:
  - **at-risk drinkers**
  - **possible alcohol dependence**
- **B**rief **I**ntervention
  - **Early detection**
  - **Time limited**
  - **Low cost, easy to use**
- **R**eferral of more serious cases to further diagnostic assessment specialized care



# *Types of Alcohol Risk*

- **Hazardous Use** — elevated risk without presence of physical or mental harm
- **Harmful Use** — consumption causing physical, mental, or social harm
- **Alcohol Dependence** — a cluster of behavioral, cognitive, and physiological phenomena that may develop after repeated alcohol use



# *The Drinkers' Pyramid*

Dependent Drinkers

5%

Risky Drinkers

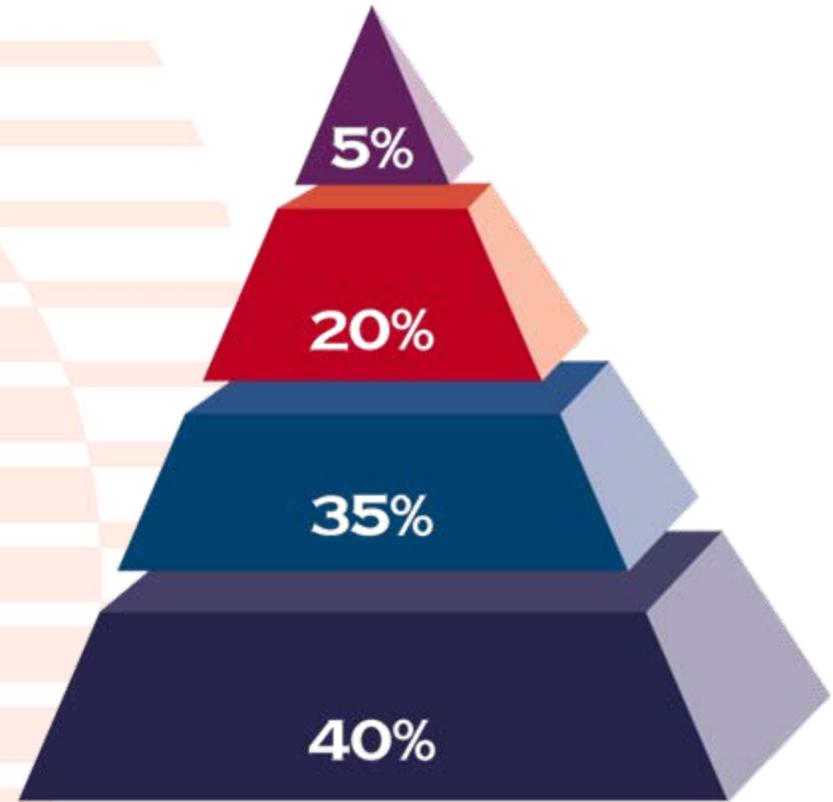
20%

Low Risk Drinkers

35%

Abstainers

40%



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## Alcohol use Vhembe district: community sample (n=800)

AUDIT score levels	Total	Men	Women	
	Col%	Col%	Col%	
Abstainers (0)	68.4	55.4	80.7	
Low-risk drinkers (1-7)	15.3	18.5	12.1	
High-risk drinkers (8-19)	11.0	<b>22.2</b>	<b>5.0</b>	
Probable alcohol dependence (20+)	3.3	4.8	1.4	



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## ALCOHOL USE IN PRIMARY CARE (in %)

	AUDIT Score	Total	Men (n=188)	Women (n=412)
Abstainers	0	69.0	46.6	79.4
Low-risk drinkers	1-7	11.9	16.1	9.9
High-risk drinkers	8-19	16.1	<b>28.2</b>	<b>10.4</b>
Prob. alcohol dep.	20+	3.1	9.2	0.3



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# *Where is the bulk of harm?*

- Persons with alcohol dependence experience the most harm
- But there are far more hazardous and harmful drinkers
- Most alcohol-related harm is caused by people who usually drink moderately
- People move from moderate to at-risk use and back



# *BRIEF INTERVENTIONS: SUMMARY*

- **Brief interventions are effective in reducing alcohol consumption for at least 12 months in patients who are not alcohol dependent**
- **Pooled results from clinical trials show a 24% reduction in alcohol consumption**
- **Those who receive an intervention are twice as likely to change their behavior compared with control groups**
- **Effects on injury, medical care, and mortality also demonstrated**
- **Brief interventions have fairly low costs and have been shown to be cost-effective in 3 economic studies**



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# Domains and Item Content of the AUDIT

(Alcohol Use Disorder Identification Test)

Domains	Question Number	Item Content
Hazardous Alcohol Use	1	Frequency of drinking
	2	Typical quantity
	3	Frequency of heavy drinking
Dependence Symptoms	4	Impaired control over drinking
	5	Increased salience of drinking
	6	Morning drinking
Harmful Alcohol Use	7	Guilt after drinking
	8	Blackouts
	9	Alcohol-related injuries
	10	Others concerned about drinking



Risk Level	Intervention	AUDIT Score*
<b>Zone I</b>	<b>Alcohol Education</b>	<b>0-7</b>
<b>Zone II</b>	<b>Simple Advice</b>	<b>8-15</b>
<b>Zone III</b>	<b>Simple Advice plus Brief Counseling and Continued Monitoring</b>	<b>16-19</b>
<b>Zone IV</b>	<b>Referral to Specialist for Diagnostic Evaluation and Treatment</b>	<b>20-40</b>

\* Different cut-points may vary slightly depending on the country, the standard of care, and the nature of the intervention. If a patient's score is not consistently in the same zone, it may indicate a patient with a high risk of alcohol dependence. It may also be instructive to review the patient's responses to individual questions dealing with dependence symptoms (Questions 4, 5 and 6) and alcohol-related problems (Questions 9 and 10). Provide the next highest level of intervention to patients who score 2 or more on Questions 4, 5 and 6.



## *The Brief Intervention*

- **3 to 5 minutes of brief advice**
- **5 elements**
  - ✓ **Feedback patient's screen results**
  - ✓ **Graphic display of patient risk level**
  - ✓ **Illustrate risks; review drinking limits**
  - ✓ **Solicit commitment—cut back or stop**
  - ✓ **Give patient brochure, encouragement**



# **Evaluation of a primary care training programme of Screening and Brief Intervention and Referral (SBIR)**

**Effects of the programme on trainees' knowledge and attitudes, and the subsequent practice of SBIR in routine clinical practice.**



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# *Curriculum and Training*

- **Alcohol Use Disorders Identification Test (AUDIT) (Babor et al. 2001a)**
- **WHO brief intervention package for hazardous and harmful drinking (Babor et al. 2001b)**
- **Self-help booklet for patients**
- **Handout 'cutting back'**
- **Adapted to the South African context (Standard units, translations)**



Risk Zone 1: Score 0-7: abstainers or low risk

Alcohol education

-Info on alcohol consumption and risks of drinking

Low-risk drinking guidelines

Drinkers' pyramid

Standard drink illustration

Effects of of high-risk drinking

-Positive feedback to maintain

-Provide patient education brochure (appendix A)



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## Low risk drinking guidelines:

### Women and all above 65:

- No more than 2 drinks per day

Do not drink at least 2 days a week

### Men:

- No more than 3 drinks per day (MRC: 4 drinks/day)

Do not drink at least 2 days a week

No drinking: when driving or operating machinery, when pregnant or breast feeding, when taking certain medications, if have certain medical conditions, if you cannot control drinking



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Risk Zone II: Score 8-15 at risk drinkers

regular excess drinking

→ at risk of chronic health conditions

episodes of acute intoxication

→ at risk of injury, violence, legal problems, poor work performance, or social problems



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# Patient education brochure: guide to low risk drinking

(Appendix A)

- Transitional statement: may be at risk based on AUDIT
- The Drinkers' Pyramid
- Effects of high-risk drinking
- Discuss need to cut down
- Discuss sensible limits, low-risk drinking, establish a goal
- Review standard drink
- Provide encouragement



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## Risk Zone III: Score 16-19 Drinkers

-already experiencing physical and mental health problems due to regular excess drinking

-experience injuries, violence, legal problems,

Poor work performance, or social problems due to Frequent intoxication

→ Brief counselling



Risk Zone IV: Score 20 or more; Drinkers with probable alcohol dependence

- Providing referral to diagnosis and treatment
- Modified form of simple advise for referral: feedback, advice, responsibility, information, encouragement, and follow-up



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Training sites:

- rural site Vhembe district,  
-one hospital and 29 primary health care facilities  
(2 health centres and 27 clinics)
- urban site: Polokwane city and Seshego Township,  
all 3 clinics and 6 mobile clinics, the health center and  
the Seshego hospital,
- 121 nurses, 86 professional nurses (chief, senior and  
professional nurses) and 29 enrolled or assistant nurses.
- 38.7 % of all the nurses of the 35 clinics, (of the total  
number of 314 nurses
- In each clinic at least two nurses were trained.



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## Training context:

- The training at the sites was delivered in six hours.
- A nurse and psychologist trainer and the project site consultant delivered the training.
- As many practice staff as possible were invited to the training, including physicians, professional nurses, and assistant nurses.
- Follow-up supervisory and support visits were also provided.



## SBIR implementation modalities

### Option 1:

Assistant nurse (AN) or the Enrolled Nurse (EN) takes the vital signs of every patient while finding out about the patients drinking habits. Patients are referred to the Professional Nurse (PN) for alcohol screening.

The PN does all screening work plus the interventions

### Option 2:

The AN takes the vital signs of every patient and explains & administers the AUDIT screening questionnaire.

The questionnaire is scored using the following

If a patient is drinking sensibly then the AN or EN gives alcohol education to the patient.

AUDIT score = 0-7

If a patient is drinking hazardously then the AN or EN gives simple advice to the patient.

AUDIT score = 8-15

If a patient is drinking harmfully the he/she is given simple advice plus brief counseling by the EN or PN.

AUDIT score = 16-19

If the patient is drinking harmfully and has become alcohol dependent then the EN or PN provides brief counselling plus referral to a specialist.

AUDIT score = 20-40



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## **Research Method**

- Pre-post (9 months after training) with a self-administered questionnaire
- Quality assurance of training was conducted by tape-recording of 40 nurses-patient SBI interactions.
- a brief patient exit interview was used with 100 consecutive patients (18 to 65 years) from different health facilities leaving PHC premises after having seen a health professional for any reason.

## **Ethics**

Informed consent was taken from participants, and ethics approval was obtained from the University of the North Ethics Committee and the Provincial Department of Health and Welfare.



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## Measures

- Knowledge on alcohol use and problems* (8 items).
- Confidence in screening of alcohol use* (5 items),
- Confidence in Brief intervention with alcohol problems* (5 items)
- Perceived obstacles to screening alcohol use* (15 items), for example: “I feel it is an invasion of privacy to ask patients questions about their alcohol consumption.”
- Perceived obstacles to brief intervention with alcohol problems* (19 items),
- Self-efficacy in SBI* (5 items),
- Expectations of SBI benefit* (5 items),
- Questions on screening and brief intervention practices, and barriers and support in implementing SBI at follow-up*



## *Data analysis*

Group means of the knowledge, confidence, perceived obstacles, self-efficacy and benefits scales were compared across time (before and nine months after training) using a Paired Samples T-Test.



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**Table 1.** Means (standard deviation) of pre- and post training scale scores for knowledge, confidence, perceived obstacles, self-efficacy and expectations/benefits

Scale	Pre-training (N=121)	Post-training (N=81)	t
Objective knowledge (range 0-8)	3.9 (1.5)	4.8 (1.9)	3.22**
Confidence in screening (range 1-4)	2.0 (0.4)	2.9 (0.8)	3.14**
Confidence in brief intervention (range 1-4)	2.7 (1.2)	3.2 (0.5)	2.61*
Perceived obstacles to screening (range 1-5)	3.4 (0.6)	3.2 (0.5)	-1.63
Perceived obstacles to brief intervention (range 1-5)	3.3 (0.5)	3.1 (0.4)	-1.88
Self-efficacy in SBI (range 1-5) 1	3.0 (0.5)	3.5 (0.5)	2.88**
Expectations of SBI benefit (range 1-5) 4	4.1 (0.9)	4.3 (0.7)	1.54



Table 2: In the past nine months adult patients managed specifically for heavy drinking or alcohol-related problems

No of patients	Pre-training (%)	Follow-up (%)
None	55.0	29.3
1-5	26.2	39.8
6-11	6.7	18.0
12-24	4.5	4.3
25-49	4.3	4.3
50 or more	3.2	4.1



## Risk drinking level by sex and age of 2670 patients screened for alcohol in primary care in Vhembe District, South Africa

	Zone I	Zone II	Zone III	Zone IV	Hazardous or harmful	$\chi^2$	P
	N (%)	N (%)	N (%)	N (%)	N (%)		
Total	2022 (75.7)	357 (13.4)	125 (4.7)	166 (6.2)	648 (24.3)		
Sex							
Male	611 (60.9)	210 (20.9)	84 (8.4)	99 (9.9)	393 (39.1)	212.40	<0.001
Female	1282 (86.2)	115 (7.7)	31 (2.1)	59 (4.0)	205 (13.8)		
Age							
16-24	613 (87.0)	56 (7.9)	19 (2.7)	17 (2.4)	92 (13.0)	77.86	<0.001
25-40	800 (73.5)	157 (14.4)	52 (4.8)	79 (7.3)	288 (26.5)		
41-60	374 (66.4)	99 (17.6)	37 (6.6)	53 (9.4)	189 (33.6)		
60+	89 (75.4)	14 (11.9)	7 (5.9)	8 (6.8)	29 (24.6)		



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## SBI implementation evaluation summary ratings in primary care in Vhembe District, South Africa [◆=frequency of 'yes' or (strongly) agree]

	Good implementing clinics (9 clinics) *	Poor implementing (9 clinics)
Structure and organization of clinics		
1. All nurses in clinic trained in SBI	◆◆◆◆◆◆◆◆	◆◆◆
2. Feedback provided	◆◆◆◆	◆◆
3. Nurse clinical workload <35; (13)	◆◆◆◆◆◆◆◆	◆◆
4. Competing priorities (e.g. Voluntary HIV Counseling & Testing, tuberculosis, antenatal care, pap smear examinations)	◆	◆◆◆◆◆
5. Teamwork	◆◆◆◆◆◆◆◆	◆◆◆
6. Tension in clinic	◆◆	◆◆◆◆
Perceptions of innovation		
1. Early adopters (first 2 months)	◆◆◆◆◆◆	
2. Perceived benefit from SBI	◆◆◆◆◆◆◆◆	◆◆◆◆◆◆◆◆
3. Compatibility with beliefs, values, past history & current needs	◆◆◆◆◆◆	◆◆◆◆
4. Low perceived complexity of innovation	◆◆◆◆◆◆◆◆	◆◆◆◆
5. Trialability & observability	◆◆◆◆◆	◆◆◆



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## ***Implementation barriers and support***

### Barriers SBIR:

- mainly patient-caused (55%) (disinterested/refused)
- shortage of staff/work overload (35%), and
- some (10%) mentioned that patients at risk do not come to the clinic.

### Barriers to referral:

- “don’t use them/like them” (63%)
- lack of adequate services for the treatment of alcoholic patients (24%).

### Supporting elements

- cooperation from colleagues (31%),
- support from facilitators and supervisors (29%), and
- training (19%).



## SBIR modalities

- Most (74%) nurses screen patients during consultation, when time (21%) and after consultation (5%).
- Most (71%) record the screening results on provided log-sheets, 14% in the record book, and 5% on the AUDIT sheet.
- One-thirds indicated that the programme works okay,
- one-thirds that either only specific staff or all staff should be trained and
- one-thirds that it should be widely advertised in the community.



## Conclusion

- Moderate training effects but all changes were in a direction more conducive to implementing SBI.
- Health care providers significantly increased in knowledge, confidence in SBI and higher self-efficacy in implementing SBI at follow-up after 9 months after receiving the training.
- When delivered in the context of a comprehensive SBI implementation programme, this training is effective in changing providers' knowledge, attitudes, and practice of SBI for at-risk drinking

