



**HAL**  
open science

## The sexual behaviour of British backpackers in Australia

Karen Hughes, Jennifer Downing, Mark A Bellis, Paul Dillon, Jan Copeland

► **To cite this version:**

Karen Hughes, Jennifer Downing, Mark A Bellis, Paul Dillon, Jan Copeland. The sexual behaviour of British backpackers in Australia. *Sexually Transmitted Infections*, 2009, 85 (6), pp.477. 10.1136/sti.2009.036921 . hal-00552818

**HAL Id: hal-00552818**

**<https://hal.science/hal-00552818>**

Submitted on 6 Jan 2011

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

**Title:** The sexual behaviour of British backpackers in Australia

**Authors:** Karen Hughes<sup>1\*</sup>, Jennifer Downing<sup>1</sup>, Mark A Bellis<sup>1</sup>, Paul Dillon<sup>2</sup>, Jan Copeland<sup>2</sup>

<sup>1</sup> Centre for Public Health, Liverpool John Moores University, Liverpool, UK

<sup>2</sup> National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia

\* Corresponding author

Karen Hughes, Centre for Public Health, Liverpool John Moores University, 5<sup>th</sup> floor  
Kingsway House, Hatton Garden, Liverpool, L3 2AJ, UK

Email [k.e.hughes@ljmu.ac.uk](mailto:k.e.hughes@ljmu.ac.uk)

Telephone + 44 (0)151 231 8723

Fax +44 (0)151 231 8020

**Key words:** sexual behaviour, unsafe sex, alcohol drinking, recreational drugs, travel

## ABSTRACT

**Objectives:** To explore sexual behaviour and risk taking among British backpackers in Australia and to investigate the influence of substance use and social settings on sexual behaviour abroad.

**Methods:** A cross-sectional design was used. The questionnaire gathered information on sexual and substance use behaviour in the 12 months prior to leaving the UK and during backpackers' stays in Australia. A total of 1008 backpackers, recruited in hostels in Sydney and Cairns, were included in the study.

**Results:** 73.2% had sex during their stay in Australia, including 68.9% of those who arrived without a partner. Across all backpackers, mean number of sexual partners increased from 0.3 per four week period in the UK in the twelve months prior to the trip, to 1.0 per four week period spent in Australia. Over a third (39.7%) had multiple partners in Australia, increasing to 45.7% in those arriving single. Of those arriving single and having sex, 40.9% reported inconsistent condom use and 24.0% had unprotected sex with multiple partners. Number of sexual partners in the UK, length of stay in Australia at time of interview, planned length of stay, frequent visits to bars/clubs, high frequency of alcohol intake and use of illicit substances in Australia were indicators for risky sexual behaviour.

**Conclusions:** Backpackers are at high risk of sexually transmitted infections and other negative sexual health outcomes. Multi-agency sexual health promotion strategies that address the relationship between sex, drugs and alcohol should be targeted at backpackers prior to, and during, their travels.

## INTRODUCTION

Young people's sexual risk-taking increases during holiday periods. Studies of young tourists holidaying both in their own countries and abroad [1-5] have found high levels of new sexual partnerships and unprotected sex on holiday. In Britain, having had sex with a new partner abroad has been associated with sexually transmitted infections (STIs)[6], whilst holiday seasons have been linked to peaks in attendance at sexual health clinics [7]. Most epidemiological studies on sexual behaviour in young tourists have focused on those participating in short holiday breaks in youth-focused resorts [3,8]. Such holidays can provide young people with an escape from normal social constraints, creating a sense of situational disinhibition in environments often centred around partying and substance use [1,8-10]. However, a growing number of young people are choosing to take extended 'backpacking' trips abroad, often conducted during a gap year between education or employment. Such holidays are often low budget, with tourists travelling to a variety of destinations and seeking casual work during the trip to fund their travel. To date, few epidemiological studies have explored sexual behaviour and risk-taking during backpacking trips abroad, and existing studies have typically surveyed multiple nationalities. A study in Canada found that backpackers (33 nationalities) were more likely to report casual sex during their holiday than shorter-term holidaymakers, yet no more likely to report unprotected sex [11]. Another study in Australia found half of backpackers (23 nationalities) reported sex with a new partner and over a third reported casual sex (with someone they had met that day/night). Half reported inconsistent condom use [12].

The international backpacking industry in Australia is increasing by approximately 3% each year and UK residents account for the largest share of this market (21% in 2007; 119,000 backpackers) [13]. With both Australia and the UK identifying increasing rates of sexually transmitted infections (e.g. Chlamydia)[14,15] in young people, understanding the sexual behaviours of young British backpackers in Australia is critical in developing appropriate sexual health measures in both countries. Here we use a sample of 1008 British backpackers to explore sexual activity and risk-taking in Australia.

## METHODOLOGY

The study used a cross-sectional convenience-sample design, with a single questionnaire delivered to participants covering basic demographics, travel details (e.g. length of stay), sexual behaviour (number of partners and condom use in Australia, number of partners over 12 months prior to leaving UK) and substance use (alcohol, tobacco, illicit drugs) during and prior to the stay in Australia. The study tool was adapted from a previously validated questionnaire of risk behaviour in holidaymakers [3,9], with questions changed where necessary to account for differences in holiday length and location. Ethical approval was received from the University of New South Wales Human Ethics Committee, and research methods complied with the Helsinki Declaration.

The questionnaire was implemented in Sydney (New South Wales; 28<sup>th</sup> April to 22<sup>nd</sup> November 2005) and Cairns (Queensland; 1<sup>st</sup> to 6<sup>th</sup> August 2005). In both locations, the sample was recruited at backpacker hostels on a convenience basis. A full list of hostels in each study area was identified through local telephone directories. Hostels

within the study areas were contacted by telephone and arrangements for study participation made on an opportunistic basis. Inclusion criteria for backpackers in the study were being a UK national; aged 18 to 35; and having been in Australia for at least two weeks. Trained researchers approached all potential participants opportunistically, identified their match to inclusion criteria and for those meeting the criteria, asked if they had time to complete a short questionnaire. Those who assented were provided with an explanation of the study, assured of the survey's anonymity and reimbursed AU\$10 for their time; informed consent was recorded and compliance was 90.8% (n=1012 out of 1114). Participants were provided with a self-completion questionnaire, pen and plain envelope in which to return the completed questionnaire to researchers. Envelopes were provided to ensure confidentiality and questionnaires were returned to researchers in sealed envelopes immediately after completion. Completed questionnaires were then returned to the UK and entered into SPSS for analysis. Three questionnaires were excluded as responses did not meet survey inclusion criteria for age or period of stay (despite respondents being asked about these prior to participation) and one questionnaire was spoilt (uncompleted and defaced). Analyses were conducted using Chi Square and Wilcoxon Signed Ranks Test, with logistic regression used to control for confounding relationships between variables when examining predictors of sexual behaviour.

## RESULTS

Two thirds (66.2%) of the sample were male, and median age was 23 years. A fifth (20.7%) of respondents had travelled to Australia with a long term partner or spouse (partner). At the point of interview, participants had been in Australia for a median of eight weeks, while median planned length of stay was 25 weeks. Table 1 presents basic demographic features of the sample, length of stay in Australia, and frequency of substance use and nightlife participation in Australia by gender and partner status (arrived with or without a partner). Participants interviewed in Sydney were more likely to be male and single (arrived without a partner). Males and single participants were more likely to have used tobacco and illicit drugs in Australia, and report visiting bars and nightclubs frequently.

Table 2 shows the number of sexual partners reported by participants in the 12 months prior to leaving the UK, and sexual behaviour in Australia, by gender and partner status. Of the total sample, 965 (95.7%) provided information on sexual activity. Almost three quarters (73.2%) had had sex during their stay in Australia, including 68.9% of those who arrived single. Almost half (45.7%) of participants arriving single reported more than one sexual partner since arriving in Australia, as did 17.6% of those originally arriving with a partner. Among single participants who had sex, 40.9% reported not always using a condom and 24.0% had unprotected sex with more than one partner. Males were more likely to report sex without a condom, multiple sexual partners and more partners in the UK prior to their trip. Almost three quarters (70.9%) of those arriving single, and 25.0% of those with a partner, reported more than one sexual partner in the UK in the 12 months prior to their trip. Across all participants, mean number of sexual partners reported per four week period increased from 0.3 in the UK in the twelve months prior to the trip to 1.0 per four week period spent in Australia ( $Z=17.178$ ,  $P<0.001$ ).

**Table 1: Characteristics of backpackers visiting Australia stratified by gender and partner status**

|   | Males<br>% (n) | Females<br>% (n) | P <sup>1</sup> | Partner <sup>2</sup><br>% (n) | No Partner<br>% (n) | P   | Total<br>% (n) |
|---|----------------|------------------|----------------|-------------------------------|---------------------|-----|----------------|
| <b>Survey area</b>                                      |                |                  |                |                               |                     |     |                |
| <i>Sydney</i>   | 76.6 (511)     | 69.7 (237)       |                | 66.3 (136)                    | 77.4 (608)          |     | 74.3 (749)     |
| <i>Cairns</i>   | 23.4 (156)     | 30.3 (103)       | **             | 33.7 (69)                     | 22.6 (178)          | **  | 25.7 (259)     |
| <b>Age</b>  |                |                  |                |                               |                     |     |                |
| <i>18 to 20</i>   | 20.7 (138)     | 17.6 (60)        |                | 12.2 (25)                     | 21.8 (171)          |     | 19.6 (198)     |
| <i>21 to 24</i>   | 42.4 (283)     | 51.2 (174)       |                | 50.2 (103)                    | 44.3 (348)          |     | 45.3 (457)     |
| <i>25 to 35</i>   | 36.9 (246)     | 31.2 (106)       | **             | 37.6 (77)                     | 34.0 (267)          | **  | 35.0 (353)     |
| <b>Stay to date (weeks)</b>                             |                |                  |                |                               |                     |     |                |
| <i>2 to 4</i>   | 32.2 (215)     | 36.5 (124)       |                | 35.1 (72)                     | 33.3 (262)          |     | 33.6 (339)     |
| <i>&gt;4 to 12</i>                                      | 31.5 (210)     | 30.9 (105)       |                | 27.3 (56)                     | 32.7 (257)          |     | 31.3 (316)     |
| <i>&gt;12</i>   | 36.3 (242)     | 32.6 (111)       | ns             | 37.6 (77)                     | 34.0 (267)          | ns  | 35.0 (353)     |
| <b>Total expected stay (weeks)</b>                      |                |                  |                |                               |                     |     |                |
| <i>2 to 12</i>  | 27.5 (178)     | 37.2 (124)       |                | 36.6 (74)                     | 29.3 (224)          |     | 30.8 (302)     |
| <i>&gt;12 to 40</i>                                     | 36.9 (239)     | 36.0 (120)       |                | 36.6 (74)                     | 36.4 (278)          |     | 36.6 (359)     |
| <i>&gt;40</i>   | 35.6 (231)     | 26.7 (89)        | **             | 26.7 (54)                     | 34.3 (262)          | ns  | 32.7 (321)     |
| <b>Nights visiting bars/clubs per week in Australia</b> |                |                  |                |                               |                     |     |                |
| <i>Once a week or less</i>                              | 16.5 (104)     | 26.2 (83)        |                | 29.2 (56)                     | 16.9 (126)          |     | 19.7 (187)     |
| <i>2 to 4</i>   | 69.2 (435)     | 62.8 (199)       |                | 60.9 (117)                    | 69.0 (513)          |     | 67.1 (635)     |
| <i>5 or more</i>  | 14.3 (90)      | 11.0 (35)        | **             | 9.9 (19)                      | 14.1 (105)          | *** | 13.2 (125)     |
| <b>% using substances in Australia<sup>3</sup></b>      |                |                  |                |                               |                     |     |                |
| <i>Alcohol</i>  | 98.5 (656)     | 96.8 (328)       | ns             | 96.6 (198)                    | 98.3 (771)          | ns  | 97.9 (985)     |
| <i>Tobacco</i>  | 64.7 (431)     | 56.3 (191)       | *              | 53.7 (110)                    | 64.4 (505)          | **  | 61.9 (623)     |
| <i>Illicit drugs</i>                                    | 60.7 (404)     | 44.0 (149)       | ***            | 39.0 (80)                     | 59.7 (468)          | *** | 55.0 (553)     |

<sup>1</sup> P values, \* P<0.05, \*\*P<0.01, \*\*\*P<0.001

<sup>2</sup> Partner indicates individuals arriving in Australia already with a partner

<sup>3</sup> Percentages relate to those who have used substances at any time during their stay in Australia. Data on frequency of substance use in Australia have been published elsewhere (16)

**Table 2: Sexual behaviour of British backpackers visiting Australia stratified by gender and partner status**

|   | Males<br>% (n) | Females<br>% (n) | P <sup>1</sup> | Partner <sup>2</sup><br>% (n) | No Partner<br>% (n) | P   | Total<br>% (n) |
|---|----------------|------------------|----------------|-------------------------------|---------------------|-----|----------------|
| <b>Number of sexual partners in 12 months before leaving UK</b>                       |                |                  |                |                               |                     |     |                |
| <i>None</i>   | 6.5 (42)       | 10.9 (35)        |                | 5.0 (10)                      | 8.2 (62)            |     | 7.9 (77)       |
| <i>1</i>  | 26.0 (168)     | 41.6 (134)       |                | 70.0 (140)                    | 21.0 (159)          |     | 31.1 (302)     |
| <i>2 to 5</i>   | 46.2 (299)     | 37.9 (122)       |                | 18.5 (37)                     | 50.3 (381)          |     | 43.4 (421)     |
| <i>6 or more</i>  | 21.3 (138)     | 9.6 (31)         | ***            | 6.5 (13)                      | 20.6 (156)          | *** | 17.5 (170)     |
| <b>Number of sexual partners in Australia</b>   |                |                  |                |                               |                     |     |                |
| <i>None</i>   | 26.3 (170)     | 28.0 (89)        |                | 10.1 (20)                     | 31.0 (234)          |     | 26.8 (259)     |
| <i>1</i>  | 30.5 (197)     | 39.6 (126)       |                | 72.4 (144)                    | 23.2 (175)          |     | 33.5 (323)     |
| <i>2 to 5</i>   | 29.9 (193)     | 25.5 (81)        |                | 13.6 (27)                     | 32.6 (246)          |     | 28.5 (275)     |
| <i>6 or more</i>  | 13.3 (86)      | 6.9 (22)         | **             | 4.0 (8)                       | 13.1 (99)           | *** | 11.2 (108)     |
| <b>Of those having sex in Australia, number of sexual partners without condom use</b> |                |                  |                |                               |                     |     |                |
| <i>None</i>   | 53.4 (254)     | 55.5 (127)       |                | 40.2 (72)                     | 59.0 (307)          |     | 54.1 (382)     |
| <i>1</i>  | 23.3 (111)     | 32.3 (74)        |                | 52.5 (94)                     | 16.9 (88)           |     | 26.2 (185)     |
| <i>2 to 5</i>   | 18.5 (88)      | 10.0 (23)        |                | 5.0 (9)                       | 19.4 (101)          |     | 15.7 (111)     |
| <i>6 or more</i>  | 4.8 (23)       | 2.2 (5)          | **             | 2.2 (4)                       | 4.6 (24)            | *** | 4.0 (28)       |

<sup>1</sup> P values, \* P<0.05, \*\*P<0.01, \*\*\*P<0.001

<sup>2</sup> Partner indicates individuals arriving in Australia already with a partner

**Table 3: Adjusted odds ratios for having had sex, having had sex without a condom, and having had more than one sexual partner in Australia**

| Survey Area                                    | Had Sex                          |          | Had sex without a condom <sup>1</sup> |          | Had > 1 sexual partner <sup>1</sup> |          |              |
|--|----------------------------------|----------|---------------------------------------|----------|-------------------------------------|----------|--------------|
|  | AOR                              | (95% CI) | AOR                                   | (95% CI) | AOR                                 | (95% CI) |              |
| Survey Area                                    | <i>Cairns (Ref)</i>              | ***      |                                       |          |                                     |          |              |
|  | <i>Sydney</i>                    | 0.32     | (0.20-0.52)                           | ns       |                                     | ns       |              |
| Age  | <i>25-35 (Ref)</i>               | ns       |                                       | ns       |                                     | ns       |              |
|  | <i>21-24</i>                     |          |                                       |          |                                     |          |              |
|  | <i>18-20</i>                     |          |                                       |          |                                     |          |              |
| Gender   | <i>Female (Ref)</i>              | ns       |                                       | ns       |                                     | ns       |              |
|  | <i>Male</i>                      |          |                                       |          |                                     |          |              |
| Arrived with partner                           | <i>Yes (Ref)</i>                 | ***      |                                       | ***      |                                     | ***      |              |
|  | <i>No</i>                        | 0.13     | (0.07-0.24)                           | 0.42     | (0.29-0.62)                         | 5.43     | (3.18-9.27)  |
| Stay at time of survey (weeks)                 | <i>2 to 4 (Ref)</i>              | ***      |                                       | ns       |                                     | ***      |              |
|  | <i>&gt;4 to 12</i>               | 3.14     | (2.09-4.72)                           |          |                                     | 2.41     | (1.36-4.25)  |
|  | <i>&gt;12</i>                    | 15.28    | (8.90-26.23)                          |          |                                     | 5.11     | (2.71-9.64)  |
| Total planned stay (weeks)                     | <i>2 to 12 (Ref)</i>             | ns       |                                       | **       |                                     | *        |              |
|  | <i>&gt;12 to 40</i>              |          |                                       | 2.05     | (1.34-3.13)                         | 1.32     | (0.74-2.33)  |
|  | <i>&gt;40</i>                    |          |                                       | 2.21     | (1.43-3.42)                         | 2.11     | (1.14-3.91)  |
| Visits to bars/nightclubs per week             | <i>&lt;=1 (Ref)</i>              | ns       |                                       | *        |                                     | *        |              |
|  | <i>2 to 4</i>                    |          |                                       | 0.88     | (0.57-1.36)                         | 1.8      | (1.02-3.16)  |
|  | <i>5 or more</i>                 |          |                                       | 1.66     | (0.92-3.00)                         | 3.09     | (1.44-6.61)  |
| Alcohol use in Australia <sup>2</sup>          | <i>Once a week or less (Ref)</i> | ***      |                                       | ns       |                                     | ns       |              |
|  | <i>2-4 days a week</i>           | 1.93     | (1.09-3.42)                           |          |                                     |          |              |
|  | <i>5+ days a week</i>            | 3.48     | (1.86-6.50)                           |          |                                     |          |              |
| Used tobacco in Australia                      | <i>No (Ref)</i>                  | ns       |                                       | ns       |                                     | ns       |              |
|  | <i>Yes</i>                       |          |                                       |          |                                     |          |              |
| Used illicit drugs in Australia                | <i>No (Ref)</i>                  | **       |                                       | ns       |                                     | ***      |              |
|  | <i>Yes</i>                       | 1.87     | (1.28-2.75)                           |          |                                     | 2.18     | (1.44-3.30)  |
| Sexual partners in UK in 12 months before trip | <i>None (Ref)</i>                | ***      |                                       | ns       |                                     | ***      |              |
|  | <i>1</i>                         | 2.33     | (1.16-4.71)                           |          |                                     | 0.8      | (0.31-2.04)  |
|  | <i>2 to 5</i>                    | 3.01     | (1.52-5.96)                           |          |                                     | 1.39     | (0.57-3.41)  |
|  | <i>6 or more</i>                 | 6.94     | (3.11-15.49)                          |          |                                     | 6.39     | (2.32-17.59) |

<sup>1</sup> Analysis limited to those who had sex in Australia

<sup>2</sup> Once a week or less, 14.7%; 2-4 days a week, 44.1%; 5+ days a week, 41.1%

AOR=Adjusted Odds Ratios; 95%CI=95% confidence intervals. Statistics utilise a stepwise backward conditional logistic regression analysis with variables that are not significant ( $P \geq 0.05$ ) being removed from the model and subsequently the model recalculated. Reference categories for each variable are identified with (Ref). Significance is shown as \*  $P < 0.05$ , \*\*  $P < 0.01$ , \*\*\*  $P < 0.001$ , ns not significant

Logistic regression was used to identify factors independently related to having had sex, sex without a condom, and multiple sexual partners in Australia (Table 3). Participants interviewed in Sydney were less likely to have had sex in Australia, whilst those arriving without a partner were less likely to have had both sex and unprotected sex. However, among those who had sex in Australia, odds of multiple sexual partners were over five times higher in those arriving single. Length of stay in Australia at time of interview was significantly associated with having had sex and having multiple sexual partners, while total planned stay was associated with unprotected sex and multiple sexual partners. Frequently visiting bars or nightclubs (5+ days a week) in Australia increased the odds of unprotected sex and multiple sexual partners, whilst odds of having sex in Australia were three and a half times higher in those who frequently drank alcohol (5+ days a week; c.f. = <once per week). Illicit drug use in Australia was associated with both having sex and having more than one sexual partner. The number of sexual partners reported in the 12 months before leaving the UK to visit Australia was strongly associated with both having sex in Australia and having multiple sexual partners.

## DISCUSSION

British backpackers surveyed here showed elevated levels of sexual activity whilst in Australia, with greater numbers of sexual partners reported during the trip than during equivalent time periods in the UK. Four out of five had arrived in Australia without a partner, yet 68.9% of these had had sex by the time of survey and 45.7% had multiple sexual partners. Even among those arriving with a partner, almost one in five (17.6%) reported more than one sexual partner since arriving in Australia. A number of limitations need to be taken into account when interpreting findings from this study. Sampling took place on a convenience basis, with potential participants approached opportunistically in hostels that permitted researchers to use their premises for data collection. Combined with the lack of information available on the characteristics of backpackers visiting Australia in general, this means we cannot identify how representative participants were of all UK backpackers in Australia. Consequently findings cannot be generalised beyond the sample used in this study. However to minimise bias, all potential participants were approached by researchers and the refusal rate was only 9.2%. This high compliance rate may have been achieved through the provision of a small financial incentive to individuals living on a low budget. With sampling taking place part way through participants' stays in Australia, findings will under-represent levels of sexual activity among backpackers during their total stay; higher numbers of partners were seen among those who had spent longer periods in Australia. Further, as with all surveys of risky behaviour, our study may also have been influenced by under-reporting or exaggeration of sexual behaviour. However, to minimise such effects, we used a methodology that ensured participants were fully informed of the survey's purpose and were assured of confidentiality and anonymity in the data collection process.

Travelling and holidaying has long been associated with sexual risk-taking in young people [1-5]. Research has found that those participating in independent, exploratory and active forms of travel, such as backpacking, show higher sensation seeking traits than those choosing organised, familiar holiday styles [17,18]. This suggests that backpacking appeals to people who are open to experimentation and risk-taking, which may extend to sexual risk-taking. In this study, 40.9% of 'single' sexually-active backpackers did not consistently use condoms in Australia, and 24.0% had



unprotected sex with multiple partners. Location of travel can be fundamental to perceptions of risk, and travellers with high sensation seeking traits have been found to view Australia as a less risky location than other countries [17]. This perception may also translate to backpackers' judgement of the risks of sexual activity in Australia. Thus, while British travellers may hold reservations about having new sexual partners in, for example, Africa or Asia, they may perceive the travelling and local populations in Australia to be similar to those at home, thereby reducing their risk perceptions of sexual activity here.

Consistent with other research [3,11], this study found that backpackers who are most sexually active at home are also more sexually active abroad (Table 3). Other studies have found sexual expectations of a backpacking experience and a history of unsafe sex to also be influencing factors in sexual behaviour [11]. Importantly, here both length of stay at time of survey and total planned stay were associated with risky sexual behaviour. Odds of sex without a condom were twice as high in those planning to stay in Australia over 12 weeks; odds of multiple sexual partners were five times higher in those who had already been in Australia over 12 weeks. The backpacking experience may itself engender a more experimental, less consequence-driven attitude towards sexual activity that develops with length of travel and increased socialisation with other backpackers. This indicates that backpackers, particularly those planning longer stays, are at elevated risk of STIs and other negative sexual health outcomes, even at the outset of their journey. Therefore, this is a key time to target backpackers with sexual health promotion messages via, for example, backpacker guide books, websites and medical services used in preparation for their journey [19]. With perceived norms of peer sexual behaviour impacting on young people's own behaviour [20], such information should stress that most backpackers having sex with new partners abroad routinely use condoms (here 59.0% of 'single' backpackers having sex).

Sexual risk-taking is compounded by the social aspects of backpacking. Odds of having sex in Australia were 3.5 times higher in those who drank five or more times per week (c.f.  $\leq$ once per week) (Table 3). The influence of alcohol on sexual behaviour has been widely documented [21,22]. Research elsewhere has found alcohol use to be one of the reasons most cited by backpackers for engaging in casual sex [11]. In our study, illicit drug use in Australia was also independently related to having sex and multiple sexual partners in Australia (Table 3). It is unknown if substance use and sexual activity occurred simultaneously among backpackers, and survey findings cannot establish cause or effect. However sensation-seekers have been found to be particularly susceptible to alcohol's disinhibitory effects [23], **while substances may be used specifically by individuals to excuse or enable behaviour they intend to adopt**. Thus both alcohol and drugs are used by young people to increase social confidence, facilitate sexual relationships and enhance sexual experiences [21,24] and these functions may be particularly pertinent to backpackers who typically form short-lived yet intense relationships while travelling [25]. Previously published work shows British backpackers increase their frequency of alcohol use in Australia (c.f. UK), and over half use illicit drugs [16]. Much substance use occurs in nightlife and here regularly visiting bars/nightclubs in Australia was associated with multiple sexual partners and unprotected sex. Thus, such locations would appear appropriate for targeting sexual health interventions at backpackers, including distributing health promotion literature and free condoms, and advertising sexual health services. Sexual health promotion campaigns **have been** directed at

backpackers in parts of Australia [12]. However, local campaigns alone may have minimal impact on sexual risk-taking behaviour or STI diagnoses in such transient populations. Outreach services may be important as they are frequently more effective with hard to reach groups [26]. Further, the key role of hostels in backpackers' social interaction and trip planning [27] suggests these settings would be critical locations for sexual health interventions, and their staff important partners in sexual health promotion.

Overall, four in ten backpackers had more than one sexual partner in Australia by the point of survey. These findings, and those from other studies [11,12], suggest that many backpackers have casual sexual relationships, predominantly with other backpackers [11], that are likely to be in close succession. High rates of partner change [28] along with unsafe sexual practices create an ideal environment for STIs to rapidly spread. STIs are often asymptomatic and where backpackers do seek treatment, engaging their partners directly may prove difficult. However, those who seek testing and treatment for STIs may be a key population to adopt or pilot a patient expedited method of partner treatment (EPT). EPT is where a sexual partner of an infected person is treated without testing or medical consultation, usually through patient-delivered partner therapy (PDPT). Evidence suggests these strategies can lower re-infection rates [29,30] and reduce the likelihood of patients re-establishing sexual relationships with an untreated partner [31]. **While not all sexual partners will be contactable, backpackers can spend prolonged periods in a single location and social group; especially when they are seeking employment to refinance their travel. Further, backpackers' prolific use of mobile phones, email and other online resources (e.g. online backpacker networks) [32] means that although some liaisons may be brief, they have more opportunities than ever before of experiencing prolonged social relationships, maintaining communication, or reconnecting with a previous sexual contact.** There is currently little evidence on the effectiveness of PDPT in travelling populations, yet faced with such a challenging group, this (where possible) may be a pragmatic approach.

Addressing risky sexual behaviour in backpackers can only be achieved through a joint health promotion strategy between health services, local authorities, tourism organisations and other relevant organisations. Limited information exists on backpacker websites or guidebooks to highlight the sexual risks facing backpackers on their travels. Without these public health messages, people preparing to travel may not consider the provisions they will need for safe sex, for seeking sexual health services (e.g. emergency hormonal contraception, condoms, STI tests) whilst abroad or the sexual risks associated with alcohol and drug use on their journey. Regardless of the casual manner in which young people can plan and undertake backpacking tourism, it is nonetheless a profitable and growing industry. Like any industry it has a responsibility for the safety of those participating in it and this should include a commitment to protecting sexual health.

## **KEY MESSAGES**

- Increasing numbers of young people are taking long-stay backpacking trips abroad, yet little is known about their sexual behaviour whilst away from home.
- Most backpackers we surveyed had formed at least one new sexual relationship while backpacking in Australia, and many had not consistently used condoms.
- High rates of partner change and unsafe sexual practices create an ideal environment for STIs to rapidly spread among this transient population.
- Collaborative approaches between backpackers' home and destination countries are required to protect their sexual health. Information on safe sex and service access should begin before backpackers leave home and be reinforced while they travel.

## **ACKNOWLEDGEMENTS**

We would like to thank Peter Gates, Etty Matalon, Rajinder Kaur, Damien Giurco, Tara Showyin, Lucinda Wedgwood, Jennifer Siegel, Tess Fitzhardinge and Bridget Callaghan for their assistance and support. We would also like to thank the British backpackers who took the time to complete the survey.

## **COMPETING INTERESTS**

None

## **FUNDING**

The research was supported by funds from the Higher Education Funding Council for England.

## **AUTHOR CONTRIBUTIONS**

KH designed and developed the study, analysed the data and wrote the manuscript. JD co-wrote the manuscript. MAB designed and developed the study and edited the manuscript. PD developed the study, managed the research and edited the manuscript. JC developed the study and edited the manuscript.

## **COPYRIGHT STATEMENT**

“The Corresponding Author has the right to grant on behalf of all authors and does grant on behalf of all authors, an exclusive licence (or non-exclusive for government employees) on a worldwide basis to the BMJ Publishing Group Ltd and its Licensees to permit this article (if accepted) to be published in Sexually Transmitted Infections and any other BMJ PGL products to exploit all subsidiary rights, as set out in our licence (<http://sextrans.bmj.com/ifora/licence.pdf>).”

**WORD COUNT:** 2722

## REFERENCES

1. Eiser JR, Ford N. Sexual relationships on holiday: a case of situational disinhibition? *J S Pers Relat* 1995;**12**:323-29.
2. Maticka-Tyndale E, Herold ES, Oppermann M. Casual sex among Australian schoolies. *J Sex Res* 2003;**40**:158-69.
3. Bellis MA, Hughes K, Thomson R, *et al.* Sexual behaviour of young people in international tourist resorts. *Sex Transm Infect* 2004;**80**:43-47.
4. Batalla-Duran E, Oakeshott P, Hay P. Sun, sea and sex? Sexual behaviour of people on holiday in Tenerife. *Fam Pract* 2003;**20**:493-94.
5. Sonmez S, Apostolopoulos Y, Ho Yu C, *et al.* Binge drinking and casual sex on spring break. *Ann Tourism Res* 2006;**33**:895-917.
6. Mercer CH, Fenton KA, Wellings K, *et al.* Sex partner acquisition while overseas: results from a British national probability survey. *Sex Transm Inf* 2007;**83**:517-22.
7. Wellings K, Macdowall W, Catchpole M, *et al.* Seasonal variations in sexual activity and their implications for sexual health promotion. *J R Soc Med* 1999;**92**:60-4.
8. Apostolopoulos Y, Sönmez S, Yu CH. HIV-risk behaviours of American spring break vacationers: a case of situational disinhibition? *Int J STD AIDS* 2002;**13**:733-43.
9. Bellis MA, Hughes K, Bennett A, *et al.* The role of an international nightlife resort in the proliferation of recreational drugs. *Addiction* 2003;**98**:1713-21.
10. Bellis MA, Hughes K, Calafat A, *et al.* Relative contributions of holiday location and nationality to changes in recreational drug taking behaviour: a natural experiment in the Balearic Islands. *Eur Addict Res* 2009;**15**:75-86.
11. Egan CE. Sexual behaviours, condom use and factors influencing casual sex among backpackers and other young international travellers. *Can J Hum Sex* 2001;**10**:41-58.
12. Yallop S, Murray C, Egan C, *et al.* *Safe in the sack – backpackers’ sexual health project.* Sydney: FPA Health 2005.
13. Tourism Research Australia. Backpackers in Australia. Belconnen, ACT: Tourism Research Australia 2008.  
[http://www.tra.australia.com/content/documents/Snapshots/2008/BackPacker\\_07\\_FIN\\_AL.pdf](http://www.tra.australia.com/content/documents/Snapshots/2008/BackPacker_07_FIN_AL.pdf), accessed 4th March 2009.
14. Health Protection Agency. Selected STI diagnoses made at GUM clinics in the UK 1998-2007.  
[http://www.hpa.org.uk/web/HPAwebFile/HPAweb\\_C/1215589014186](http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1215589014186), accessed 9<sup>th</sup> March 2009.

15. Australian Government Department of Health and Ageing. National Notifiable Diseases Surveillance System. <http://www9.health.gov.au/cda/Source/CDA-index.cfm>, accessed 9<sup>th</sup> March 2009.
16. Bellis MA, Hughes KE, Dillon P, *et al.* Effects of backpacking holidays in Australia on alcohol, tobacco and drug use of UK residents. *BMC Public Health* 2007;**7**:1.
17. Leppa A, Gibson H. Sensation seeking and tourism: tourist role, perception of risk and destination choice. *Tourism Manage* 2008;**29**:740-50.
18. Pizam A, Jeong G, Reichel A, *et al.* The relationship between risk-taking, sensation-seeking, and the tourist behavior of young adults: a cross-cultural study. *J Travel Res* 2004;**42**:251-60.
19. Crougns M, Van Gompel A, de Boer E, *et al.* Sexual risk behaviour of travelers who consulted a pretravel clinic. *J Travel Med* 2008;**15**:6-12.
20. Potard C, Courtois R, Rusch E. The influence of peers on risky sexual behaviour during adolescence. *Eur J Contracep Repr* 2008;**13**:264-70.
21. Bellis MA, Hughes K, Calafat A, *et al.* Sexual uses of alcohol and drugs and the associated health risks: A cross sectional study of young people in nine European cities. *BMC Public Health* 2008;**8**:155.
22. Donaldson L, Jewell T, McBride M. *Draft guidance on the consumption of alcohol by children and young people from the Chief Medical Officers of England, Wales and Northern Ireland.* London: Department of Health, 2009.
23. Fillmore MT, Ostling EW, Martin CA, *et al.* Acute effects of alcohol on inhibitory control and information processing in high and low sensation-seekers. *Drug Alcohol Depend* 2009;**100**:91-9.
24. Sumnall HR, Beynon CM, Conchie SM, *et al.* An investigation of the subjective experiences of sex after alcohol or drug intoxication. *J Psychopharmacol* 2007;**21**:525-37.
25. Murphy L. Exploring the social interactions of backpacker travelers. *Ann Tourism Res* 2001;**28**:50-67.
26. National Institute for Health and Clinical Excellence. *One to one interventions to reduce the transmission of sexually transmitted infections (STIS) including HIV, and to reduce the rate of under 18 conceptions, especially among vulnerable and at risk groups.* London: National Institute for Health and Clinical Excellence, 2007.
27. Murphy L. Exploring social interactions of backpackers. *Ann Tourism Res* 2000;**28**:50-67.
28. Foxman B, Newman M, Percha B, *et al.* Measures of sexual partnerships: lengths, gaps, overlaps, and sexually transmitted infection. *Sex Transm Dis* 2006;**33**:209-14.

29. Kissinger P, Mohammed H, Richardson-Alston G, *et al.* Patient-delivered partner treatment for male urethritis: a randomized, controlled trial, *Clin Infect Dis* 2005;**41**:623-29
30. Klausner JD, Chaw JK. Patient-delivered therapy for chlamydia: putting research into practice. *Sex Transm Dis* 2003;**30**:509-11.
31. Golden MR, Whittington WLH, Hunter Handsfield H, *et al.* Effects of expedited treatment of sex partners on recurrent or persistent gonorrhea or chlamydial infection, *N Engl J Med* 2005;**327**:676-85.
32. Mascheroni G. Global nomads' network and mobile sociality: exploring new media uses on the move. *Information, Communication and Society*