THE HEALTH OF MANITOBA TRIBAL NATIONS: ADULTS 18 YEARS AND OLDER, 2002 -2003

BRENDA ELIAS

MADELYN HALL

LYNA HART

JAVIER MIGNONE

SAY HONG

GARRY MUNRO

April 2011

Manitoba First Nations Centre for Aboriginal Health Research, University of Manitoba,

Winnipeg Manitoba (Canada)

CIHR funded HOA 80062

Copies of the report are available at: http://www.umanitoba.ca/centres/cahr

UNIVERSITY OF MANITOBA

MANITOBA FIRST NATIONS CENTRE for ABORIGINAL HEALTH RESEARCH

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Table of Contents

Background

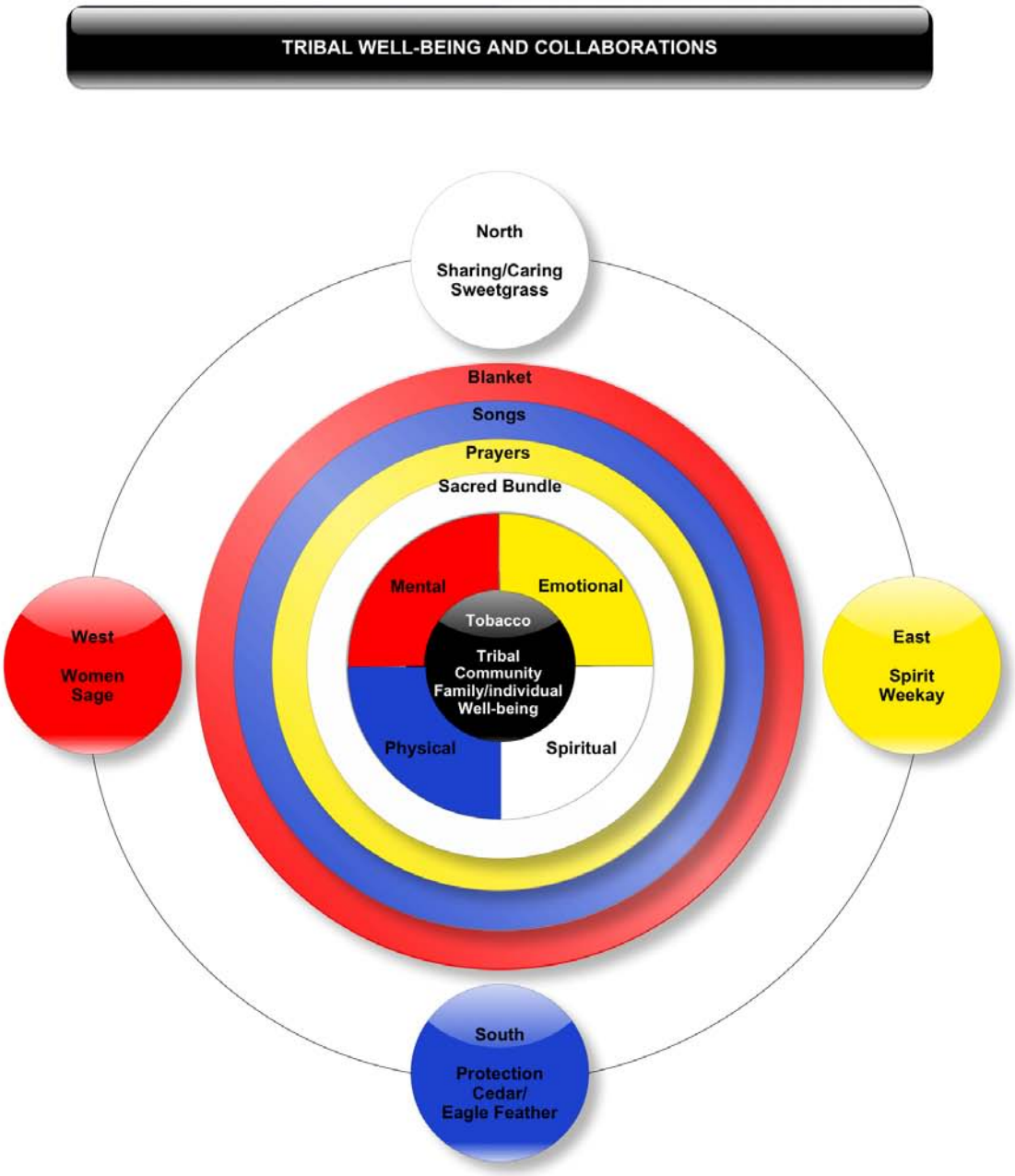
In 2006, the Assembly of Manitoba Chiefs in partnership with the Manitoba First Nations Centre for Aboriginal Health Research (MFN-CAHR) launched its second report on the health of Manitoba First Nations communities. The report identified disparities and wellness indicators among children, youth and adults. The report here presented, following the format of the first 1997 report, focuses instead on tribal differences, specifically differences in the health and well-being of adults 18 years and older. The reason for adults only is that the second survey had limited data collection dollars and additional funding secured by Dr. Elias (and colleagues) made it possible to collect a larger sample in the participating communities for the targeted adult on-reserve population. This investment has made it possible for us to inform tribal nations on the health of their nation, as well as engage tribal nations in discussing potential causes of health disparities and factors associated with wellness. The breadth of the data in this report will also help inform tribal-level and regional-level policies and programs, and when used in traditional round table discussions, will build capacity in the interpretation of health indicators at the tribal level.

The way we have presented the findings are a purposeful attempt to focus the discussion on the state of wellness in First Nations tribal areas. The first graphs embrace the First Nation perspective of wellness, and the following graphs explore wellness from the four aspects – physical, mental, emotional and spiritual. A tribal area analysis of these indicators illustrates that differences exist but the reasons are not readily transparent. The following sections illustrate where regions face greater challenges while others do not, thus suggesting possible reasons for lower scores of holistic health. This approach, as noted was purposeful as it helps frame the possibilities for tribal collaborations to discover why some tribal areas fair better than others.

The following collaboration model, developed by Hart, Elias and Hall (2010), illustrates a potential framework on how tribal areas can work collaboratively in the interpretation of these results. In this model, solutions are generated in First Nations space guided by traditions representing north, south, east and west to advance the mental, emotional, physical and spiritual health of their community members.

Cover Art: 4 WOMEN FACING 4 DIRECTIONS

"4 women facing 4 directions with the turtle and full moon above, and outside is the sun - giver of life as are women. Water flows from the turtle, with water representing life. Women are traditionally the water keepers. Two flows of water represent connecting, claiming health." (Artist Jackie Traverse)



The ***Tribal Well-Being and Collaborations*** model represents a *Blanket* which holds *Songs* to call the people from all four directions, *Prayers* and other gifts in the *Sacred Bundle*, such as knowledge, feelings and thoughts to envelop the four aspects of Well-Being: *physical, emotional, mental* and *spirtual.*

The model is useful for engaging Manitoba Tribal areas in discussions of how one area fares in comparison to others on measures of health and wellness such as health conditions (diabetes, hypertension, arthritis, etc.), health behaviors (i.e. physical activity, dietary practices and substance use), emotional health (anxiety, depression, etc.), and use of primary health services (physician visits, preventive measures, etc., and barriers to access of health services). Interpretation of the evidence-informed results of these analyses will allow Tribal areas to more clearly describe health disparities and the need for appropriate policies and programs for enhancing health and well-being. Tribal areas will have the opportunity for knowledge-generating collaboration through sharing stories of effective strategies, similar to the practice of sharing a sacred bundle by spreading out gifts on a ceremonial blanket.

Report Objectives

- To inform Tribal Nations on the health of their Nation
- To inform Tribal-level and regional-level policies and programs
- To build capacity in the interpretation of health indicators at the Tribal level
- To engage Tribal Nations in discussion of potential causes of health disparities

Methodology

Data source

In partnership with the Assembly of Manitoba Chiefs, MFN-CAHR initiated in 2002 the second wave of the Manitoba regional component of the national First Nations Regional Longitudinal Health Survey (MFNRLHS). The national-regional survey is comprised of three independent surveys. Each survey includes a national core set of questions asked in ten provincial and territorial regions Canada. For Manitoba, a supplemental regional set of theoretically-informed questions was developed to address critical social determinants and health areas not collected in the national sample (e.g., social capital, cultural continuity, spirituality, economic insecurity, discrimination, mental health, health behaviours, protective factors, and health status). The survey provides cross-sectional estimates of health determinants, health status and health system utilization for children, youth and adults.

A multi-stage stratified random sampling approach (tribal community affiliation and community size) was used to select a representative sample of Manitoba on-reserve First Nations (FN) communities. Small (pop. < 500), medium (pop. 500 - 999), and large communities (pop. > 1000) were randomly selected from seven Tribal Council areas. Independent or Unaffiliated communities in 2002/2003 were included with the Tribal area with which they were most closely aligned geographically at that time. Specifically, two Independent communities were included with the Keewatin Tribal Council Inc., and one each was included with the Swampy Cree Tribal Council Inc., the South East Resource Development Council Corp., Interlake Reserves Tribal Council Inc., and West Region Tribal Council Inc. Island Lake Tribal Council Inc. and Dakota Ojibway Tribal Council Inc. did not include Independent communities at the time of the survey in 2002.

The sample in each community was stratified by age and sex (Child survey: 0-11 years, Youth survey: 12 - 17 yrs, Adult survey: 18 - 54 yrs and 55 yrs and over). The survey was implemented in 27 communities for the Adult survey, and 28 communities for the Youth and Child surveys.

In each community, interviewers randomly selected households and interviewed, where possible, two adults living in the household (1 male and 1 female) and all adults age 55 years and older. In each household, one child or youth under 18 years of age was selected. All respondents aged 14 and over provided written consent and a legal guardian consented for youth and children under the age of 14. Interviewers administered the survey to adults and youth, and a primary caregiver answered on behalf of the child (proxy interview).

This study uses data from the 2002/2003 Adult survey, which achieved a response rate of 77% from 27 communities, with 60% of the communities achieving a response rate of over 80%. After data cleaning, the dataset contained records for 3109 individuals with slightly more adult females than males (*NF*=1707, or 55%; *NM*=1402, or 45%). The sample size of the Adult survey is therefore sufficiently large to provide community level data.

The sample size for the MFNRLHS was enhanced through funding by the Canadian Institutes of Health Research. Development of the survey data and the analyses reported on here were also funded by the Canadian Institutes of Health Research, through the project titled “Manitoba First Nations Health Report Card: A Collaborative Network Project to Understand Health Disparities” (CIHR #HOA-80062).

Measures

For this report, items were selected from the Adult MFNRLHS survey dataset to describe each Tribal Council area’s health characteristics. These included measures of Well-being, Health Status, Health Behaviors, Emotional Health, Use of Primary Care Services, and perceived Barriers to Accessing Health Services.

Characteristics of W*ell-being* included happiness, based on the question, “In general, would you say you are… ‘extremely happy and delighted in life’, ‘generally happy and interested in life’, ‘somewhat happy’, ‘generally unhappy with little interest in life’, or ‘feeling so unhappy that life is not worthwhile’?”. Responses of extremely or generally happy were collapsed as a positive (Yes) response and the others were collapsed as negative (No). A question asking, “How often do you feel that you are in balance in the four aspects of your life?” yielded responses ‘all of the time’, ‘most of the time’, ‘some of the time’, and ‘almost none of the time’ for physical, emotional, mental and spiritual aspects of balance. Responses for all and most of the time were combined as feeling in balance, and some or almost none of the time were combined not feeling in balance.

Health Status measures included ‘Have you been told that you have…” diabetes (Yes/No); and for those who said “Yes”, whether their diabetes had affected their vision

(Yes/No), kidney functioning (Yes/No), heart (Yes/No), circulation (Yes/No), feeling in hands or feet (Yes/No), lower limbs (Yes/No), or resulted in infections (Yes/No) or amputations (Yes/No). Other chronic health conditions measured included “Have you been told that you have…” high blood pressure (Yes/No), heart disease (Yes/No), arthritis and/or rheumatism (Yes/No), or asthma (Yes/No). Obesity (body mass index (BMI) ≥ 30) and overweight (BMI ≥25 but <30) were based on calculations of self-reported weight in kilograms and height in meters squared (e.g., weight divided by height^2). Lastly, a measure of disability, or activity limitation, was based on the question “Are you limited in the kinds or amount of activity you do at home, at school or work, or in other situations (i.e., at leisure or while travelling) because of a physical or mental condition or health problem?” (Yes, often or sometimes, versus No).

Measures of *Health Behaviors* included level of physical activity based on a question asking, “In a typical week, how much time do you participate in any kind of physical activity (either at work, school, home or leisure) that results in an increase in your heart rate and breathing?” Moderate physical activity was defined as 1 – 2 hours per week, Vigorous activity was defined as 3 or more hours per week, and No physical activity was defined by the response ‘none’. Other health behaviours included a variety of activities from the question, “Which activities have you participated in during the last 12 months?” The list of twenty-one activities included walking (Yes/No) and dancing (aerobic, traditional, modern, etc.) (Yes/No). Responses for bicycle riding, aerobics, running, hiking, skating, rollerblading, golf, bowling, skiing, swimming, snow-shoeing, skateboarding, hockey, basketball, baseball or volleyball (Yes/No for each) were collapsed as a single variable called recreational activities. Similarly, responses for hunting, trapping, fishing, canoeing, berry picking or other food gathering (Yes/No for each) were collapsed as a single variable called traditional activities.

Also included with health behaviours were measures of dietary practices such as consumption of dairy, protein, fruits and vegetables, and carbohydrates. These were derived from a question asking, “On average, how often do you eat the following foods?” Choices included ‘never or hardly ever’, ‘less than once a week’, or ‘a few times a week’, which were collapsed as negative responses, and ‘once a day’, or ‘several times a day’, which were collapsed as positive responses. Responses for milk, cheese or yogurt were grouped as dairy; fish, poultry, beef or pork were grouped as protein; both fresh and frozen vegetables and fresh and frozen fruit were grouped as fruits and vegetables; and rice, pasta, white, brown or rye bread, and bannock were grouped as carbohydrates.

A measure of positive dietary changes was based on a question asking, “In the last year, have you made any of the following changes to your diet?” A total score of 12 was derived from positive (Yes) responses to eating *less* meat, salt, fried bannock,

baked bannock, fat, sugar, cakes, pies, cookies, junk food (potato chips, etc.), fried food, candy or drinking less pop, and eating *more* fruits and vegetables.

Health behavioural measures of substance use included current cigarette smoking (Yes/No), drinking alcohol once a month or more during the last twelve months (Yes/No), and binge drinking (Yes/No, having 5 or more drinks on one occasion once a month or more in the last twelve months). Measures of drug use included use of prescription drugs in the last twelve months without a prescription (Yes/No for sedatives, codeine, morphine or opiates such as Percodan or Tylenol 3, etc.), use of marijuana in the last twelve months (Yes/No), using illegal drugs in the last twelve months (Yes/No for PCP, Angel dust, acid, amphetamines, ecstasy, cocaine, crack, freebase, heroin), and a single measure of the combined use of marijuana and illegal drugs (as defined above) in the last twelve months (Yes/No). A measure of polysubstance use in the last twelve months (Yes/No) was derived from combined responses for two or more of current cigarette smoking, binge drinking (defined above) and illegal drug use (defined above).

Characteristics of *Emotional Health* included measures of emotional difficulties. A measure of stress was derived from the question, “As a whole, would you describe your life as… (very, fairly, not very, not at all) stressful.” Responses of very and fairly were collapsed as ‘Yes’, and not very and not at all were collapsed as ‘No’. Measures of anxiety, depression, and sleeping difficulties were derived from a question listing health conditions (Yes/No) experienced during the last twelve months. Other emotional difficulties were drawn from a question asking respondents to state how they felt ‘all of the time’, ‘most of the time’, some of the time’ or ‘none of the time’. Statements included: “It takes some effort to keep my feelings under control”, “I have trouble concentrating”, and “I feel somewhat withdrawn or quiet”. Positive (Yes) responses were either all or most of the time, and negative (No) responses were either some or none of the time.

Emotional health measures also included traumatic experiences over the lifetime, specifically, suicide thoughts (Yes/No, “Have you ever thought about committing suicide?”), and suicide attempts (Yes/No, “Have you ever attempted suicide?”). A traumatic lifetime experience of abuse was based on a question asking, “Have you ever experienced any form of physical, mental, emotional or sexual abuse or violence, either as a child, in an adult relationship, or at any other time?” (Yes/No).

Use of *Primary Health Services* was measured by items dealing with physician care, specifically, having ‘care from the same physician at least four of the last five years’ (Yes/No) and reporting that the doctor ‘always spends enough time talking about health’ (Yes/No). The question, “In the past 12 months have you had any of the following tests or examinations…” yielded responses (Yes/No) for each of complete physical

examination, blood pressure test, cholesterol test, blood sugar test, rectal exam. Health prevention measures included having had a mammogram test in the last five years (Yes/No), a breast self-exam at least every two to three months (Yes/No), and a PAP smear test in the last twelve months (Yes/No); and, for both women and men, having had a vision or eye exam in the past twelve months (Yes/No). Preventive measures also included questions about vaccinations in the past year for influenza (Yes/No) and for pneumonia (Yes/No), and encouragement from a health professional to be vaccinated: "Has a health professional ever told you that you should get vaccinated (e.g., get a needle) against the flu or pneumonia?" (Yes/No).

Survey items assessing *Barriers to Access of Health Services* included "How would you rate the level of access to health services available to you compared to Canadians generally?" (Same or better versus Less), and various issues relating to barriers receiving health care in the last twelve months: 'doctor or nurse not available in my area' (Yes/No), 'waiting list too long' (Yes/No), and 'not covered by Non-insured Health Benefits, e.g., service, medication, equipment (Yes/No). Poor treatment received from health professionals in the last few contacts (Yes/No) was assessed for contacts both inside the community and outside the community, as was ever being 'treated poorly by health care professionals or staff while you were a patient in hospital or while you were visiting someone in a hospital' (Yes/No).

Data Weighting and Analyses

The MFNRLHS data was weighted in order to be representative of actual age/sex groups in the participating communities. Weighting utilized the 2002 Indian and Northern Affairs Canada registry population figures as the denominator, in age/sex groups by community. The final weighting was based on individual probability of inclusion among all households in all communities in a Tribal Council.

All estimates and confidence intervals (95% CI) reported here were calculated using these sampling weights, with results produced by SUDAAN statistical software (Version 10, Research Triangle Institute, Research Triangle Park, NC) to adjust for survey design effects.

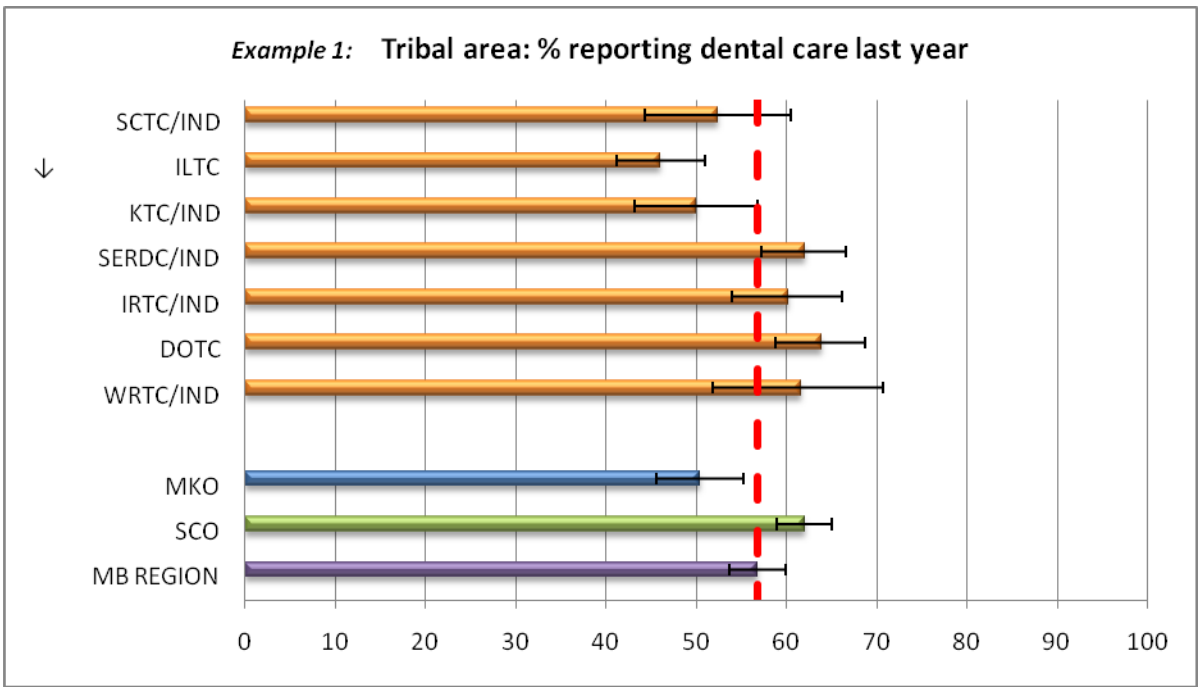
Estimates were produced for the total region of Manitoba (all participating communities combined), for each of the two FN organizations, Manitoba Keewatinowi Okimikanak (MKO) representing northern Manitoba FN communities and the Southern Chiefs Organization (SCO) representing southern Manitoba FN communities, and by each of the seven Tribal areas: Swampy Cree Tribal Council Inc. and Independent communities (SCTC/IND), Island Lake Tribal Council Inc. (ILTC), Keewatin Tribal Council Inc. and Independent communities (KTC/IND), South East Resource Development Council Corp.

and Independent communities (SERDC/IND), Interlake Reserves Tribal Council Inc. and Independent communities (IRTC/IND), Dakota Ojibway Tribal Council Inc. (DOTC), and West Region Tribal Council Inc. and Independent communities (WRTC/IND).

Percentages reported throughout the report are rounded up (point 5 or greater) to the nearest whole number.

Interpreting the Graphs

The graphs used throughout this report provide a visual representation of the key concepts used to measure the health of Manitoba First Nations Tribal Council areas. The order of Tribal Council areas is consistent in all of the figures, from SCTC/IND at the top, followed by ILTC, KTC/IND, SERDC/IND, IRTC/IND, DOTC, and WRTC/IND. At the bottom of each graph are bar lines representing three reference groups for comparison purposes, MKO in blue, SCO in green, and the combined total for all of Manitoba in purple. The index line at the very bottom of the graph generally indicates the percentage score of the specific measure indicated in the title of the graph for each Tribal Council area and reference group. In addition, a vertical line in red highlights the percentage score for all of Manitoba as a comparison point for all the Tribal Council areas and the two FN organizations. As seen in the following *Example 1*, 57% of all Manitoba First Nation adults responding to the survey said they had received dental care in the last year. All of the MKO Tribal Council areas (SCTC/IND, ILTC and KTC/IND) reported levels below the average for the province as a whole, and all SCO Tribal Council areas (SERDC/IND, IRTC/IND, DOTC and WRTC/IND) reported levels of dental care above the provincial average.



The thin black horizontal lines, or error bars, at the right end of each coloured bar represent the confidence interval for the percentage score, in this case representing 95% confidence (95% CI) that the estimate of the percentage score falls within that parameter. Differences in the length of the error bars among the areas indicate differences in sample size and variability across communities. That is, some Tribal Council areas are comprised of more or fewer communities than other areas, some communities are represented by more or fewer individuals, and survey question responses may also be more or less similar across the areas. Longer error bars represent greater variability; shorter bars represent less variability. In cases where the confidence interval for a Tribal Council area does not overlap the confidence interval for Manitoba as a whole, the difference is statistically significant. In *Example 1*, the confidence interval for ILTC falls completely below **(↓)** the confidence interval for all Manitoba, indicating the difference is *significantly lower* ($p \leq .005$) when compared to the Manitoba. On the other hand, if the confidence interval for any area were to fall completely above **(↑)** the confidence interval for all Manitoba, it would indicate a difference that is *significantly higher* when compared to the Manitoba average.

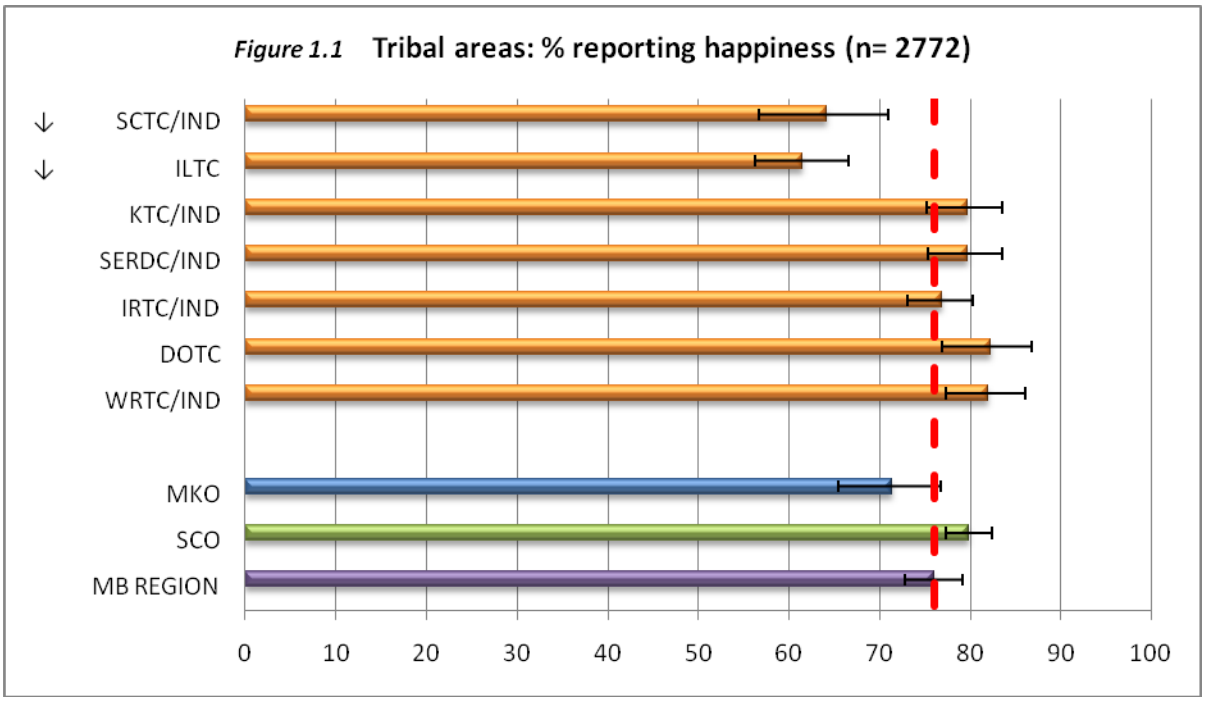
Lastly, the number in brackets following the title of each figure provides the total number of valid responses used to create that specific measure of health. In *Example 1*, the total number of valid responses was 2773 (n = 2773).

Results

Well-being

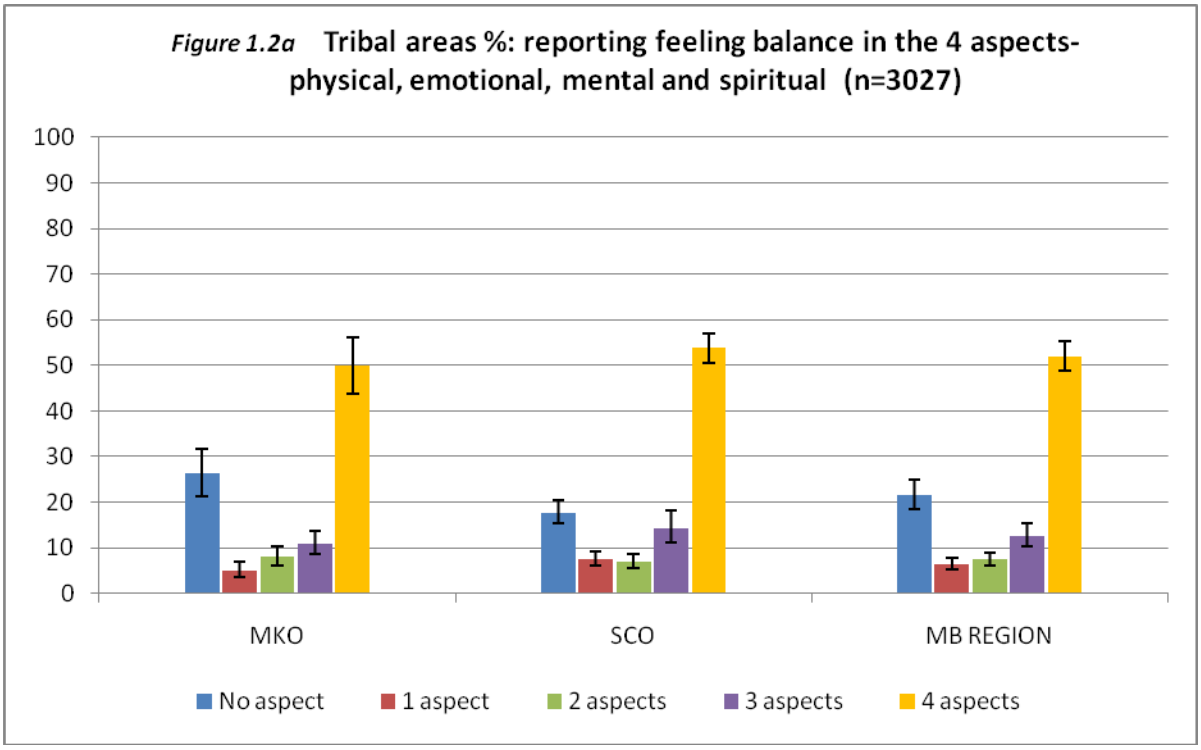
Happiness (Fig. 1.1)

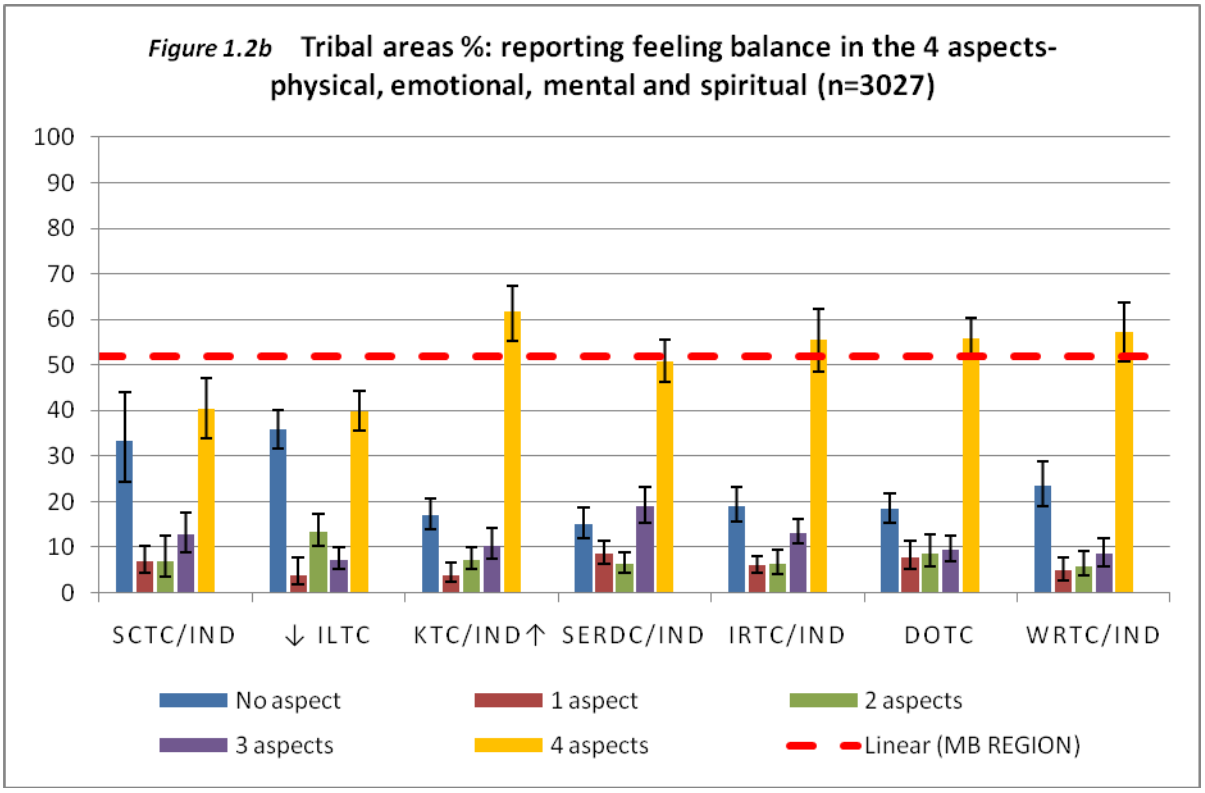
When asked about a general sense of happiness, three-fourths of Manitoba FN survey respondents (76%, with a range from 62% - 82%) reported they were extremely or generally happy and interested in life, as opposed to being somewhat or generally unhappy or so unhappy they felt life was not worthwhile. Slightly more respondents in the south reported high levels of happiness (SCO = 80%) than those in the north (MKO = 71%). Both SCTC/IND and ILTC in the north reported happiness levels that were significantly lower than the Manitoba average of 76%, at 64% and 62% respectively. The exception for Tribal areas in the north was KTC/IND, where happiness was reported at the same level as most of the southern Tribal areas (80%).



Balance

Survey questions asked respondents to report how often they felt in balance, all or most of the time, in the four aspects of their life: physical, emotional, mental and spiritual. In general, slightly more than half of Manitoba FN respondents (52%, with a range from 40% - 62%) reported being in balance on all of the four aspects (*Figs. 1.2a and 1.2b)*. As with the reports of happiness, slightly more SCO respondents reported higher percentages (54%) than the MKO respondents (50%). The total number of aspects of balance reported (none,1, 2, 3 or 4) was also examined. KTC/IND had the most respondents reporting balance in 4 aspects (significant at 62% compared to the overall Manitoba rate of 52%), and ILTC had the most respondents reporting balance in none of the aspects (significant at 36% compared to the overall Manitoba rate of 22%). The average overall feeling in balance in one aspect was 6%, 2 aspects was 7%, and 3 aspects was 13%.





KTC/IND consistently reported higher rates than all of Manitoba on all four of the individual aspects of balance (*Figs. 1.3 – 1.6*): physical balance 72% vs. 66%; emotional balance 76% vs. 68%; mental balance 73% vs. 69%; and spiritual balance 76% vs. 66%; but the difference was statistically significant only for emotional balance. ILTC reported significantly lower rates than the Manitoba average on all four aspects: physical balance 56% vs. 66%; emotional balance 52% vs. 68%; mental balance 50% vs. 69%; and spiritual balance 54% vs. 66%. SCTC/IND also reported significantly lower than average rates for all aspects except emotional balance; physical balance 55% vs. 66%; mental balance 57% vs. 69%; and spiritual balance 52% vs. 66%.

Figure 1.3 **Tribal areas: % reporting feeling in physical balance most of the time (n= 3024)**

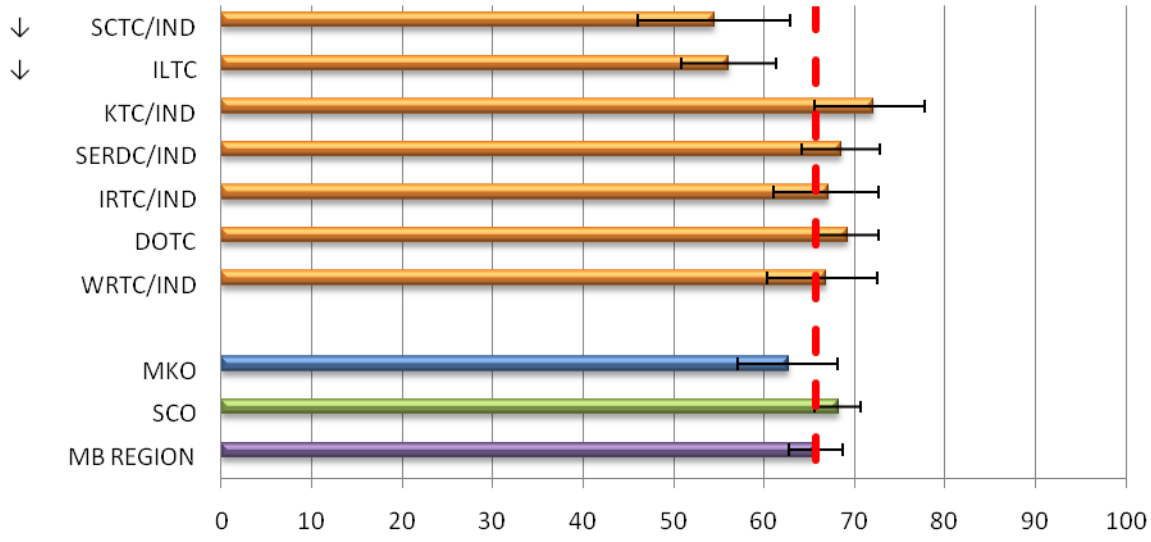


Figure 1.4 **Tribal areas: % reporting feeling in emotional balance most of the time (n= 3024)**

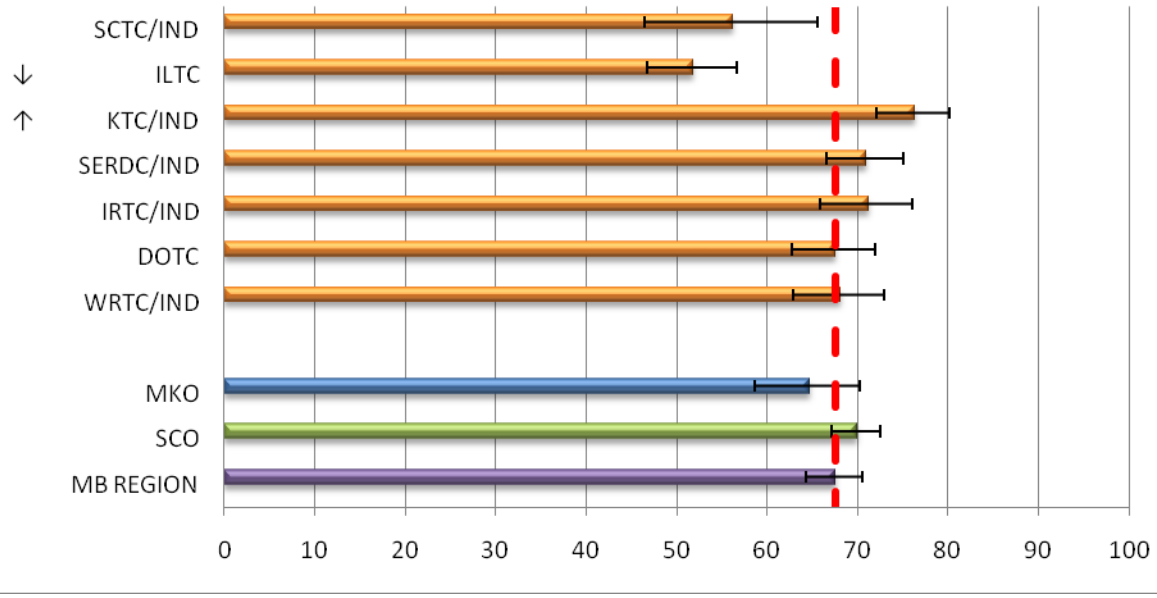


Figure 1.5 **Tribal areas: % reporting feeling in mental balance most of the time (n= 3021)**

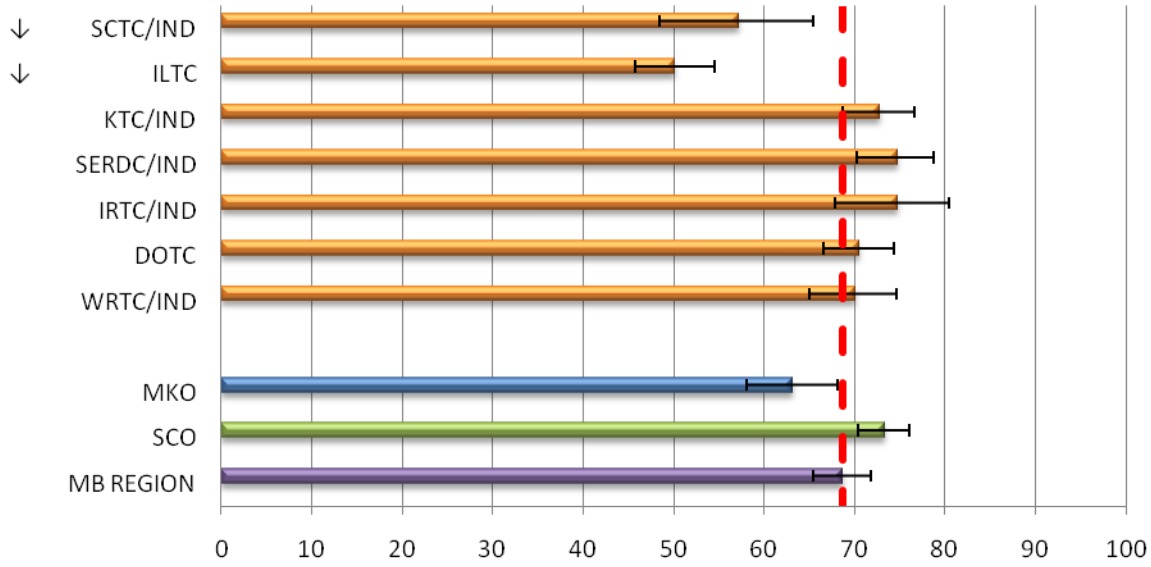
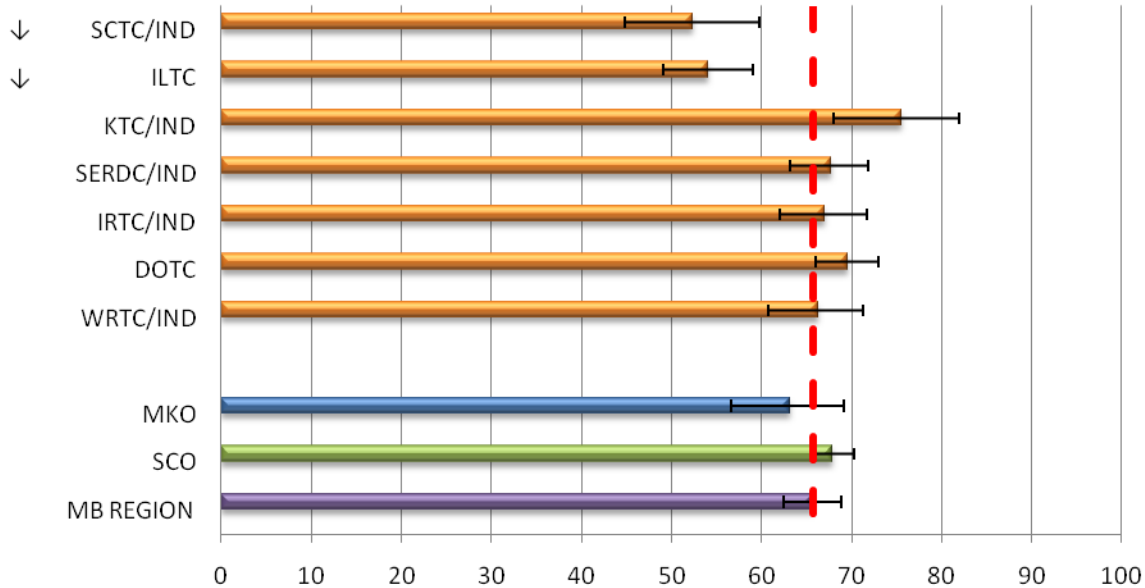


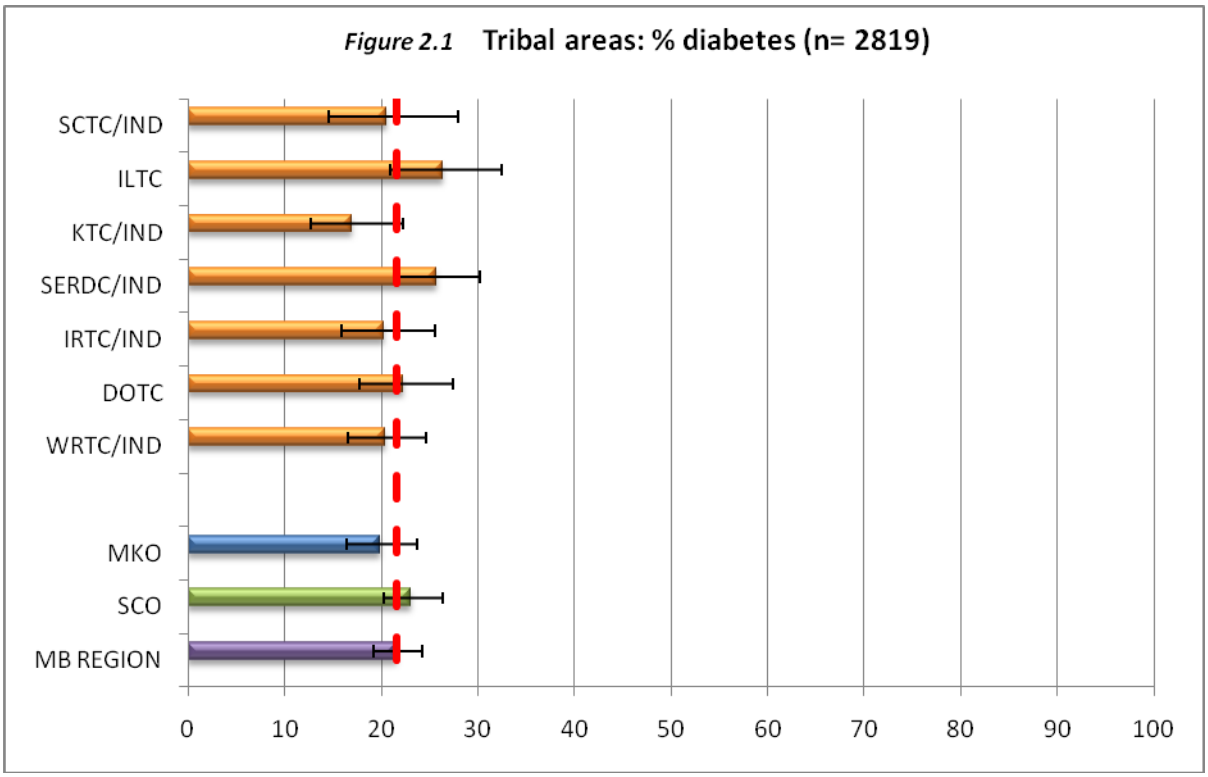
Figure 1.6 **Tribal areas: % reporting feeling in spiritual balance most of the time (n= 3022)**



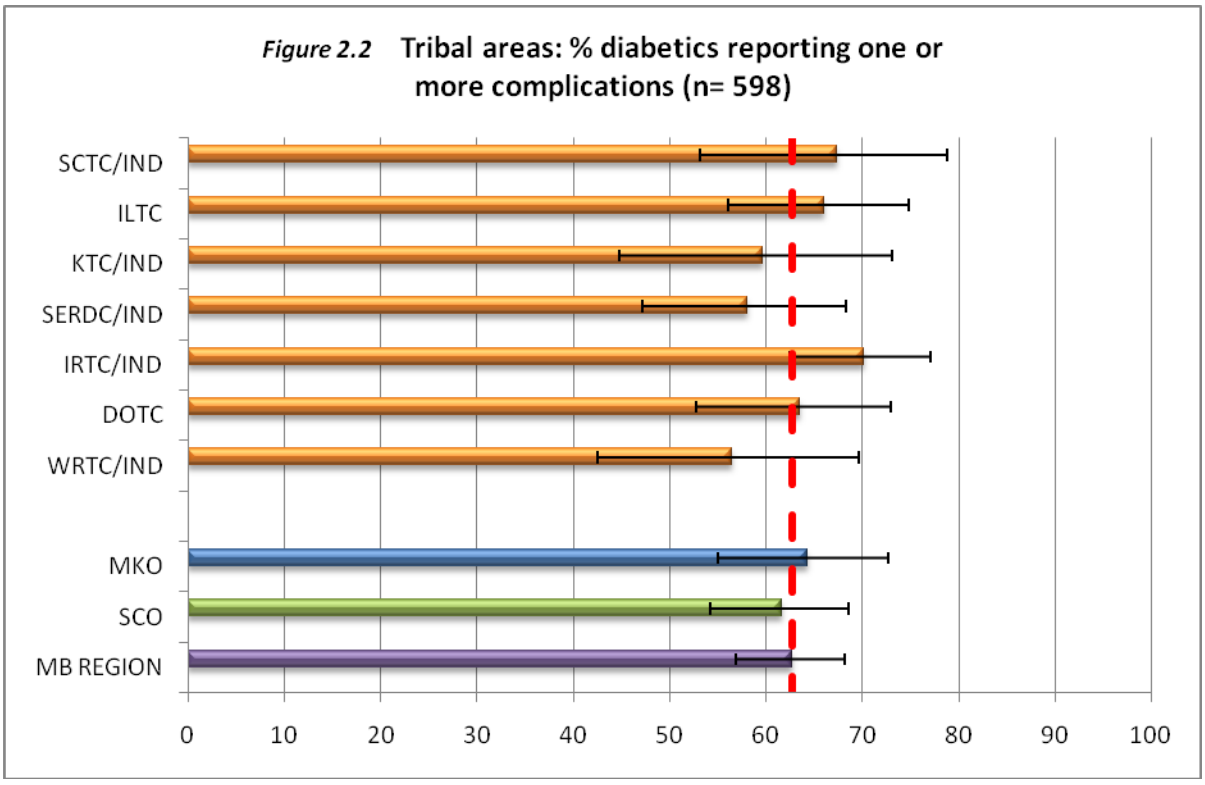
Health Status

Diabetes and Diabetes Complications

The overall Manitoba rate of 'having been told you have diabetes' reported on the Adult MFHRLHS in 2002 was 22%, with rates of 23% reported for SCO and 20% reported for MKO (*Fig 2.1)*. Tribal area rates ranged from 20% (IRTC/IND and WRTC/IND) to 26% (SERDC/IND) in the south and from 17% (KTC/IND) to 26% (ILTC) in the north. No Tribal area rates differed significantly from the Manitoba average.



Among those reporting diabetes, approximately two-thirds overall (63%) reported one or more diabetes-related complications (*Fig. 2.2)*, with a range across Tribal areas from 57% to 70%. Both the lowest rate (WRTC/IND) and the highest rate (IRTC/IND) were in the south.



Reports of diabetes-related vision problems (*Fig. 2.3*) were reported by 40% overall (range: 37% in SERDC/IND to 48% in IRTC/IND), difficulties with kidney functioning (*Fig. 2.4*) were reported by 18% overall (range: 13% in KTC/IND to 27% IN IRTC/IND), heart problems (*Fig. 2.*5) were reported by 14% overall (range: 6% in both KTC/IND and SERDC/IND to 24% in ILTC), circulation problems (*Fig. 2.*6) were reported by 27% overall (range: 23% in SERDC/IND and ILTC to 46% in IRTC/IND), and diabetes-related hand or foot problems (*Fig. 2.*7) were reported by 40% overall (range: 26% in SERDC/IND to 57% in ILTC). No Tribal area differences in these complications differed significantly from the Manitoba average.

Figure 2.3 **Tribal areas: % reporting diabetes affecting vision (n= 564)**

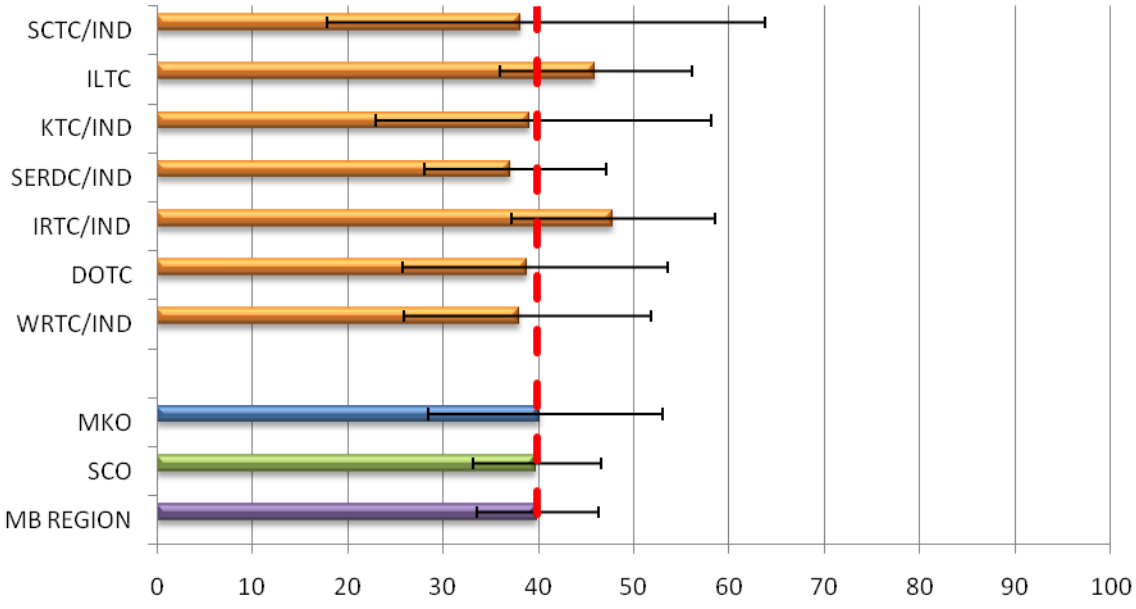


Figure 2.4 **Tribal areas: % reporting diabetes affecting kidney function (n= 543)**

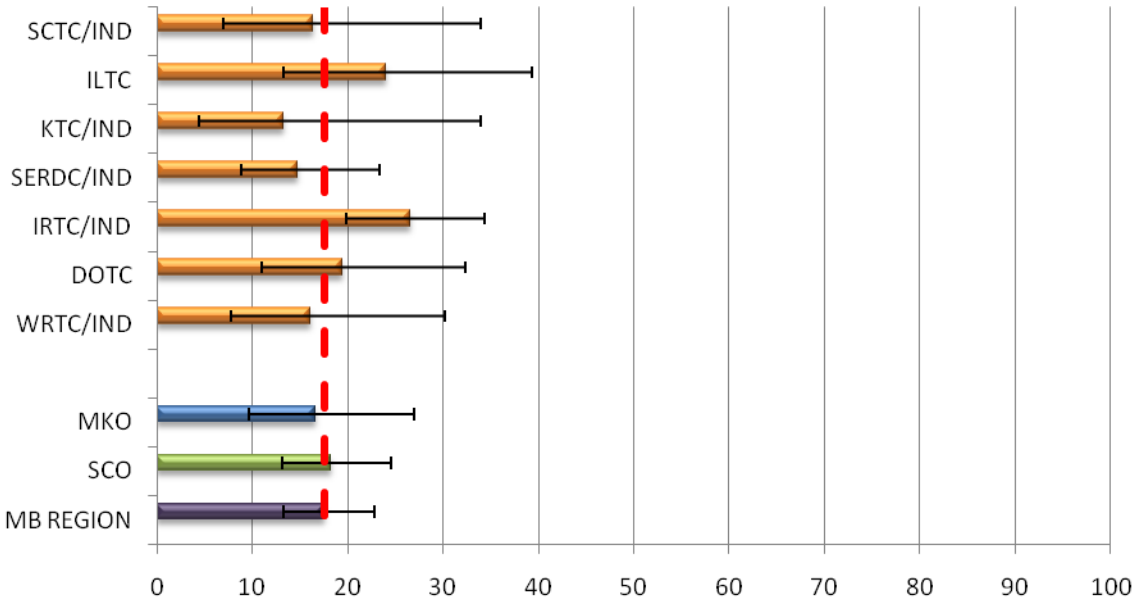


Figure 2.5 **Tribal areas: % reporting diabetes affecting heart (n= 538)**

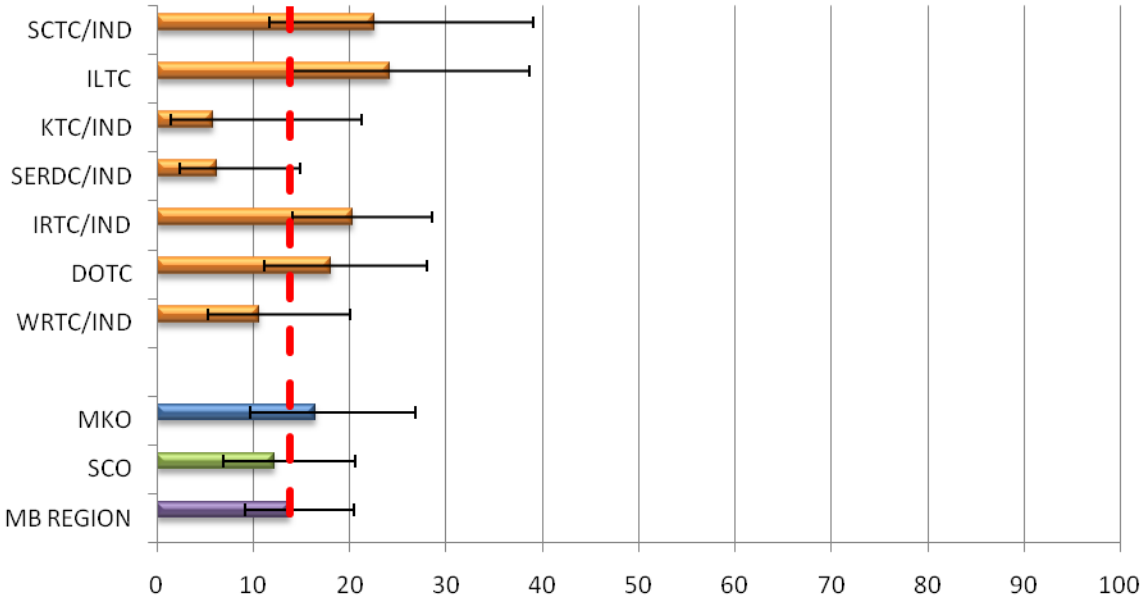


Figure 2.6 **Tribal areas: % reporting diabetes affecting circulation (n= 535)**

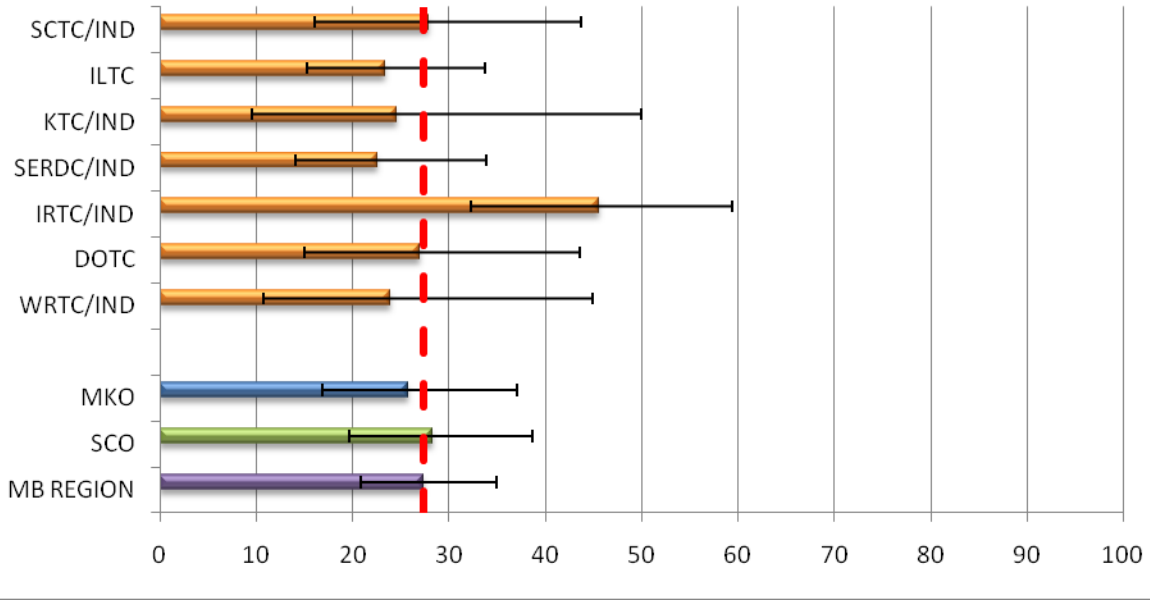
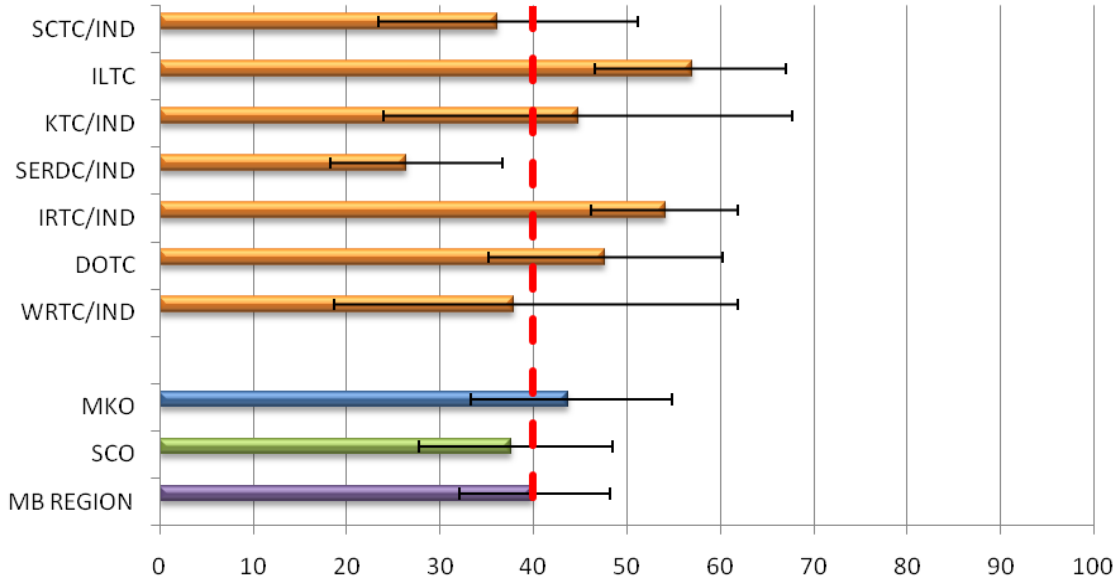
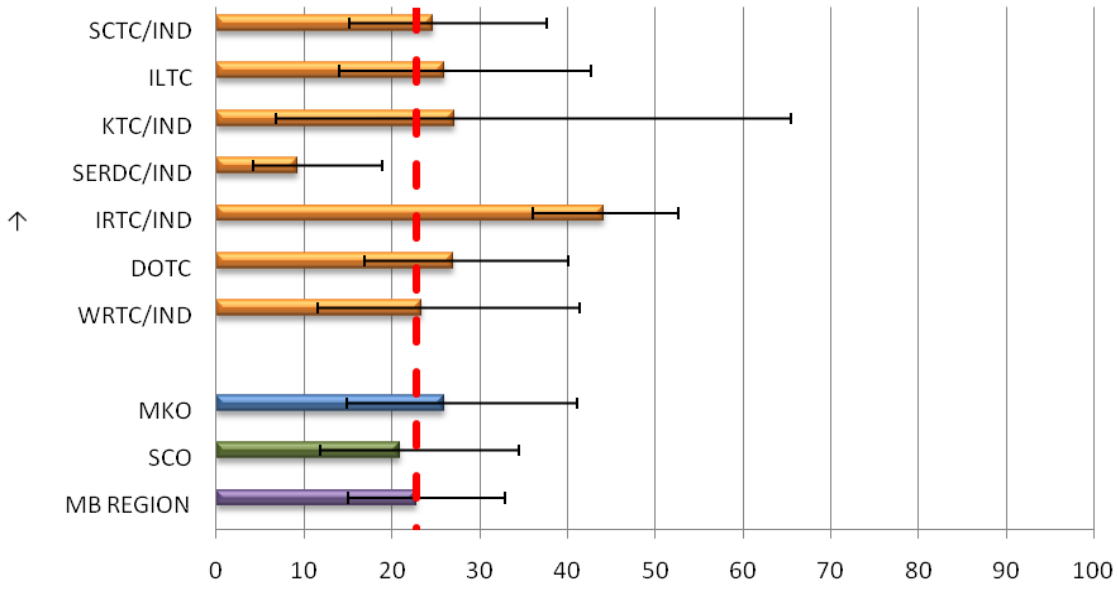


Figure 2.7 **Tribal areas: % reporting diabetes affecting hands/feet (n= 572)**

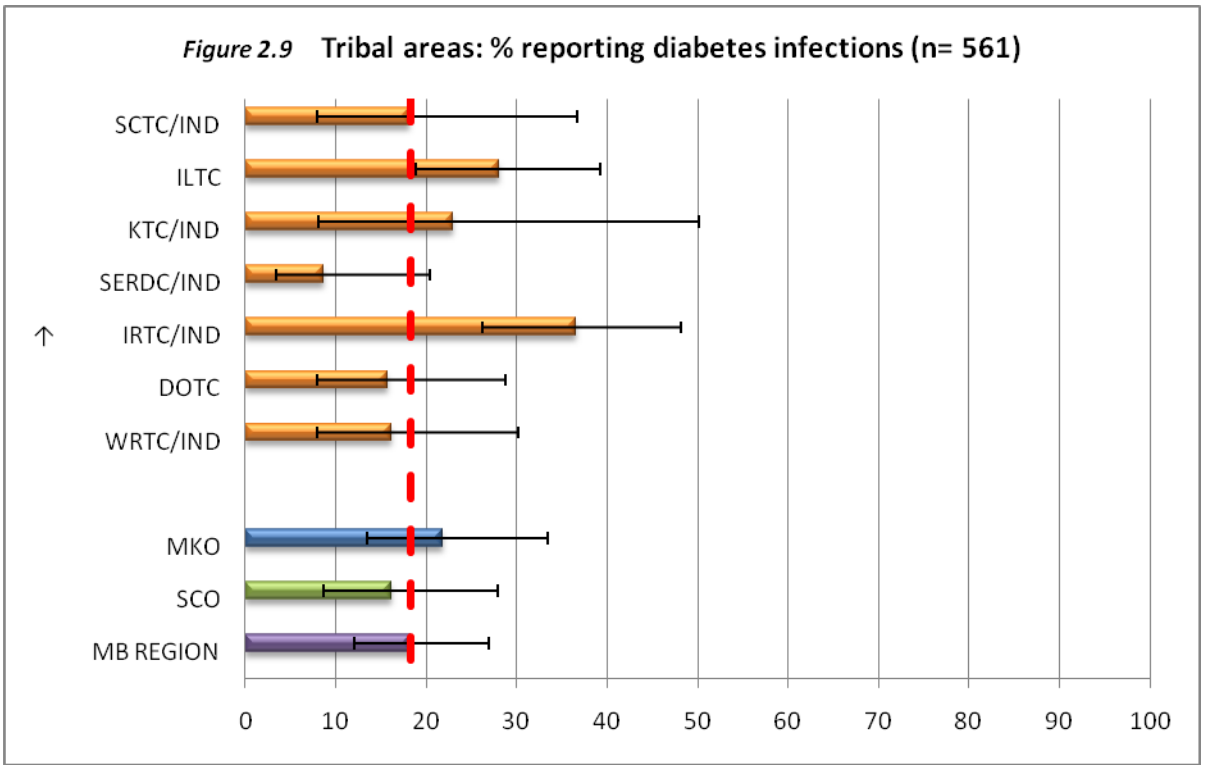


Diabetes-related problems affecting lower limbs (*Fig. 2.8)* were reported by 23% overall (MKO = 26%, SCO = 21%), with a range from 9% in SERDC/IND to 44% (statistically significant) in IRTC/IND.

Figure 2.8 **Tribal areas: % reporting diabetes affecting lower limbs (n= 564)**



Diabetes-related infections (*Fig. 2.*9) were reported by 18% overall (MKO = 22%, SCO = 16%), with a range from 9% in SERDC/IND) to 37% (statistically significant) in IRTC/IND.

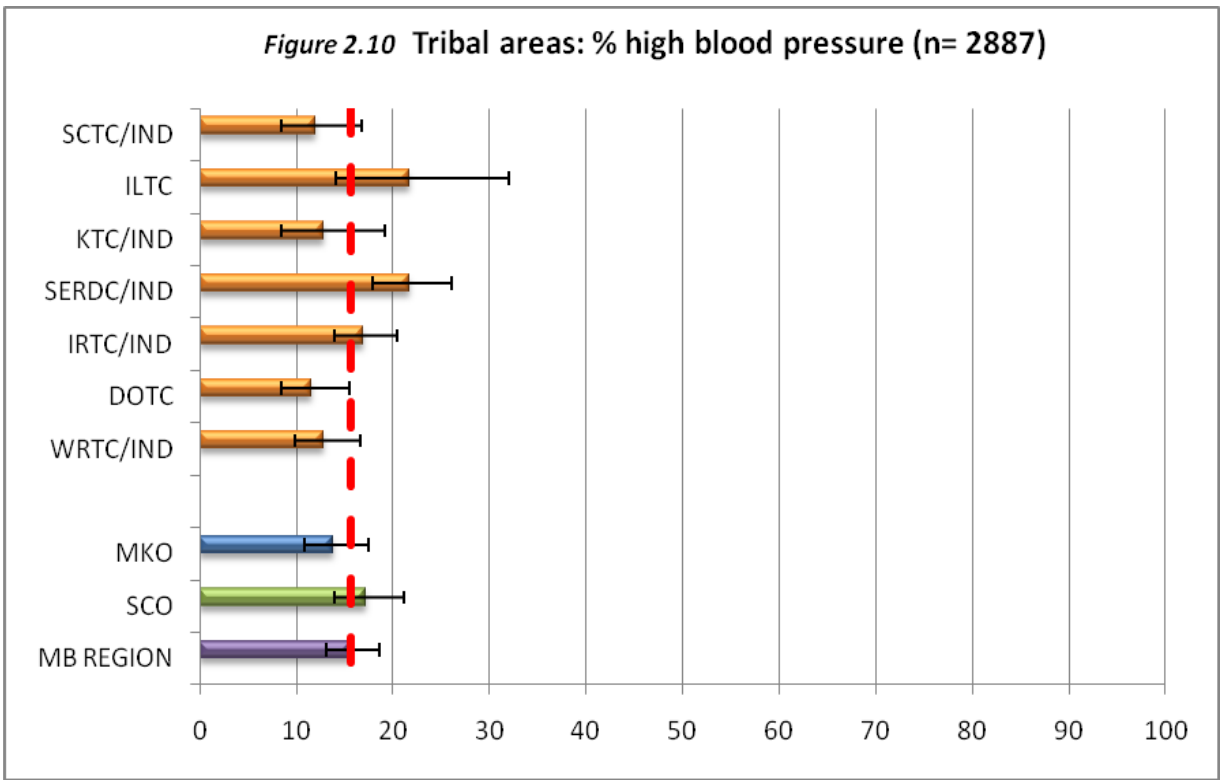


(Note: The overall Manitoba FNs rate of diabetes-related amputations was 2%, with Tribal area rates too small to graph.)

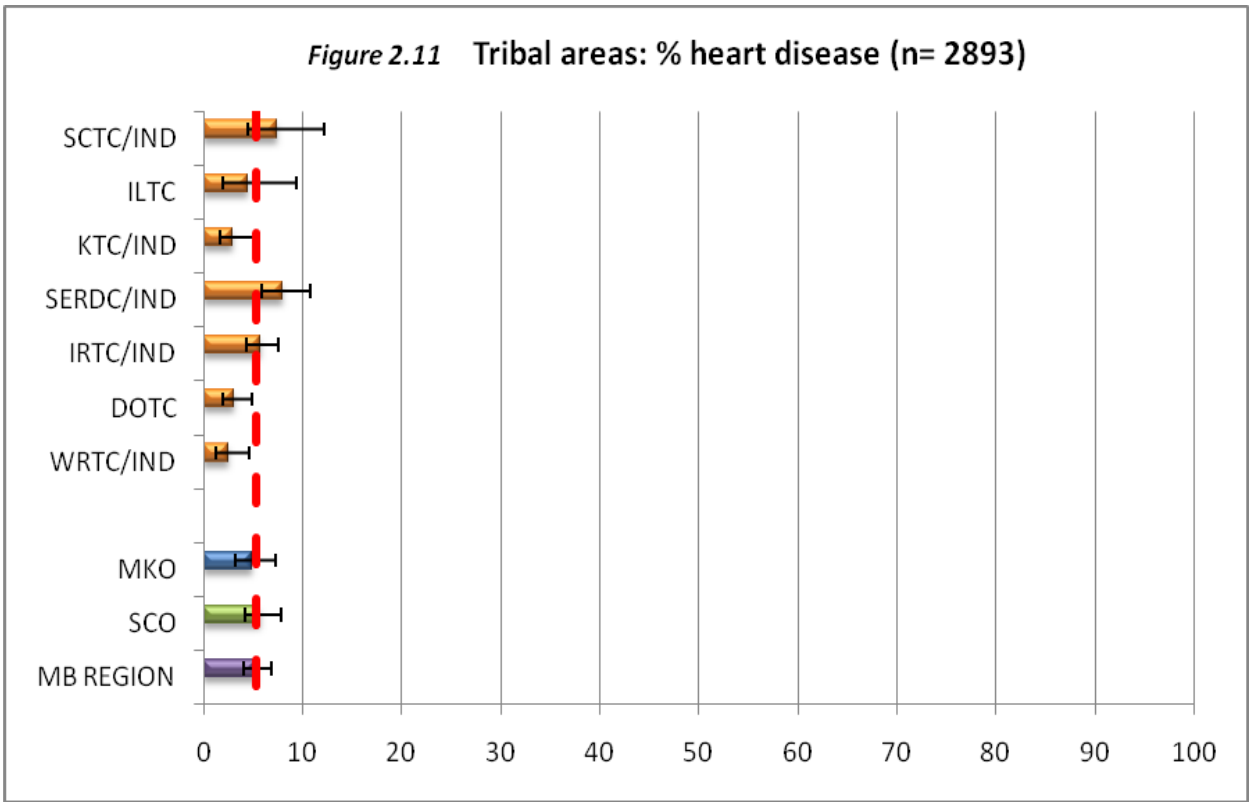
Other Chronic Conditions

Other chronic conditions reviewed were reports of 'having been told you have' high blood pressure, heart disease, arthritis and rheumatism, asthma, obesity and overweight, and limitations due to a physical or mental condition or health problem.

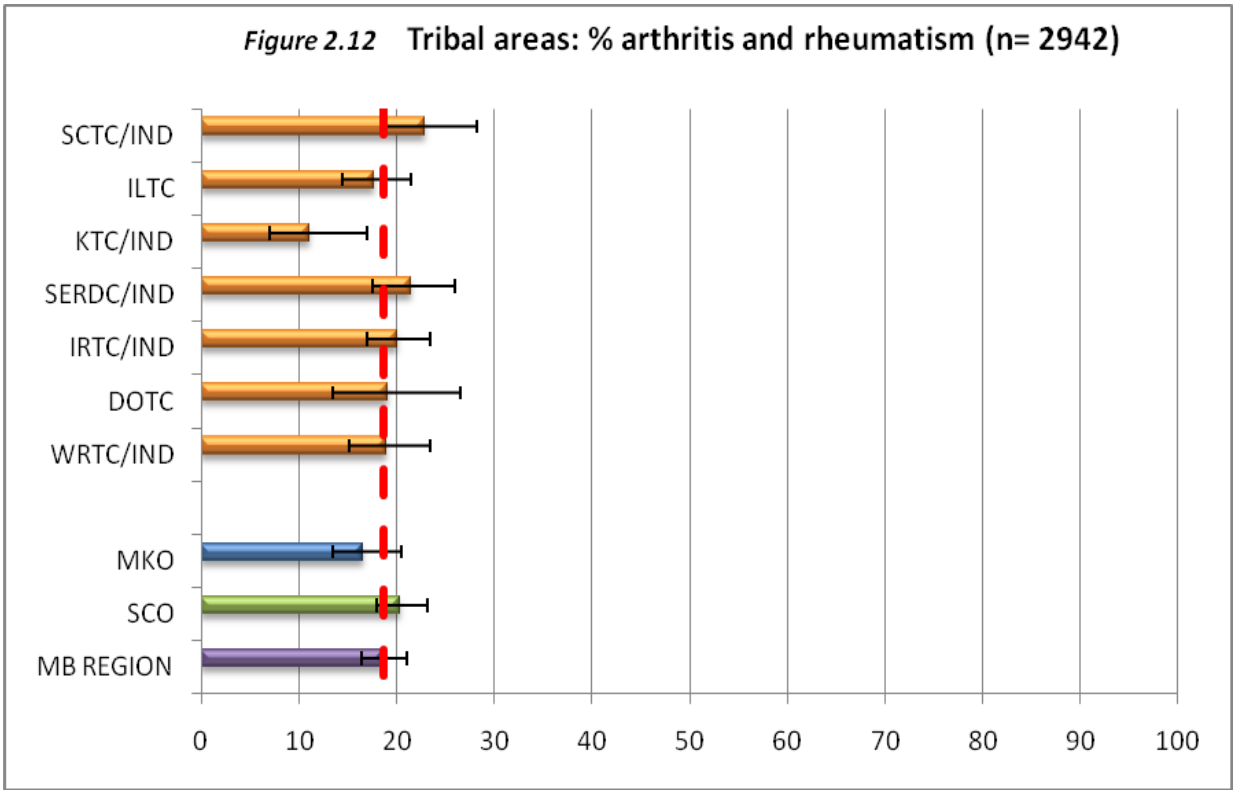
High blood pressure (*Fig. 2.10*) was reported by 16% of the total Manitoba FN sample, with a slightly lower rate reported in MKO (14%) and a slightly higher rate reported in SCO (17%). Both ILTC and SERDC/IND reported high rates (22% each), with DOTC reporting the lowest rate at 12%.



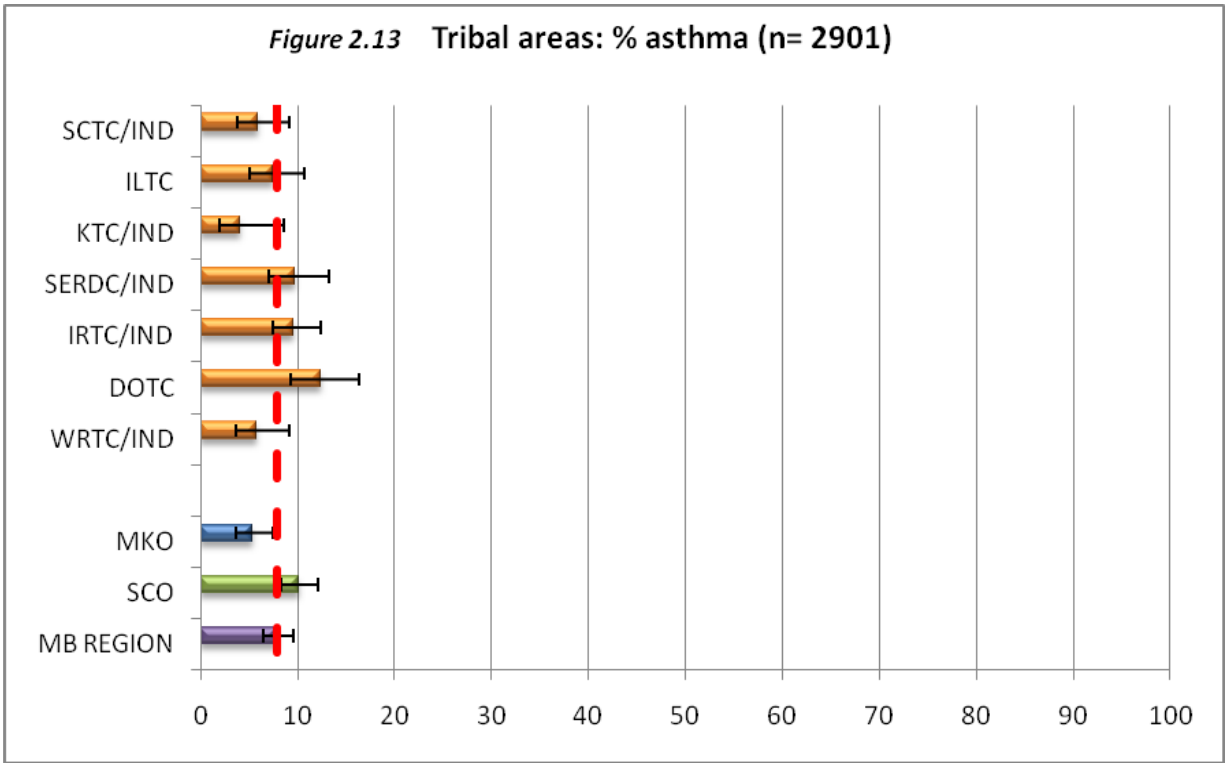
Heart disease (*Fig. 2.11*) was reported by 5% of the overall sample, with no difference evident between MKO and SCO. The highest rate of heart disease among Tribal areas was in SERDC/IND at 8%, and the lowest in WRTC/IND at 3%.



Nineteen percent (19%) of the overall sample reported arthritis and/or rheumatism (*Fig. 2.12*). In general, rates were slightly higher in the south (SCO = 20%) and lower in the north (MKO = 17%). SCTC/IND reported the highest rate of arthritis/rheumatism (23%), while KTC/IND reported the lowest (11%).



Asthma (*Fig. 2.13*) was reported by 8% overall (MKO = 5%, SCO = 10%), with a high of 12% in DOTC and a low of 4% in KTC/IND.



Based on self-reported height and weight, just over one-third of Manitoba FNs (37%, with no north/south difference) were overweight (*Fig. 2.*14) at the time of the survey in 2002/2003, with a body mass index (BMI) of ≥25 to <30. The tribal area reporting the highest proportion of overweight adults was ILTC (43%), followed by KTC/IND (40%).

In addition, a further one-third of Manitoba FNs (37%) were obese (*Fig. 2.14*) at the time of the survey (BMI ≥30), with rates lower in MKO (32%) and higher in SCO (40%). SERDC/IND reported the highest levels of obesity (41%), followed by ILTC (40%). KTC/IND reported the lowest rate of obesity at 30%.

Based on these responses from the RHS survey in 2002/2003, it can therefore be seen that three-fourths of Manitoba FNs (74%) were either overweight or obese.

Figure 2.14 **Tribal areas: % overweight (n= 2378)**

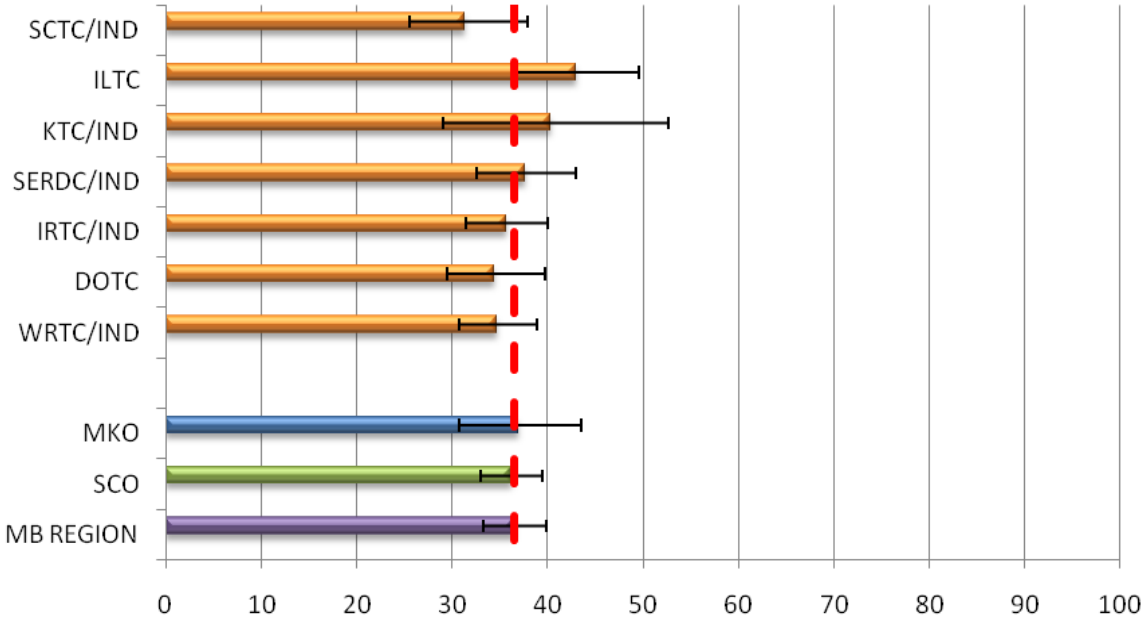
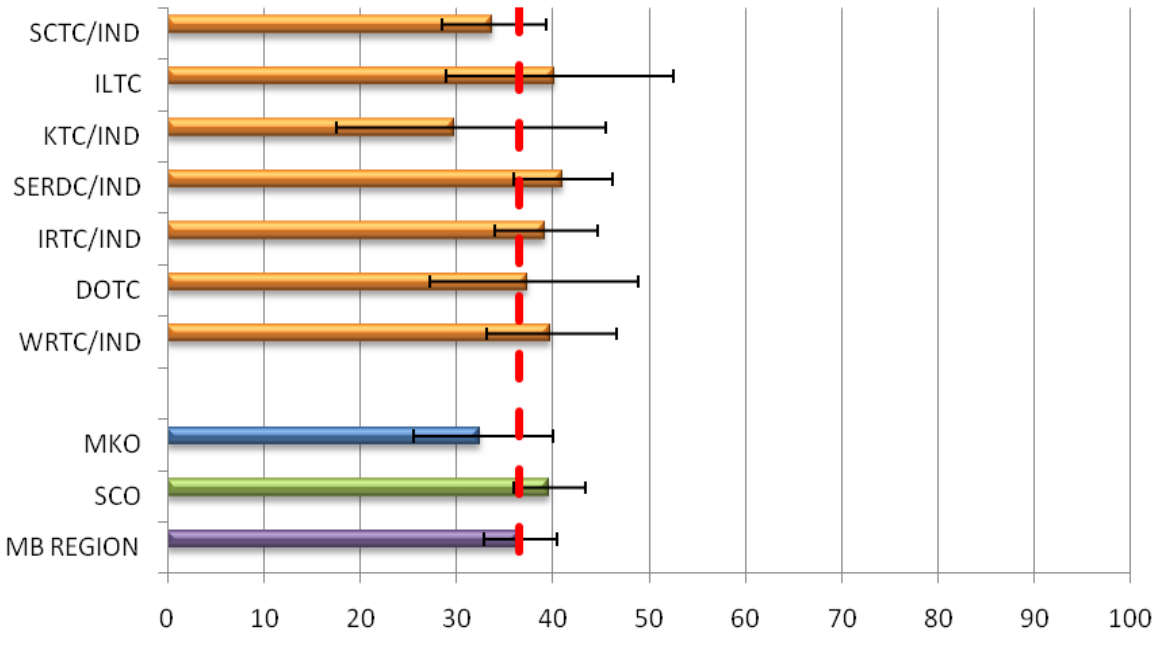
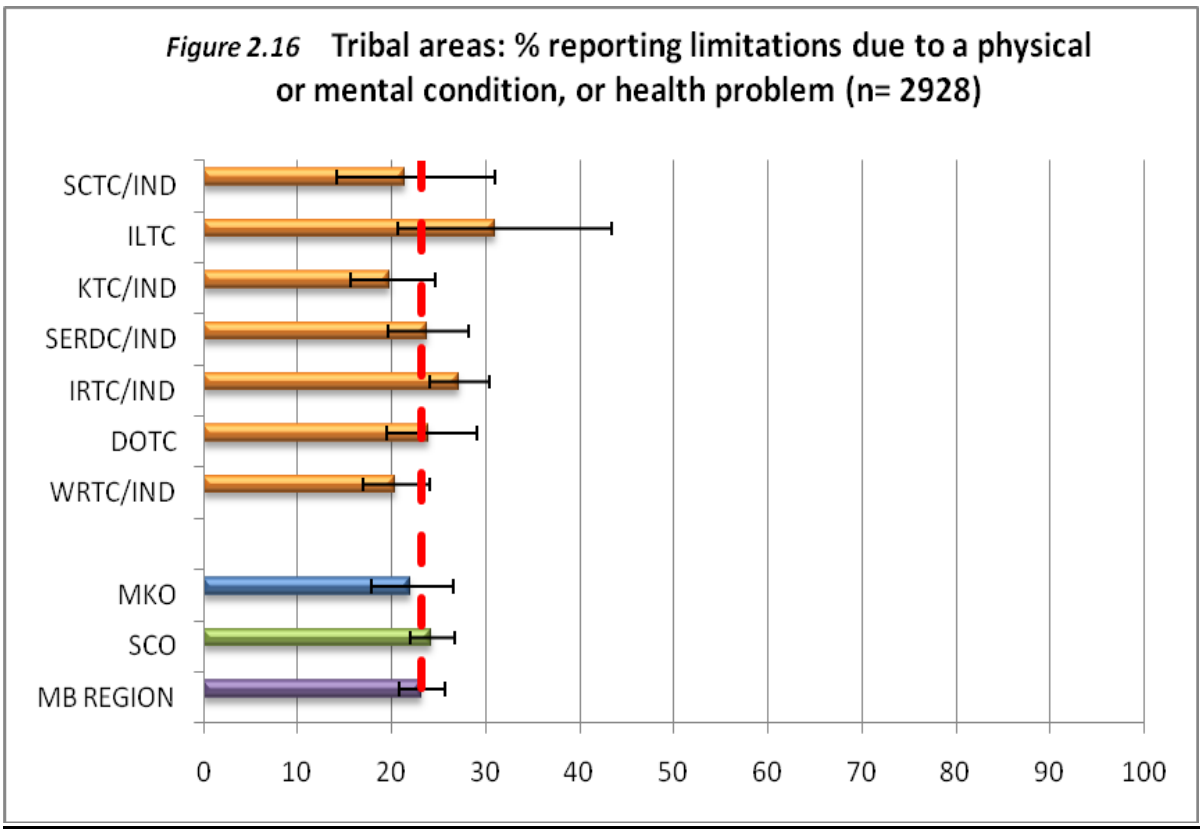


Figure 2.15 **Tribal areas: % obese (n= 2378)**



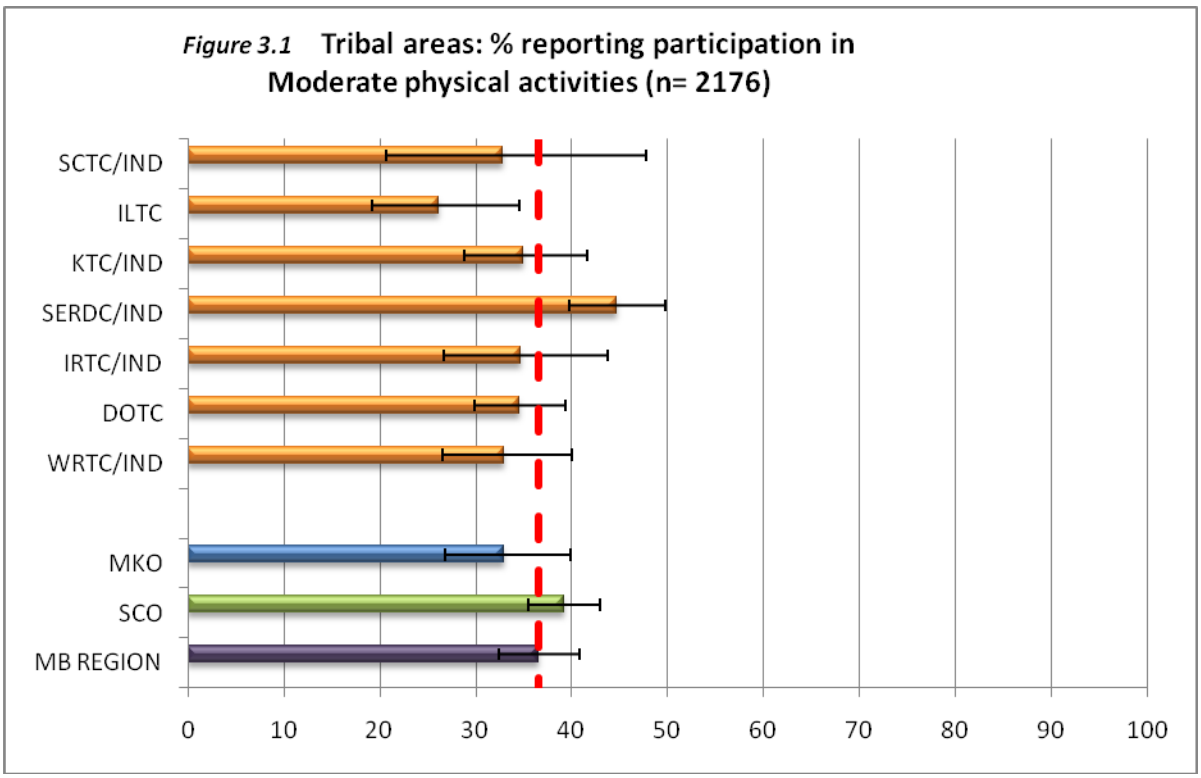
Twenty-three percent (23%) of the overall Manitoba FN sample reported they were limited in the kinds or amount of activity they could do because of a physical or mental health condition, with rates slightly lower in the north and higher in the south (22% vs. 24% respectively) (*Fig. 2.16*). ILTC respondents reported the highest percentage of limitations (31%), with KTC/IND and WRTC/IND reporting the lowest at 20% each.



Health Behaviours

Physical Activity

The MFNRLHS asked respondents how much time in a typical week they participated in any kind of physical activity, at work, school, home or leisure, that resulted in an increase in heart rate and breathing. Definition of activity level was moderate (1 – 2 hours/week), vigorous (3 or more hours/week), or no activity. Thirty-seven percent (37%) of Manitoba FNs reported participating in moderate physical activity (*Fig. 3.1*) in a typical week, with slightly more in SCO reporting moderate levels than those in MKO (39% vs. 33%). SERDC/IND reported the highest level of moderate activity (45%), and ILTC reported the lowest (26%).



Vigorous activity levels (3 or more hours/week; *Fig. 3.*2) were reported by nearly half of the overall respondents (49%), with no difference between MKO and SCO. Both the highest and lowest levels reported were for Tribal areas in the north: SCTC/IND at 56%, and ILTC at 30%.

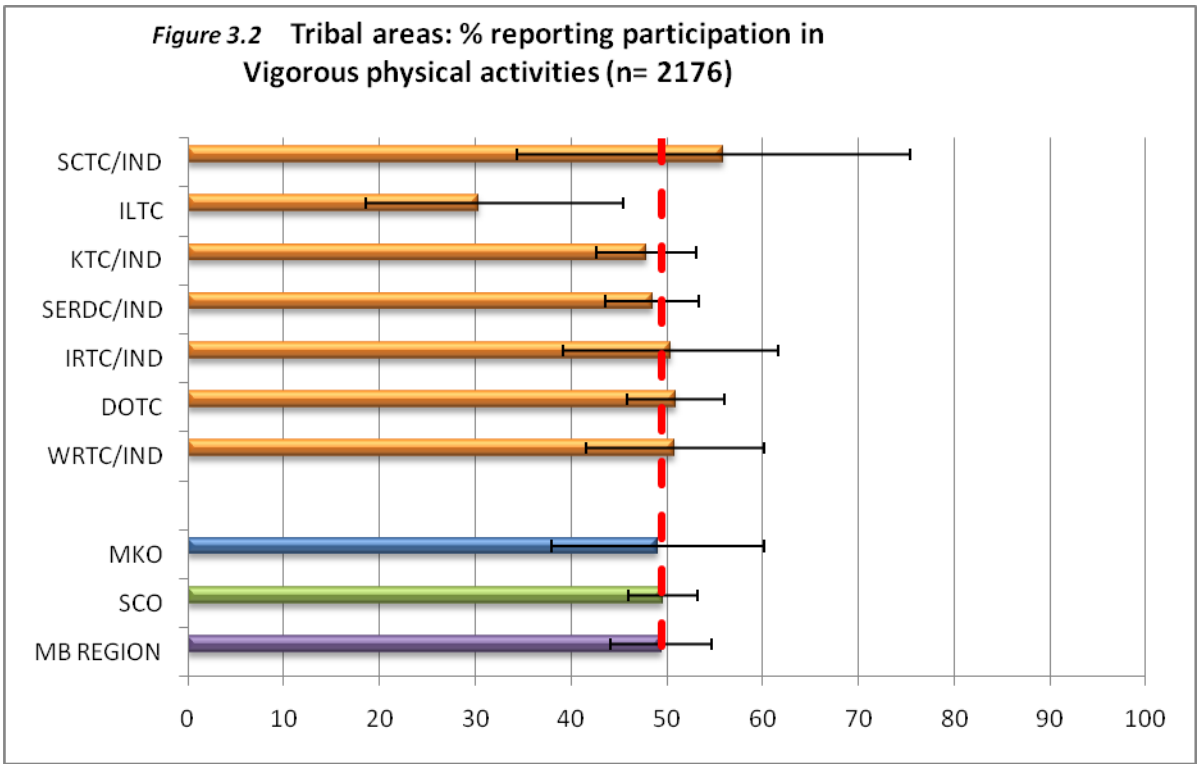
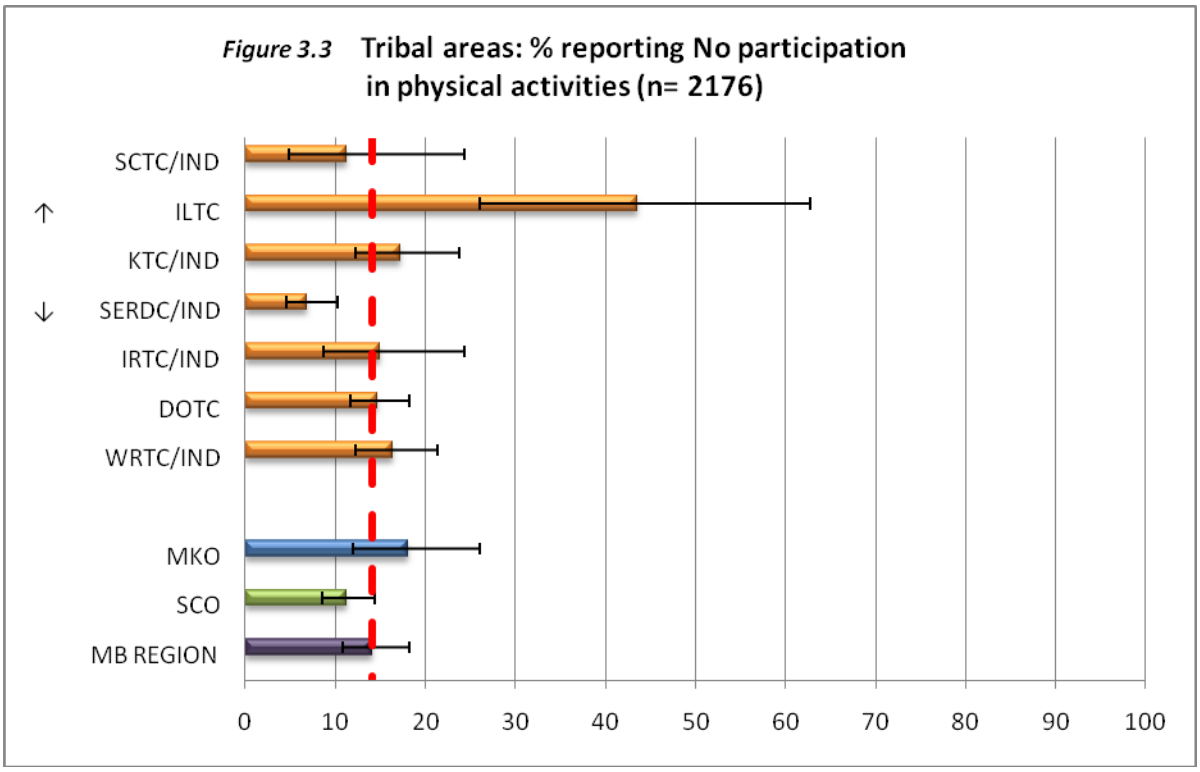


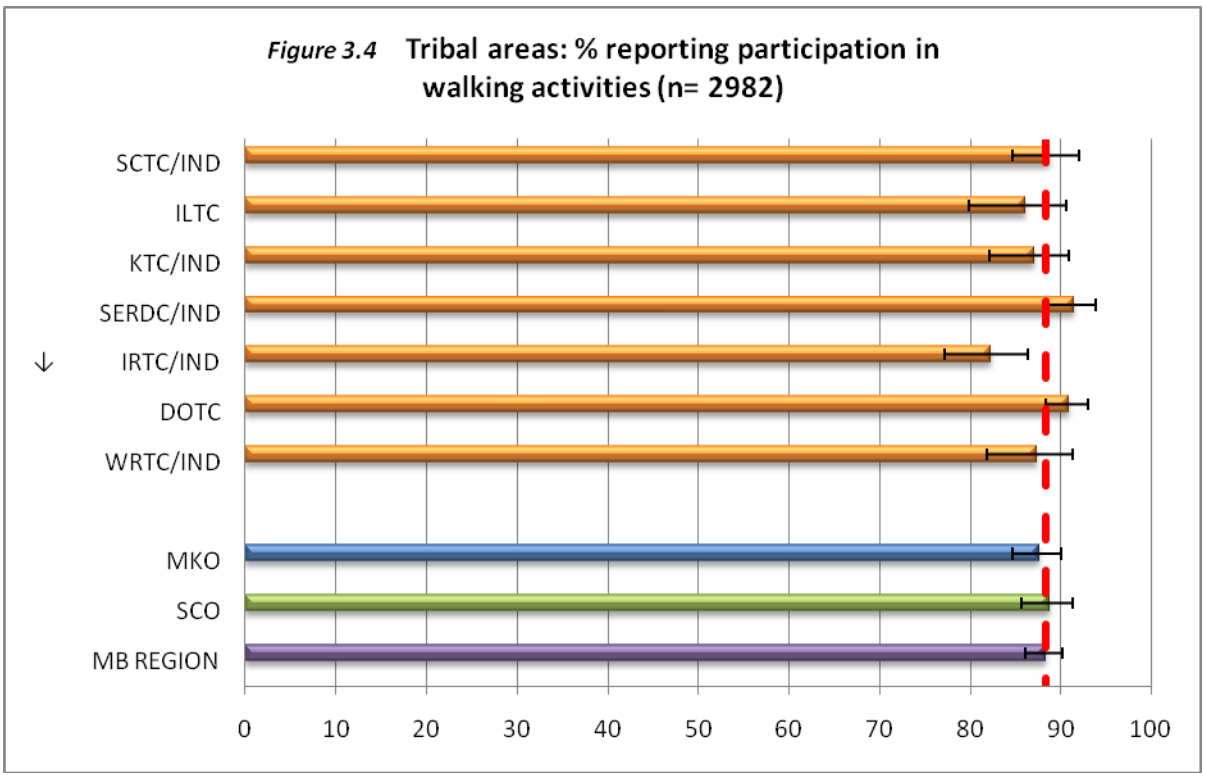
Figure 3.2 **Tribal areas: % reporting participation in Vigorous physical activities (n= 2176)**

No physical activity in a typical week (*Fig. 3.3*) was reported by 14% overall, with a slightly higher rate in MKO and a lower rate in SCO (18% vs. 11%). ILTC in the north reported the highest rate of no physical activity (statistically significant at 44%), and SERDC/IND in the south reported the lowest (statistically significant at 7%).

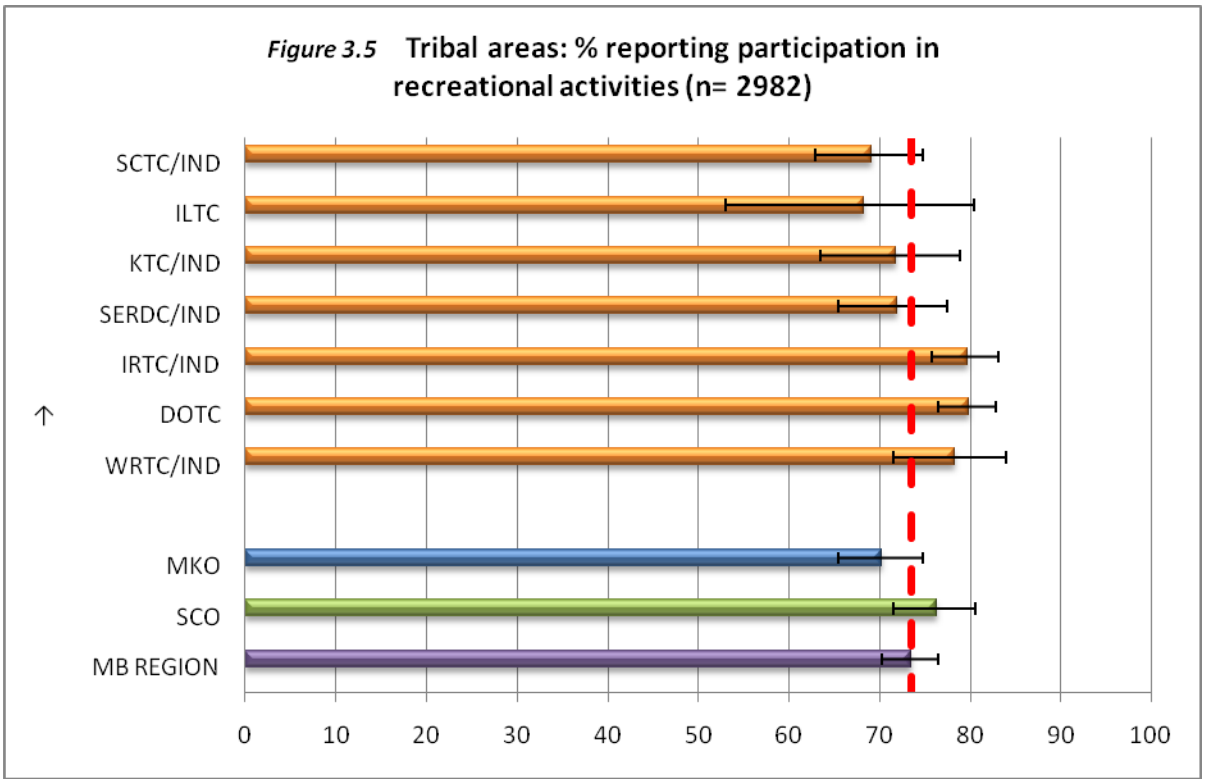


Typical activities over the previous year for those in the study were walking, recreational activities, traditional activities and dancing.

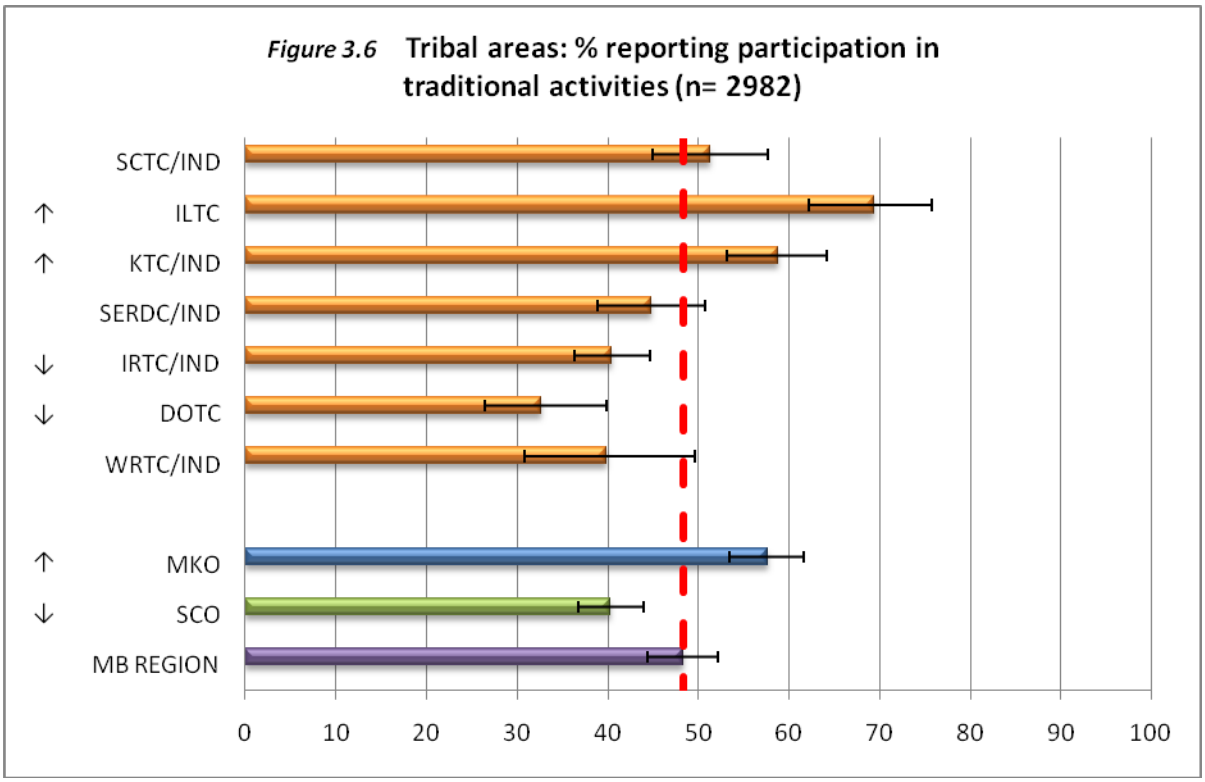
The majority (88%) of all respondents stated they had participated in walking (*Fig. 3.4*) in the last twelve months, with almost no difference between MKO and SCO. SERDC/ IND reported the highest percentage of walking (92%) and IRTC/IND reporting the lowest (statistically significant at 82%).



Seventy-four percent (74%) of Manitoba FNs reported participating in recreational activities, with rates slightly lower in the north (MKO = 70%) and higher in the south (SCO = 76%) (*Fig. 3.*5). Recreational activities included bicycle riding, aerobics, running, hiking, skating, rollerblading, golf, bowling, skiing, swimming, now-shoeing, skateboarding, hockey, basketball, baseball or volleyball. ILTC had the lowest participation in recreational activities at 68%, and IRTC/IND and DOTC had the highest participation at 80% each (statistically significant for DOTC).



Traditional activities (*Fig. 3.6*) included hunting, trapping, fishing, canoeing, berry picking or other food gathering. Overall, 48% of respondents stated they had engaged in a traditional activity, with a higher percentage of respondents in the MKO participating than in SCO (58% compared to 40%, both statistically significant differences compared to the Manitoba average). ILTC and KTC/IND in the north reported significantly high participation (69% and 59% respectively), and DOTC and IRTC/IND in the south reported significantly low rates (33% and 40% respectively).



Twenty-two percent (22%) of all respondents, with little north/south difference, reported they had participated in dancing in the past twelve months (*Fig. 3.7*). The lowest rate of dancing was in ILTC at 11%. SCTC/IND had the highest participation in the north at 25%, similar to DOTC and WRTC/IND in the south who both reported a rate of 26% for participation in dancing.

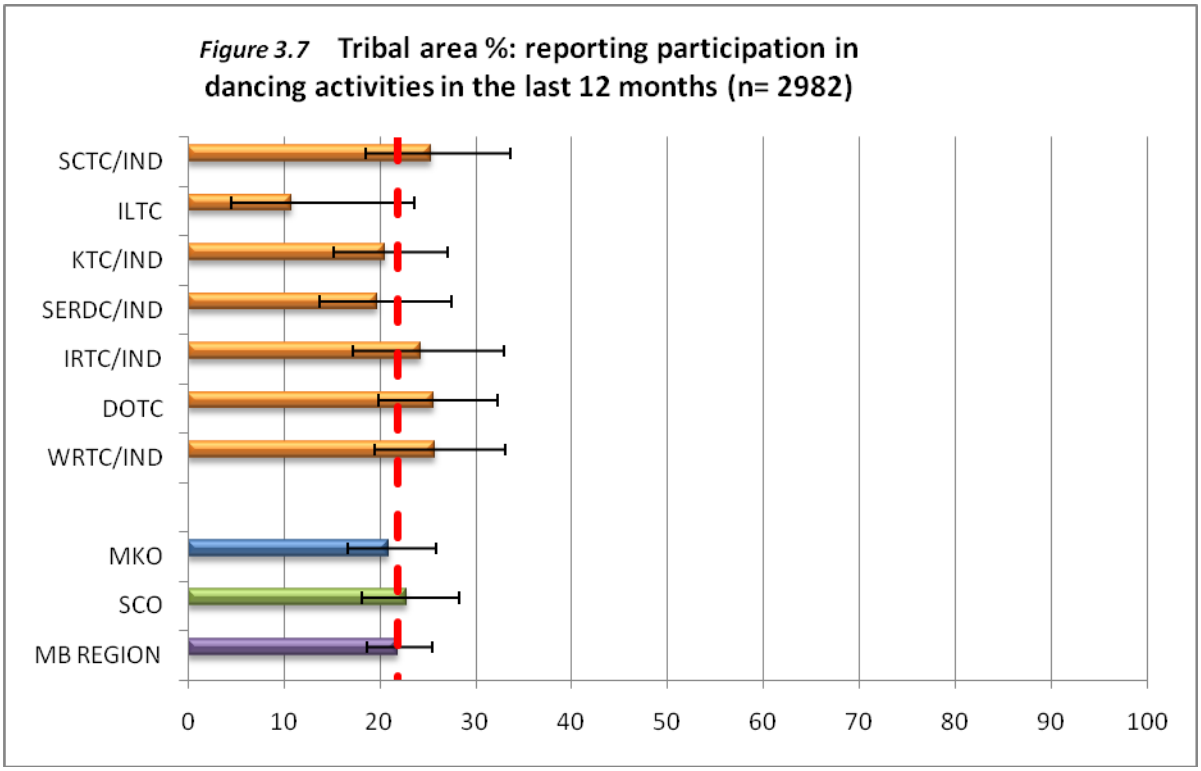


Figure 3.7 **Tribal area %: reporting participation in dancing activities in the last 12 months (n= 2982)**

Dietary Practices

Of the four food groups, carbohydrate consumption was highest and protein consumption was the lowest provincially and in all Tribal areas (*Figs. 3.8a & 3.8b*).

Daily consumption of carbohydrates (at least one serving or several servings a day of bread, bannock, rice or pasta) was reported by 46% of the overall Manitoba FN sample (MKO = 43%, SCO = 50%), with a range across Tribal areas from 41% to 58%. Among northern Tribal areas, ILTC reported the highest consumption of carbohydrates (statistically significant at 58%), and KTC/IND reported the lowest (38%). Among southern Tribal areas, WRTC/IND reported the highest consumption of carbohydrates (54%) and the lowest was IRTC/IND (41%).

Daily consumption of protein (meat, poultry or fish) was reported by 11% of the sample overall (MKO = 12%, SCO = 11%). ILTC reported the highest consumption (statistically significant at 20%), and IRTC/IND reported the lowest (statistically significant at 6%).

Dairy products (milk, cheese or yogurt) were consumed daily by just over one-third (34%; MKO = 31%, SCO = 37%) of the total sample. Consumption was highest in SERDC/IND with 40% of respondents reporting having eating at least one dairy product each day, and lowest in SCTC/IND at 28%.

Fruits and vegetables (fresh, frozen or canned) were consumed daily by 25% of the overall sample (MKO = 23%, SCO = 27%). KTC/IND consumed the least fruits and vegetables (22%) and SERDC/IND the most (30%).

Figure 3.8a **Tribal areas %: reporting having eaten at least one serving each day**

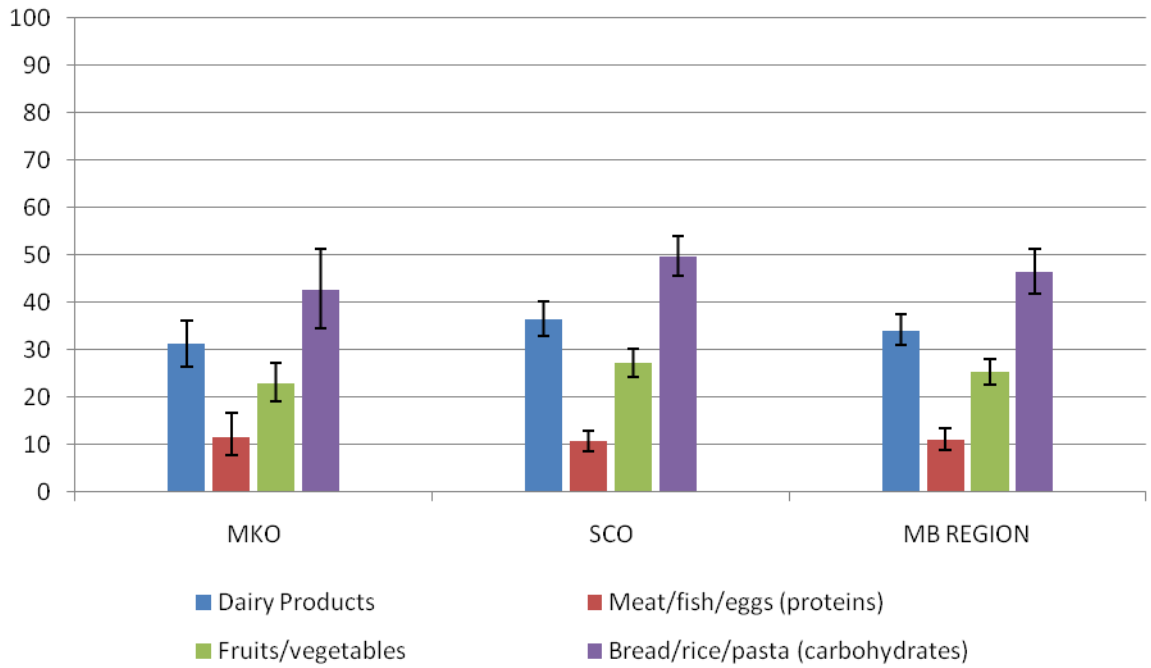
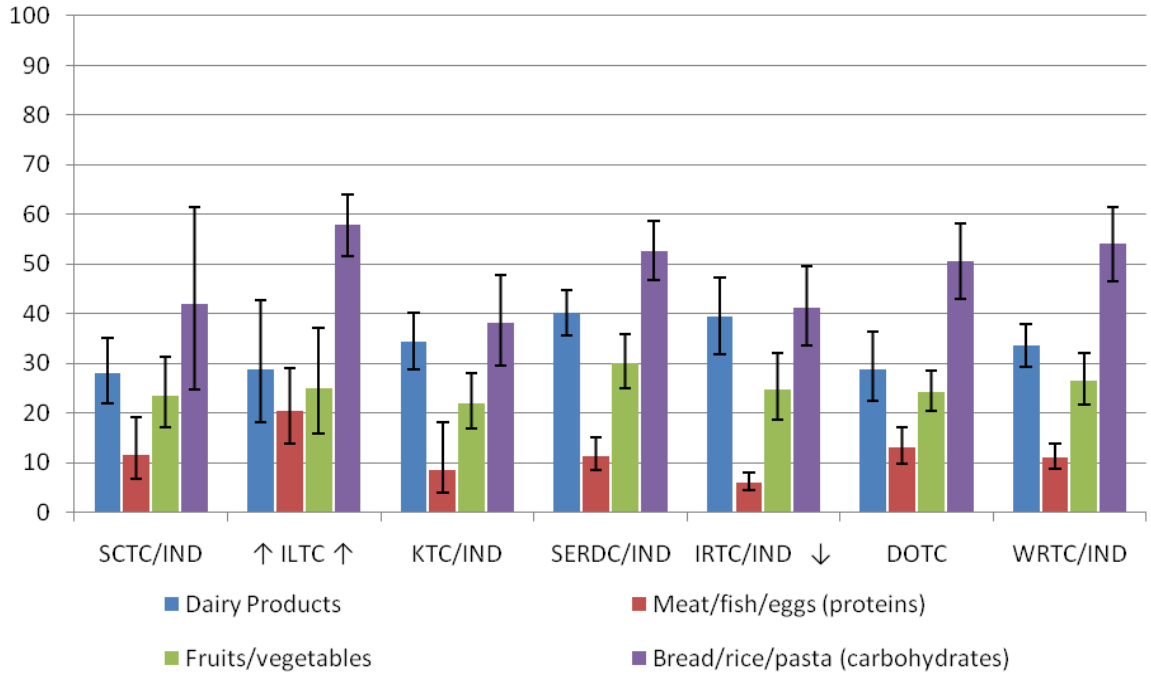
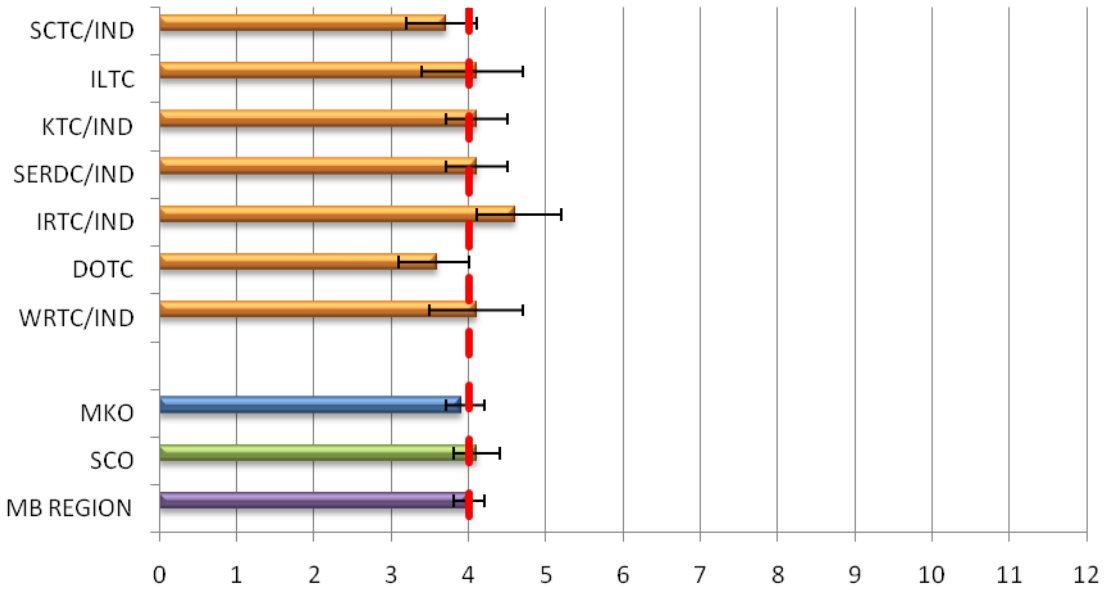


Figure 3.8b **Tribal areas %: reporting having eaten at least one serving each day**



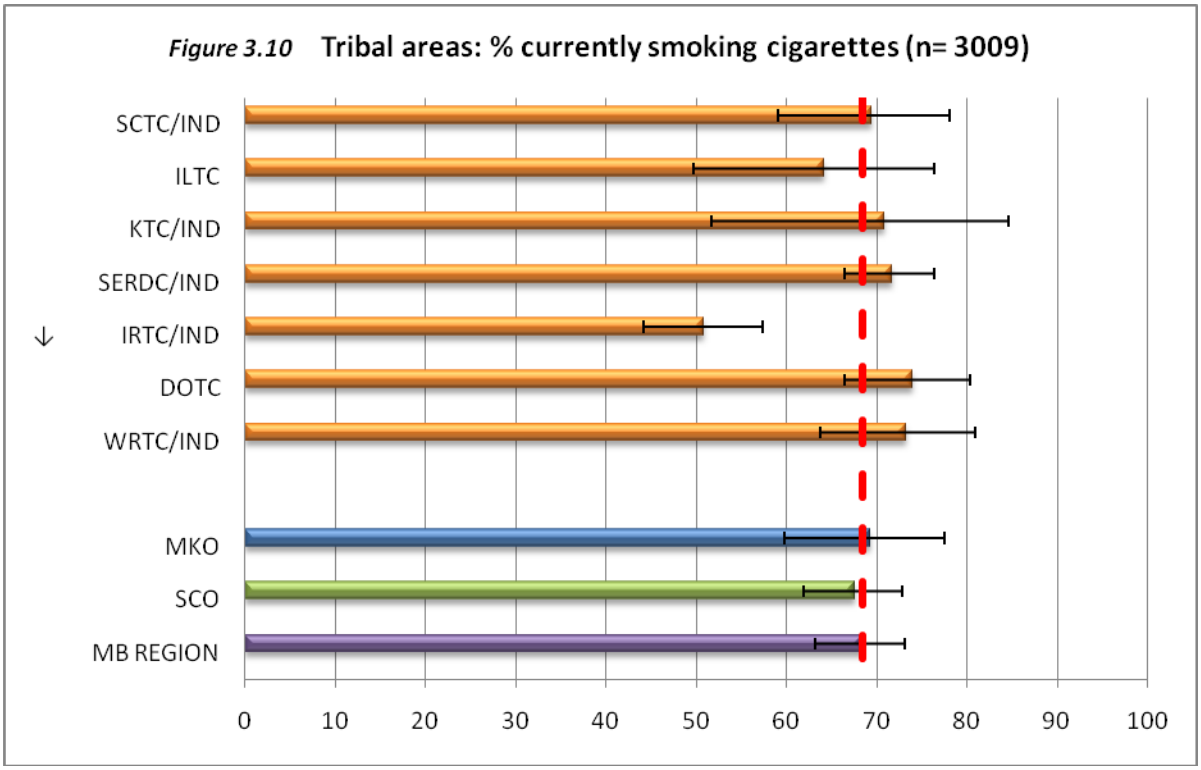
Overall, Manitoba FN survey respondents reported an average of 4 positive dietary changes during the previous year from a possible total of 12 changes, with little differences north/south or among Tribal areas (*Fig. 3.9*). Changes included eating *less* meat, salt, fried or baked bannock, fat, sugar, cakes, pies, cookies, junk food (candy, pop, potato chips, etc) and fried food, and eating *more* fruits and vegetables. The fewest changes were reported in DOTC and SCTC/IND (slightly less than 4) and the most in IRTC/IND (slightly more than 4 changes).

Figure 3.9 **Tribal areas: average number of positive dietary changes in the past year**



Substance Use

Survey respondents overall reported a high rate of cigarette smoking (*Fig. 3.10*). The total for the Manitoba region was 68%, with little north/south difference. Rates were highest in DOTC and WRTC/IND (74% and 73% respectively), and lowest in IRTC/IND (significant at 51%).



Alcohol consumption once a month or more often was reported by 47% of respondents overall (*Fig. 3.11*), with rates higher in the north than the south (MKO = 52%, SCO = 43%). The highest rate was reported by respondents in SCTC/IND (significant at 59%), followed by KTC/IND (55%). ILTC reported the lowest consumption (significant at 20%).

Binge drinking (defined as five or more drinks on one occasion) once a month or more in the past 12 months (*Fig. 3.12*) was reported by 39% (MKO = 41%, SCO = 38%) of those who consumed alcohol. The rate for binge drinking was again highest in SCTC/IND (statistically significant at 51%) and lowest in ILTC (statistically significant at 13%).

Figure 3.11 Tribal areas: % reporting alcohol consumption once a month or more (n= 2816)

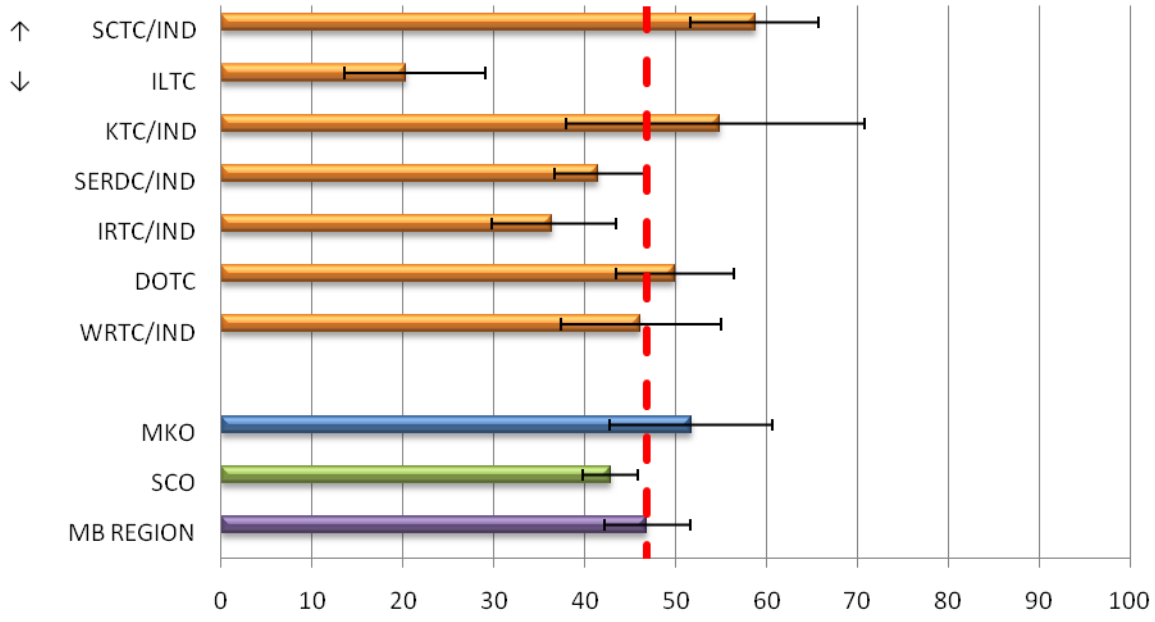
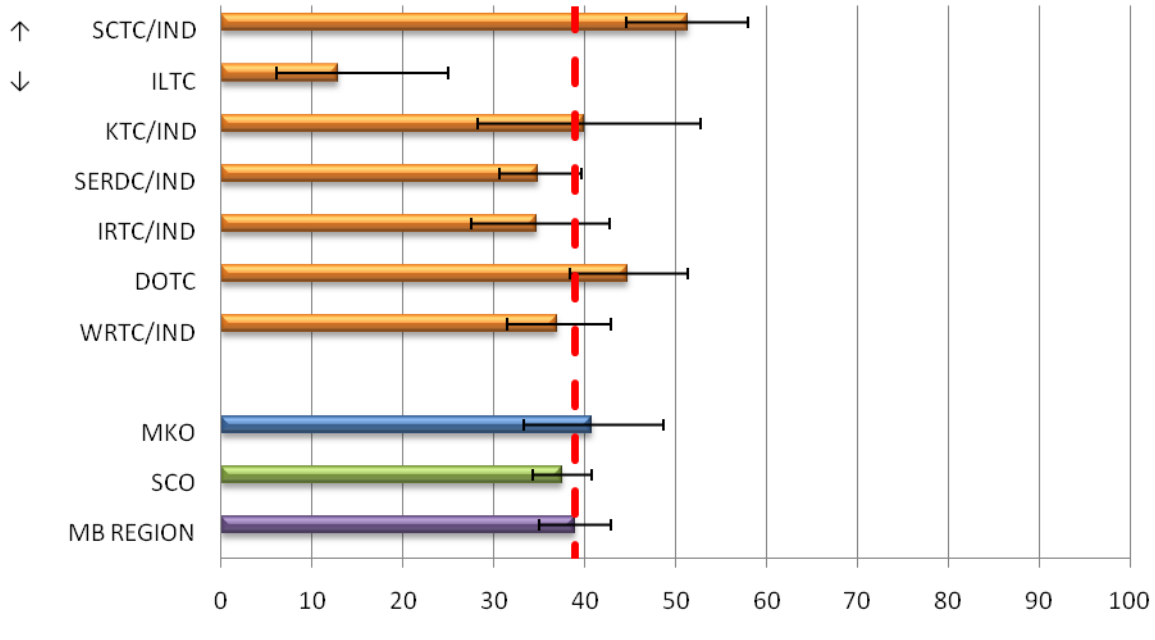
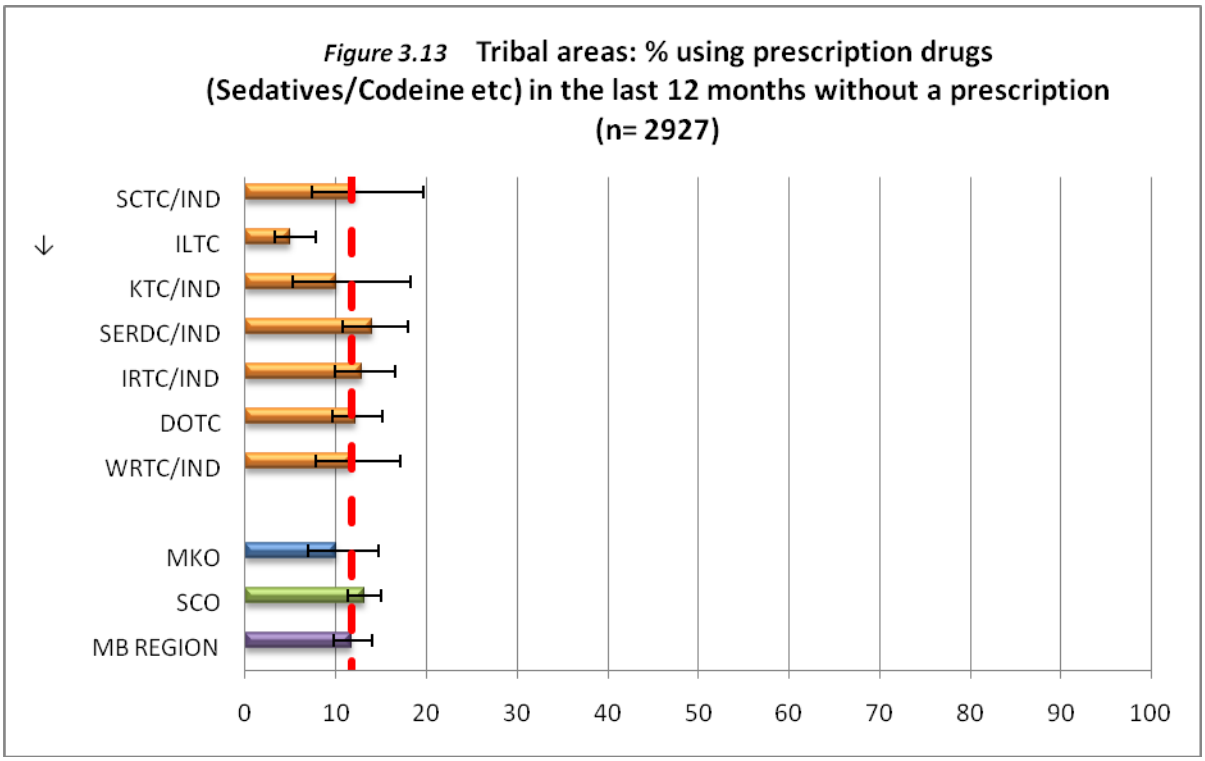


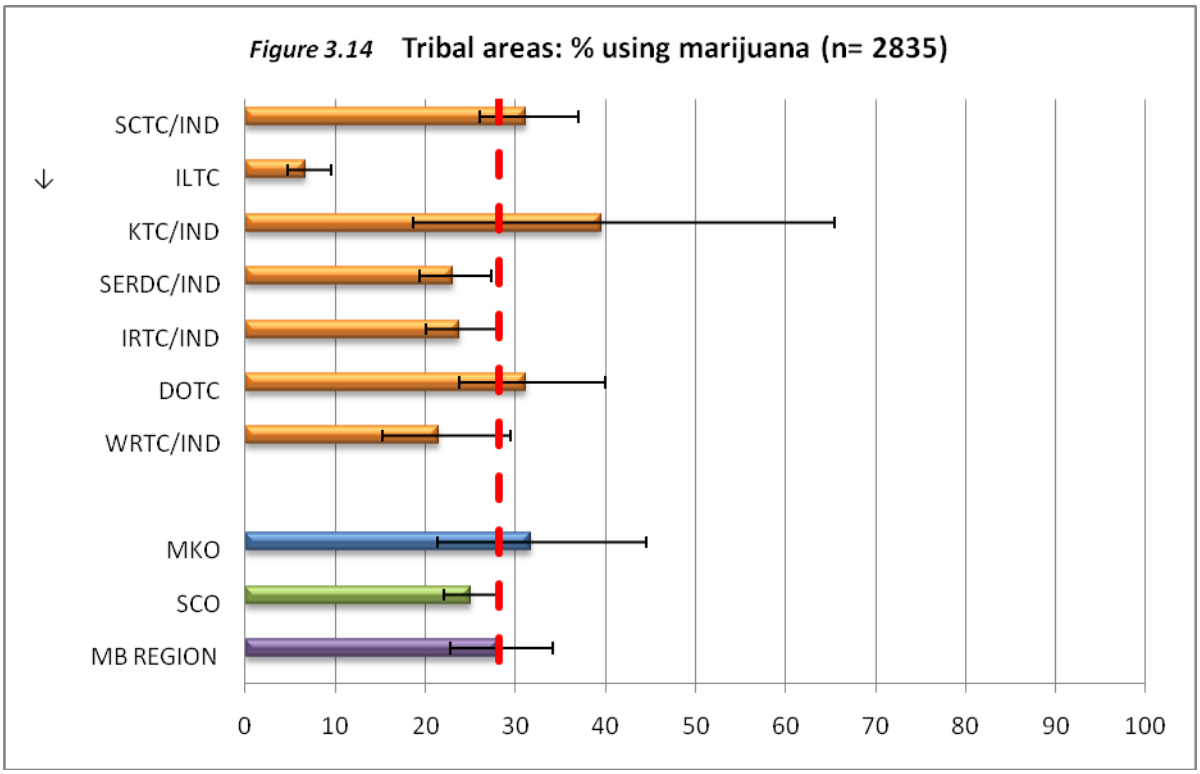
Figure 3.12 Tribal areas: % of drinkers reporting binge drinking once a month or more (n= 2681)



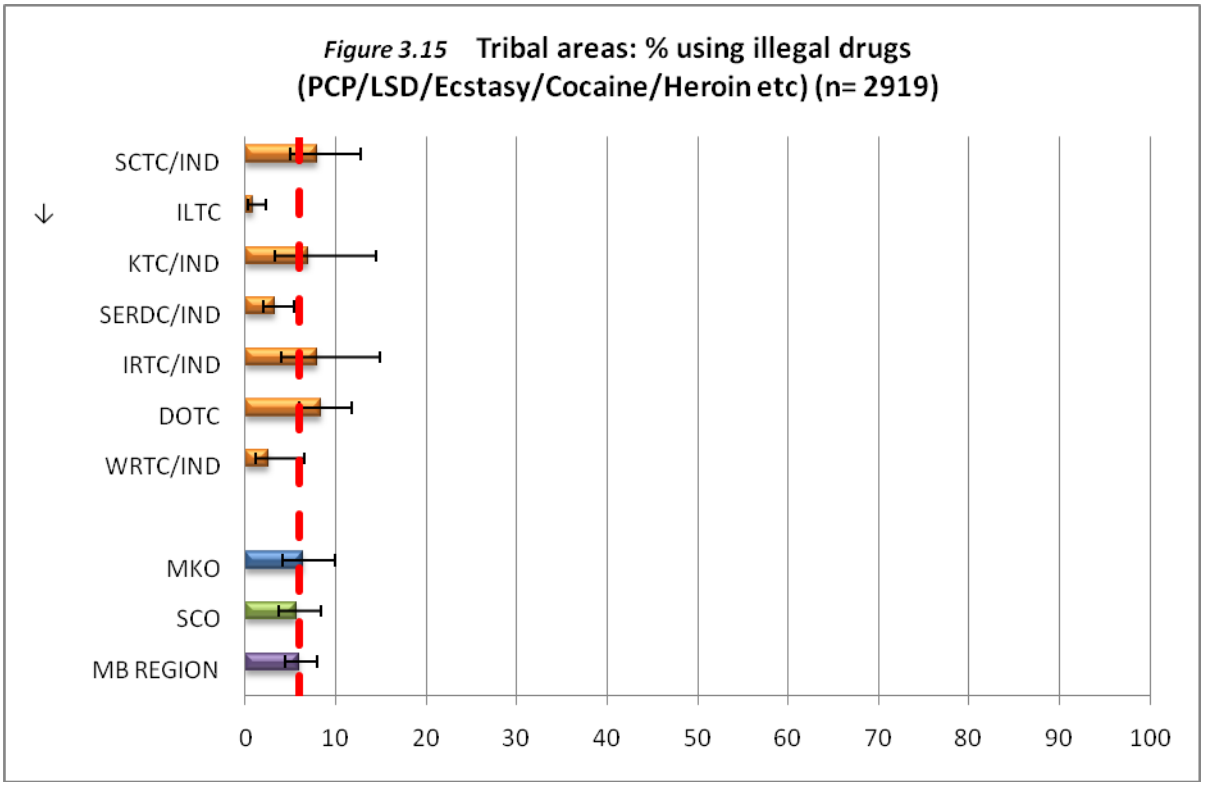
Use of prescription drugs in the past year without a prescription was reported by 12% of Manitoba respondents (MKO = 10%, SCO = 13%), with a range from a statistically significant low of 5% in ILTC in the north to a high of 14% in SERDC/IND in the south (*Fig. 3.13*).



Marijuana use (*Fig. 3.*14) in the past year was reported by 28% of the sample, with rates higher in the north than the south (32% vs. 25%). The range was from a statistically significant low of 7% in ILTC to 40% in KTC/IND.



Illegal drugs (*Fig. 3.15*), including PCP, angel dust, acid, LSD, amphetamines, ecstasy, cocaine, crack, freebase and heroin, were reported by 6% overall, with no difference between MKO and SCO. ILTC in the north reported the lowest use of illegal drugs, statistically significant at less than 1%, and use was highest in DOTC in the south and SCTC/IND in the north at 8% each.



A combined use of both marijuana and illegal drugs (*Fig. 3.16*) was reported by 33% of respondents (MKO = 34%, SCO = 31%). The highest use was in KTC/IND (41%), followed by SCTC/IND and DOTC (35% and 34% respectively). ILTC reported the lowest use, statistically significant at 11%.

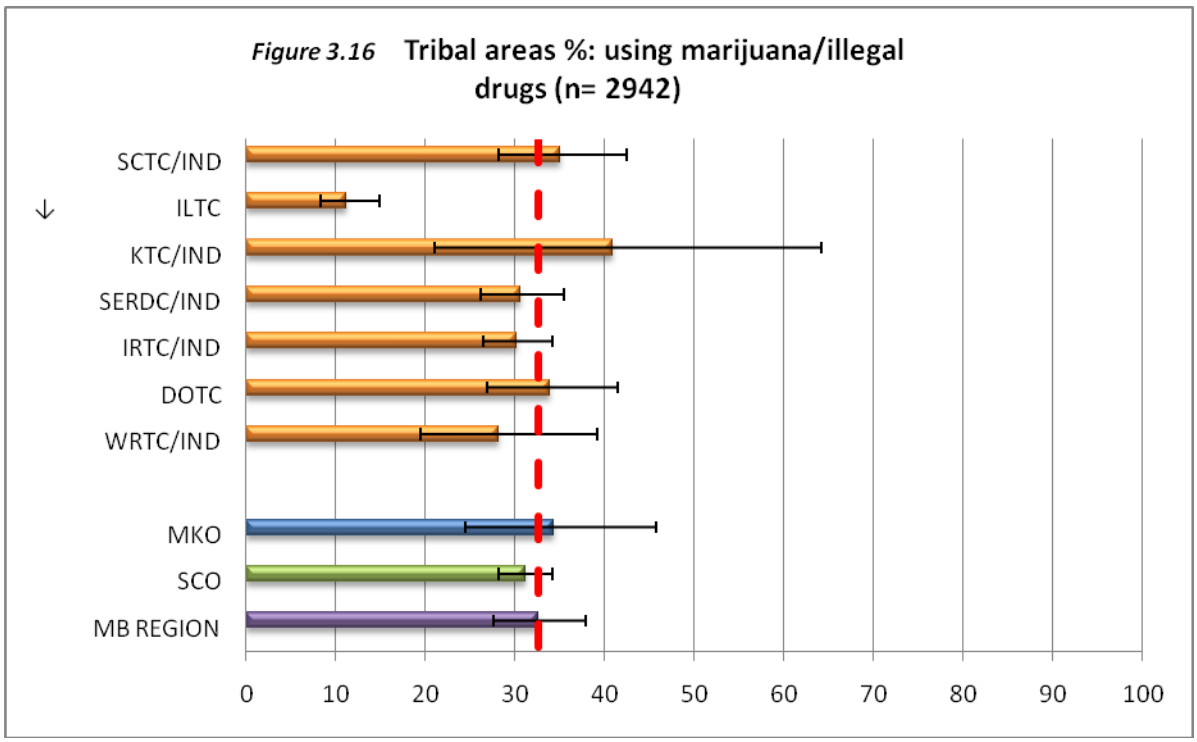


Figure 3.16 **Tribal areas %: using marijuana/illegal drugs (n= 2942)**

Polysubstance use (*Fig. 3.17*), defined as a combined use of two or more behaviours including current smoking, binge drinking and illegal drug use, was reported by 49% of all respondents, with no difference between MKO and SCO. Among northern tribal areas, KTC/IND reported the highest rate at 57% and ILTC the lowest, statistically significant at 18%; among southern tribal areas, IRTC/IND reported the lowest, statistically significant at 39%, with the other areas all reporting percentages just above the Manitoba average.

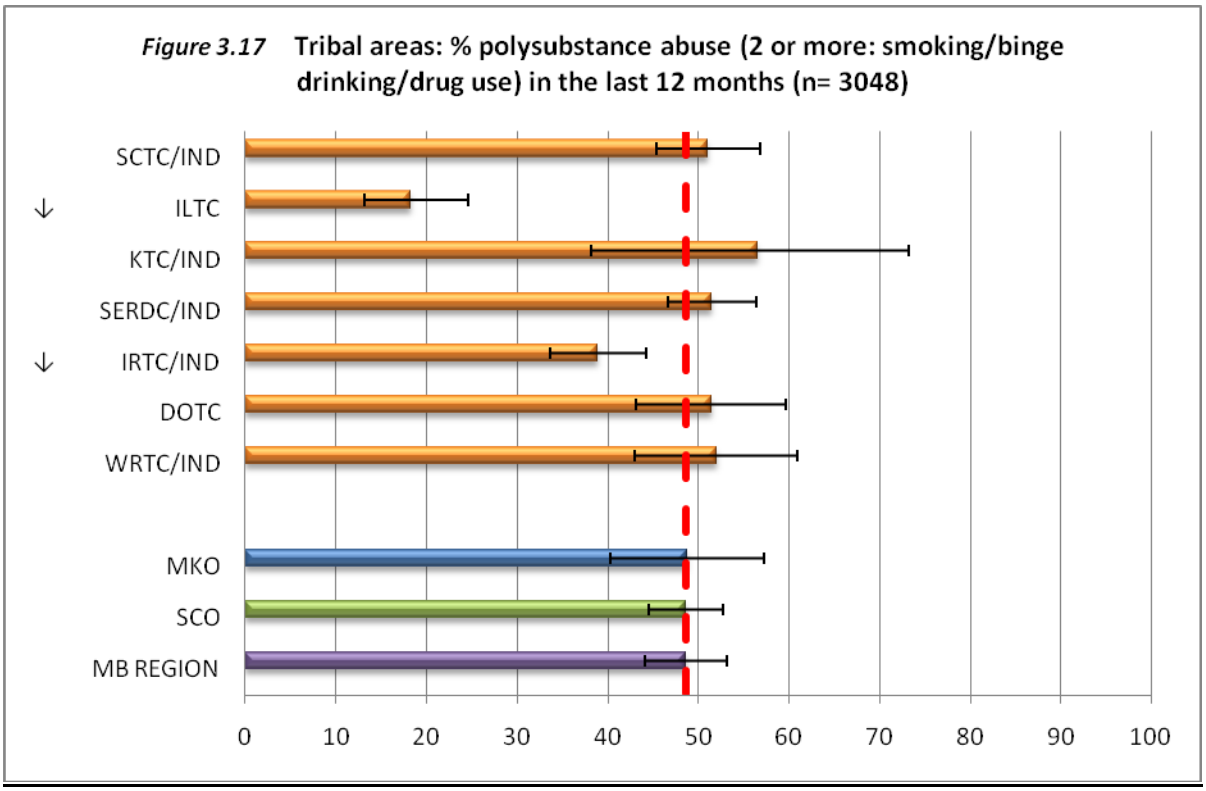


Figure 3.17 **Tribal areas: % polysubstance abuse (2 or more: smoking/binge drinking/drug use) in the last 12 months (n= 3048)**

Emotional Health

Emotional Difficulties

Thirty-seven percent (37%; MKO = 38%, SCO = 35%) of the Manitoba survey respondents stated they would describe their life as very or fairly stressful (*Fig. 4.1*), with a range from 32% in WRTC/IND to 44% in SCTC/IND. Additionally, 12% reported anxiety during the past year (*Fig. 4.2*), with no north/south difference and a range of 8% in DOTC to 15% in SERDC/IND).

Figure 4.1 **Tribal areas: % reporting stress (n= 2623)**

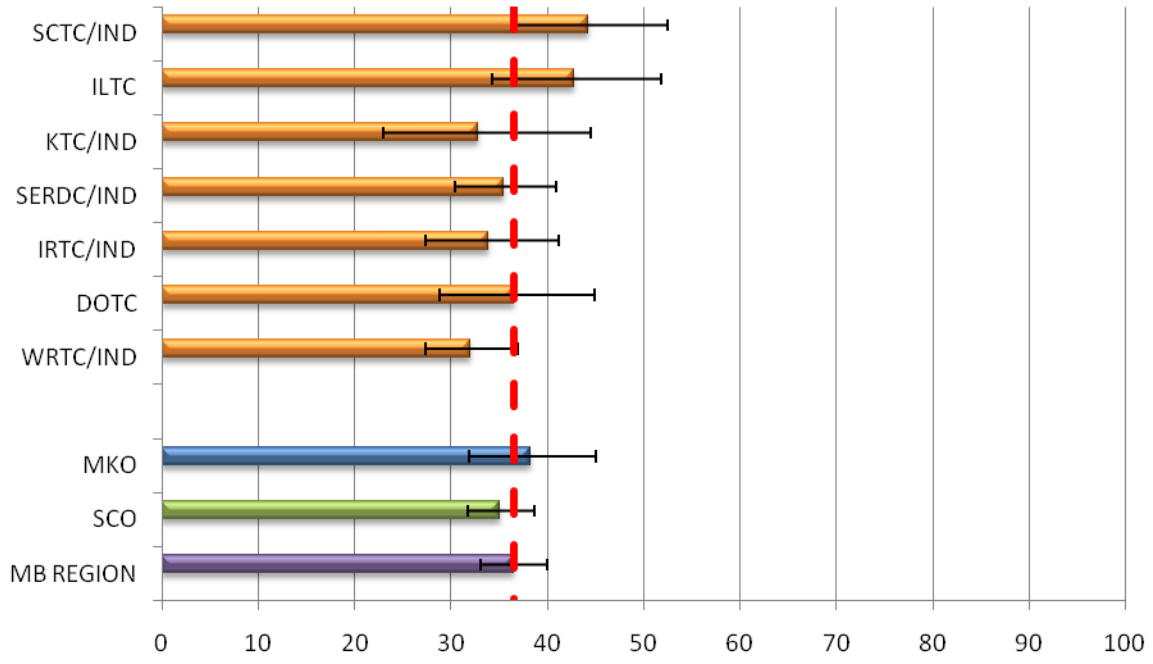
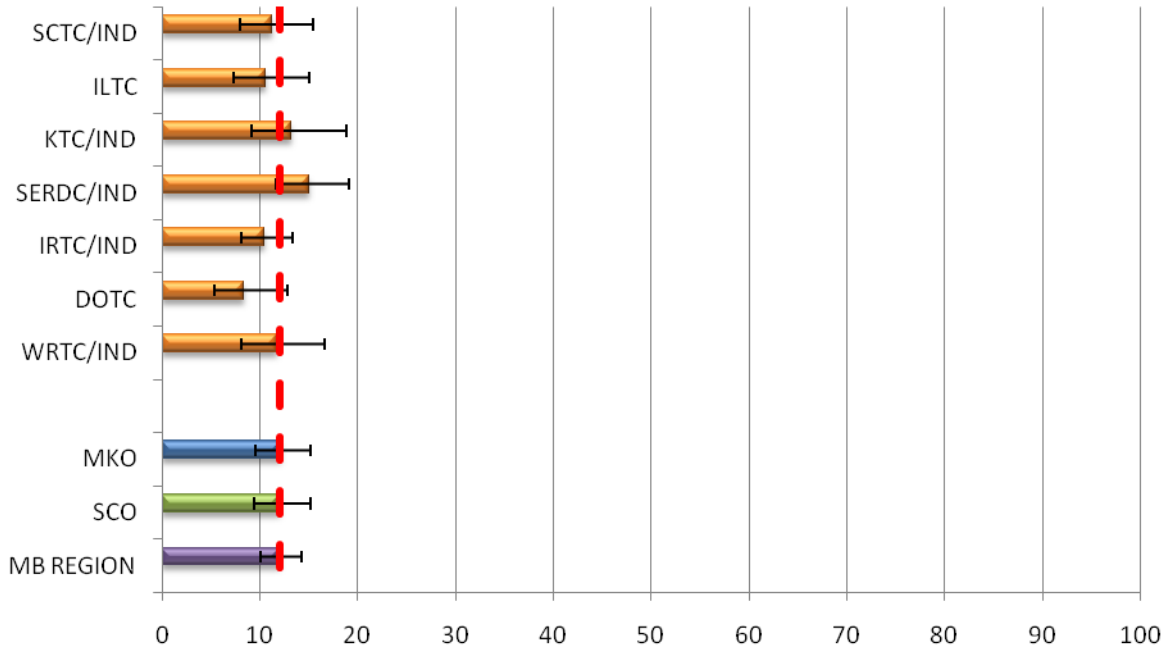
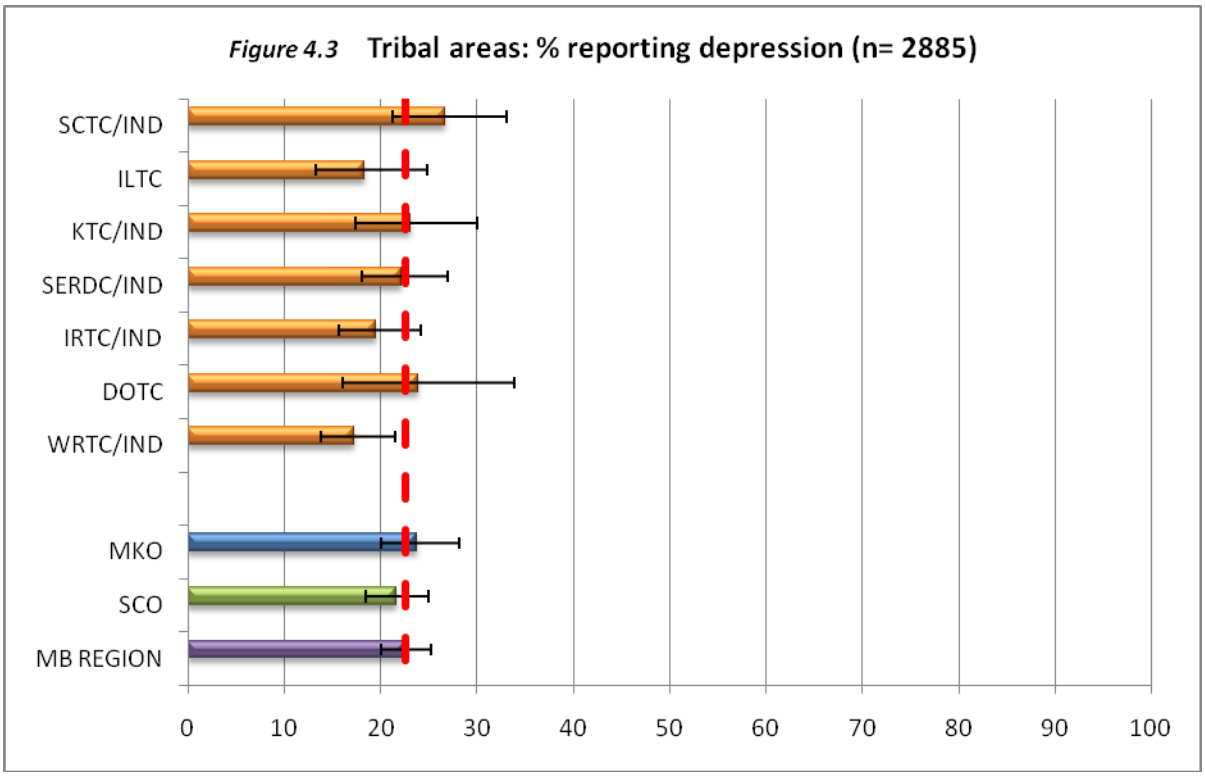


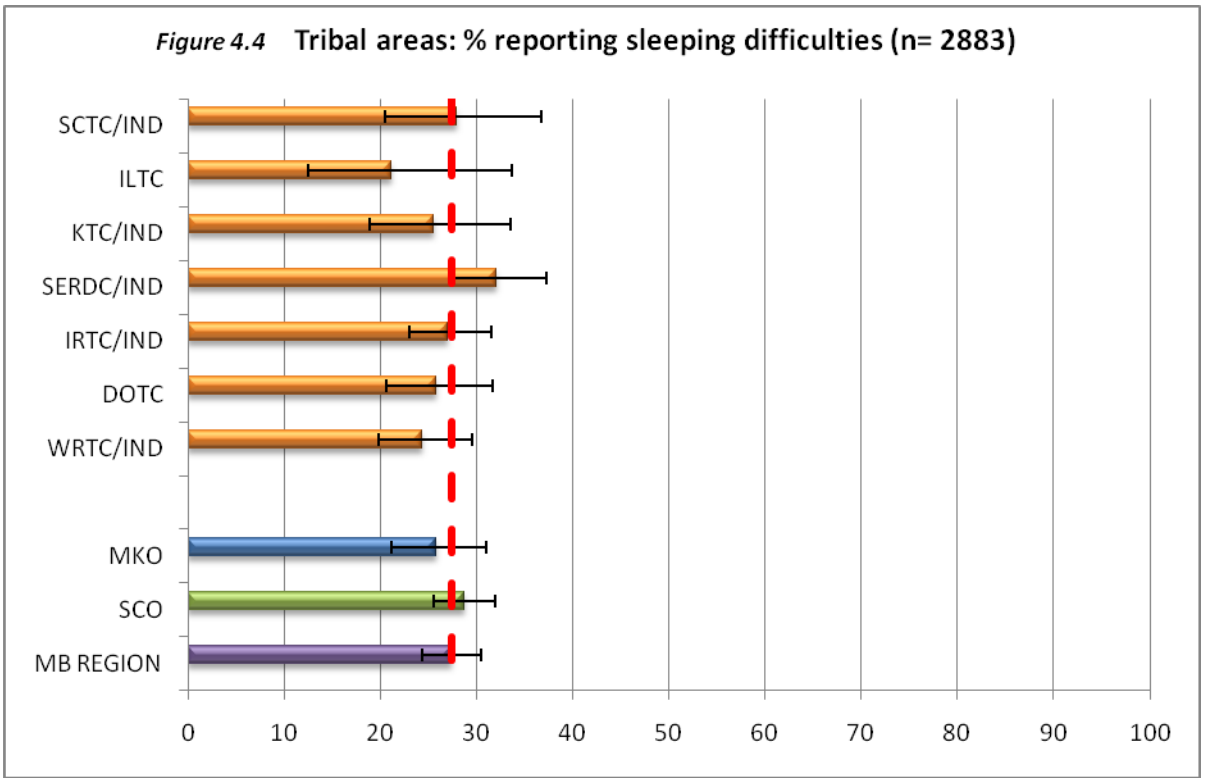
Figure 4.2 **Tribal areas: % reporting anxiety (n= 2872)**



Twenty-three percent (23%; MKO = 24%, SCO = 22%) of Manitoba FN respondents reported feeling depressed during the past year (*Fig 4.3*). Reports of depression were lowest in WRTC/IND at 17%, followed by ILTC at 18%. The highest rate of depression was in SCTC/IND in the north and DOTC in the south (27% and 24% respectively).



Problems sleeping during the past year were reported by 27% overall, with percentages slightly lower in the north than the south (26% vs. 29%) (*Fig. 4.4*). ILTC reported the least problem with sleeping (21%), and SERDC/IND reported the most (32%).



Eleven percent (11%) of respondents (MKO = 15%, SCO = 9%) reported having difficulty managing their feelings all or most of the time during the past year (*Fig. 4.5*). SERDC/IND reported the least difficulty (7%), followed by IRTC/IND and WRTC/IND (8% and 9% respectively). SCTC/IND respondents reported the greatest difficulty managing feelings (18%).

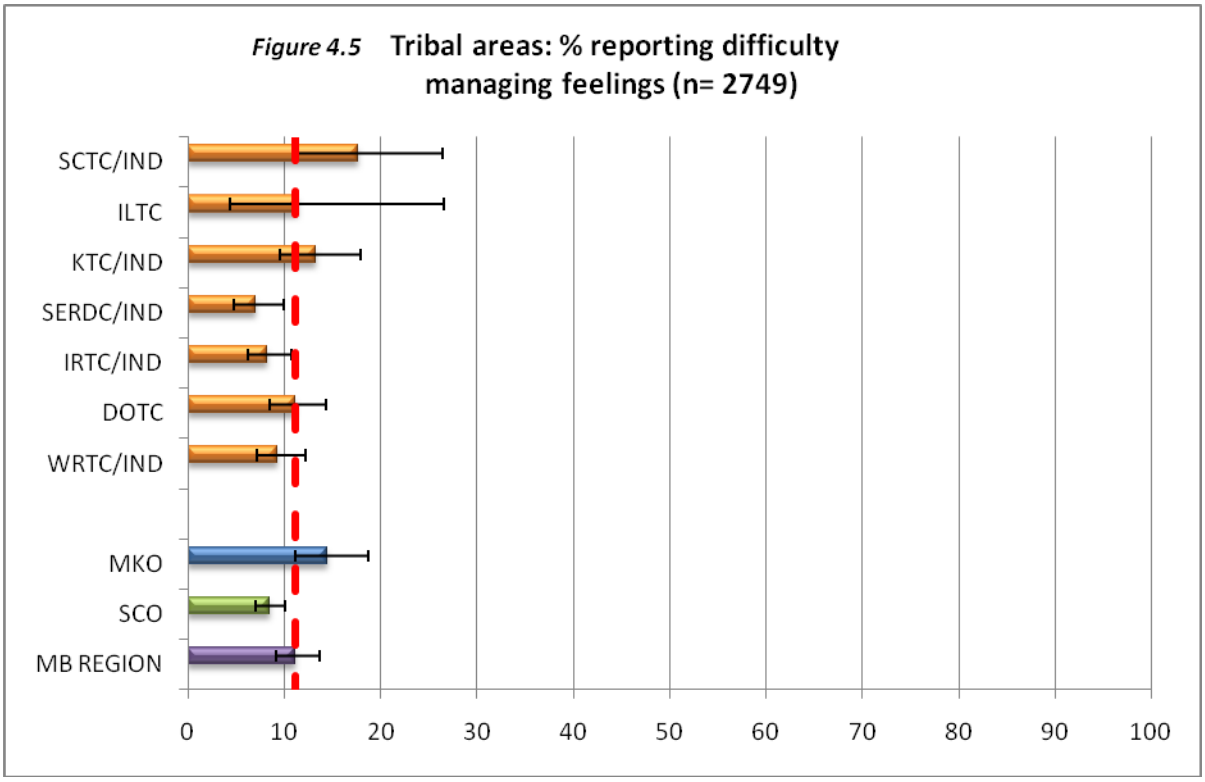


Figure 4.5 **Tribal areas: % reporting difficulty managing feelings (n= 2749)**

Trouble concentrating all or most of the time (*Fig. 4.*6) was reported by 5% overall (MKO = 8%, SCO = 3%), with a range from 2% (significant for SERDC/IND) to 10% (ILTC). As well, feeling withdrawn or quiet all or most of the time (*Fig. 4.*7) was reported by 9% overall (MKO = 10%, SCO = 7%), with ILTC having the highest percentage of these feelings (statistically significant at 17%).

Figure 4.6 **Tribal areas: % reporting trouble concentrating (n= 2772)**

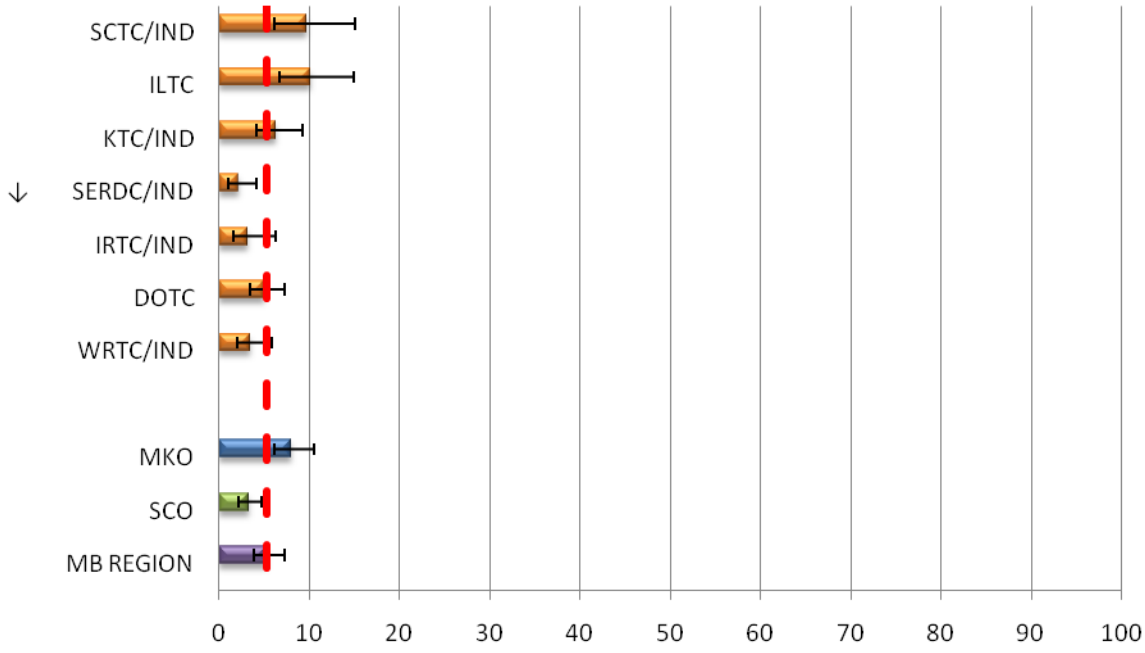
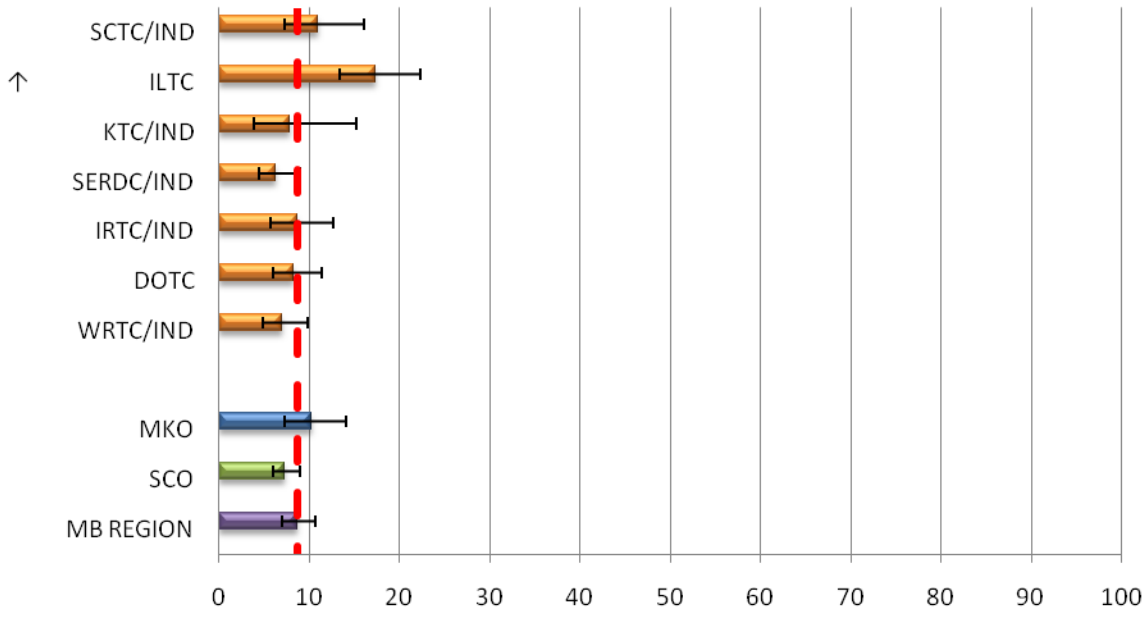
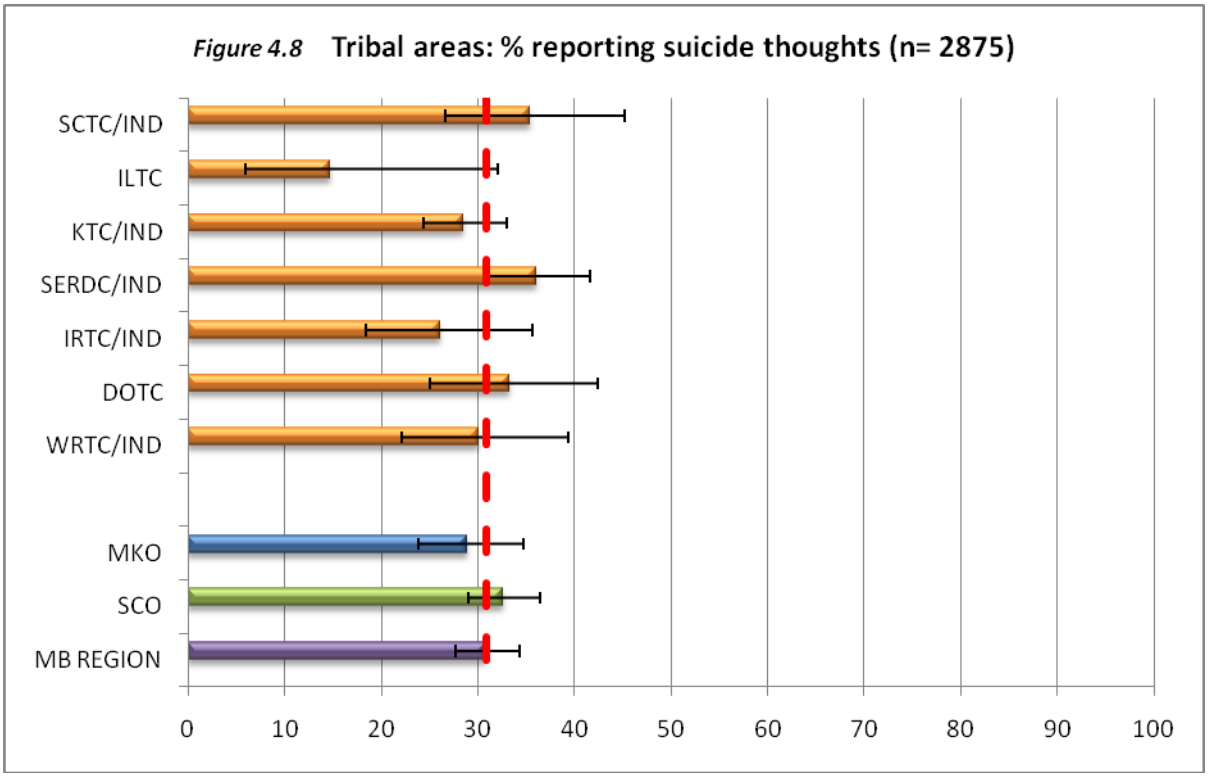


Figure 4.7 **Tribal areas: % reporting feeling withdrawn or quiet (n= 2754)**

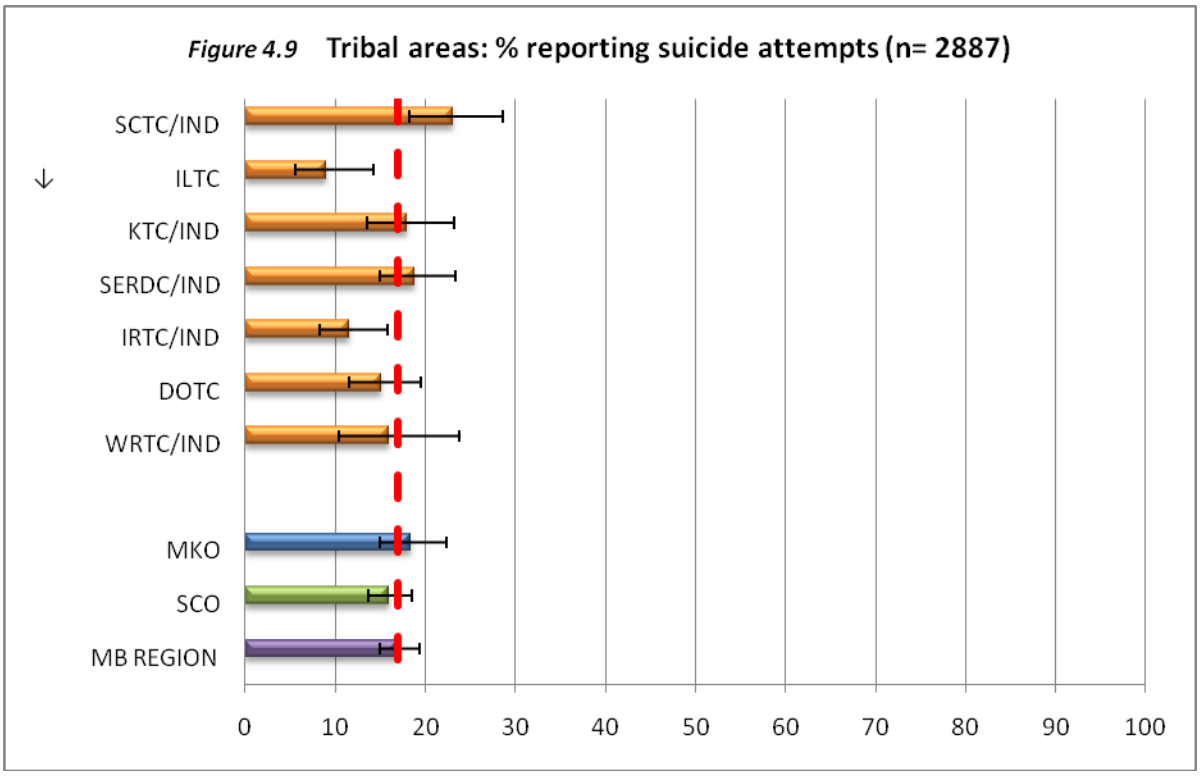


Traumatic Experiences

Nearly one-third of respondents (31%; MKO = 29%, SCO = 33%) reported having had thoughts about committing suicide at one time in their life (*Fig. 4.8*). Percentages were highest in SERDC/IND and SCTC/IND (36% and 35% respectively), and lowest in ILTC (15%).



Seventeen percent (17%; MKO = 18%, SCO = 16%) overall also reported having attempted suicide in their lifetime (*Fig. 4.9*). Rates of suicide attempts ranged from a statistically significant low of 9% in ILTC to a high of 23% in SCTC/IND.



Reports of ever having experienced physical, mental, emotional or sexual abuse over the lifetime (*Fig. 4.10*) were also lowest in ITLC (19%) and highest in SCTC/IND (51%), with an overall rate for Manitoba FNs of 41% (MKO = 39%, SCO = 43%).

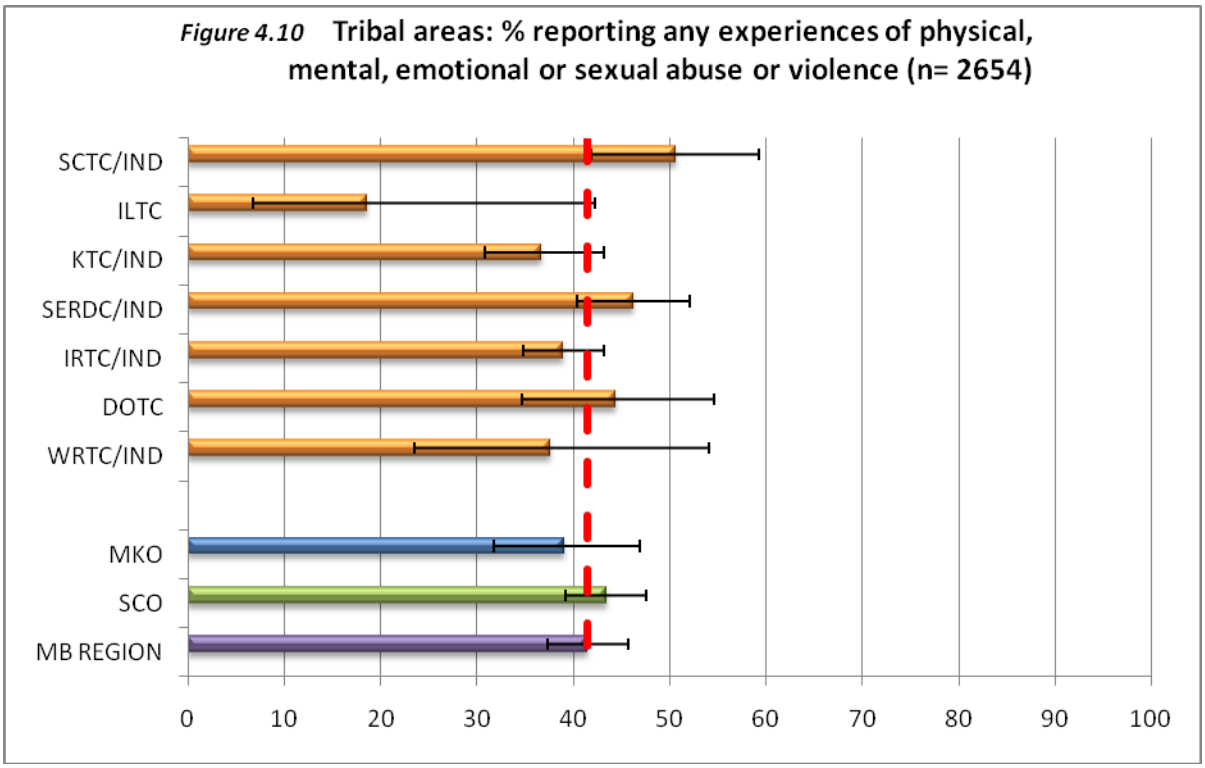
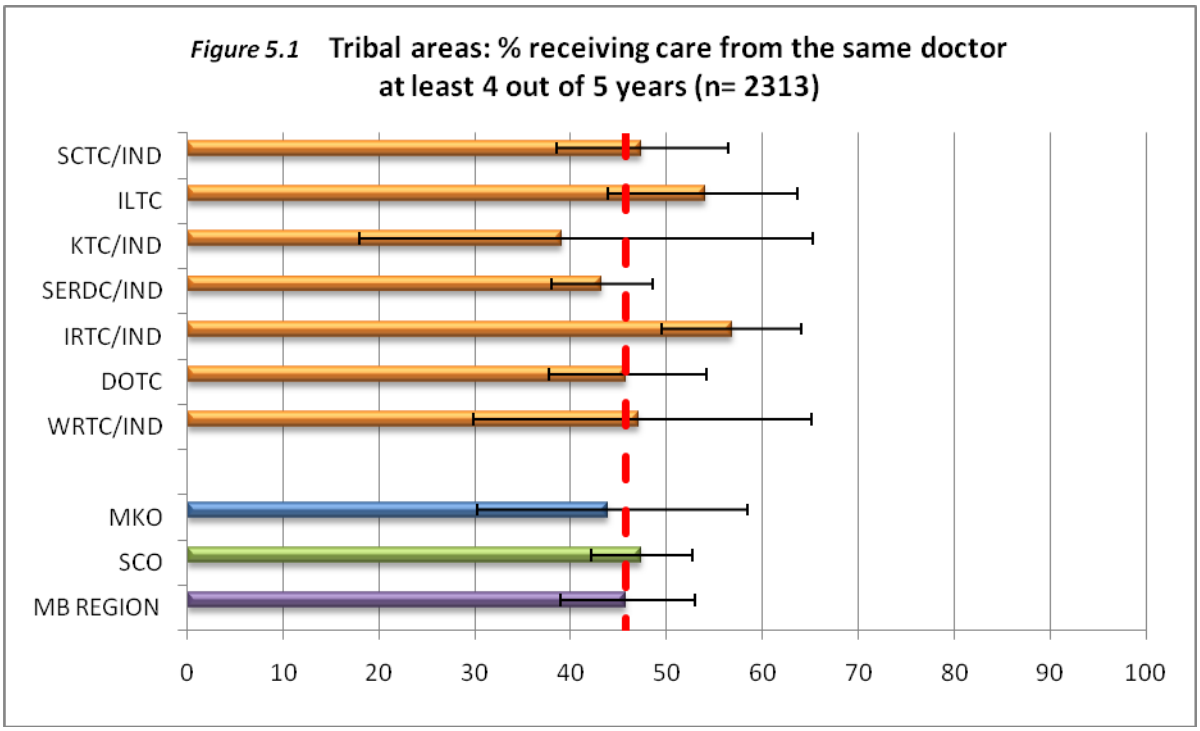


Figure 4.10 **Tribal areas: % reporting any experiences of physical, mental, emotional or sexual abuse or violence (n= 2654)**

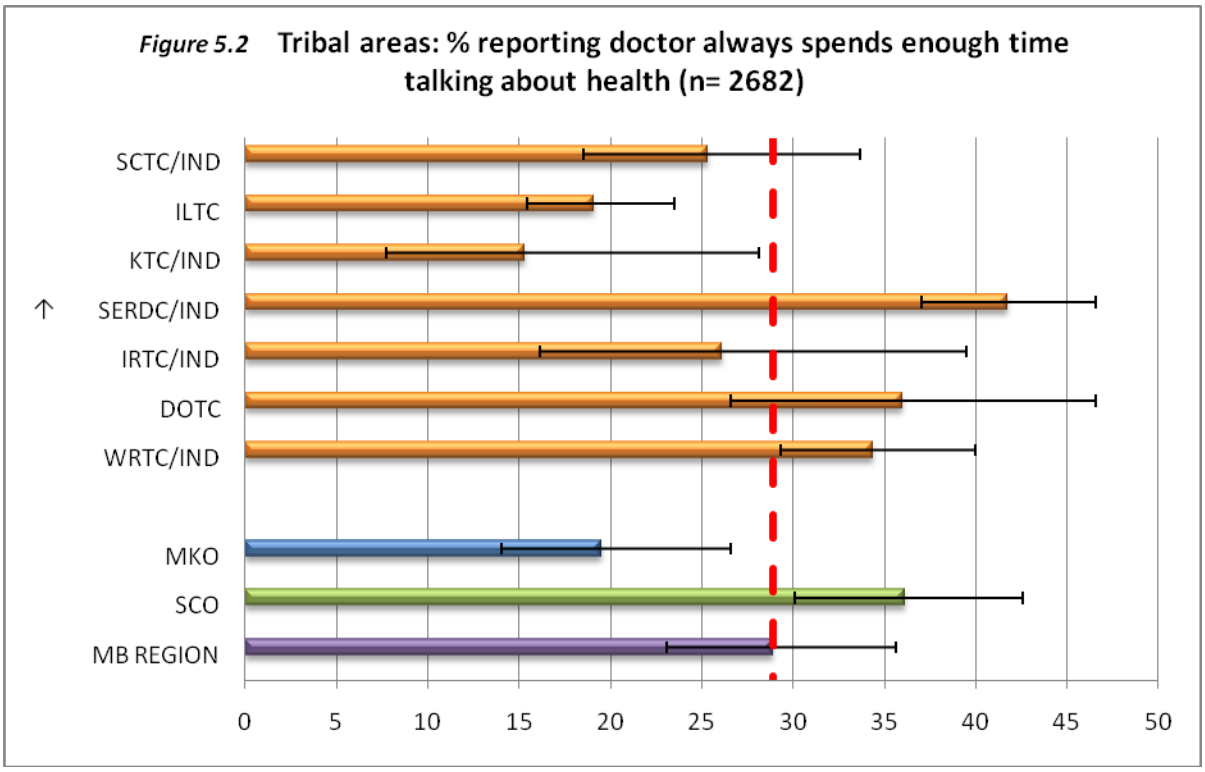
Use of Primary Health Services

Physician care

Nearly half (46%) of Manitoba FN survey respondents reported having received care from the same doctor at least four of the past five years, with rates only slightly lower in the north than the south (44% and 47% respectively) (*Fig. 5.1*). The greatest consistency of care was reported in IRTC/IND (57%), and the least in KTC/IND (39%).

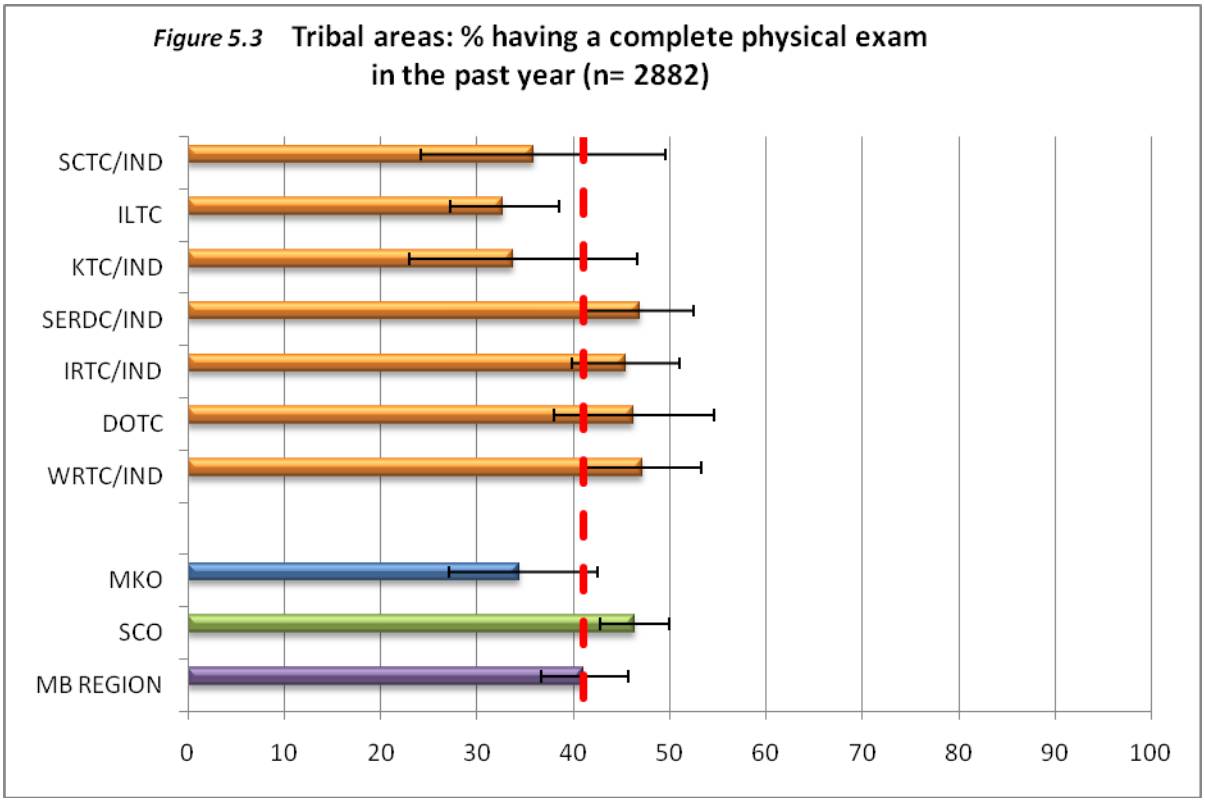


Twenty-nine percent (29%; MKO = 20%, SCO = 36%) overall stated their doctor always spends enough time talking with them about their health (*Fig. 5.2*). The range was from a low of 15% in KTC/IND to a high of 42% (statistically significant) in SERDC/IND.

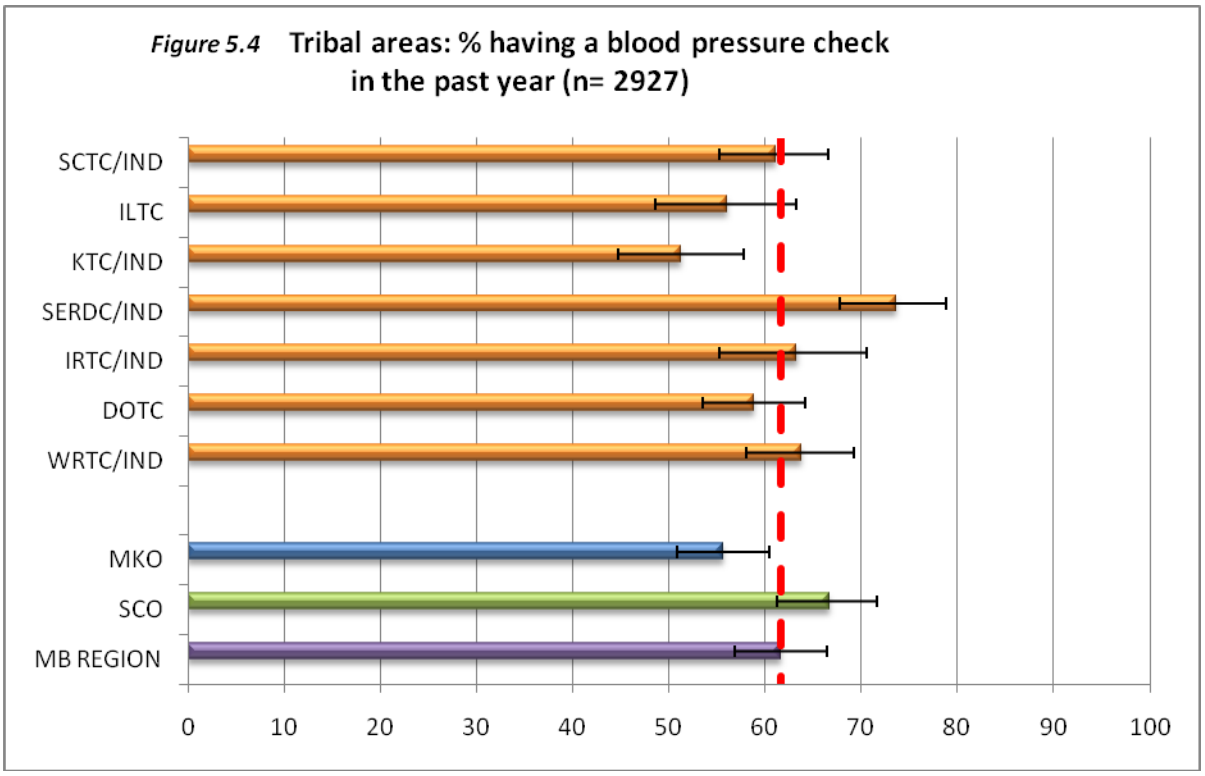


Physical exams

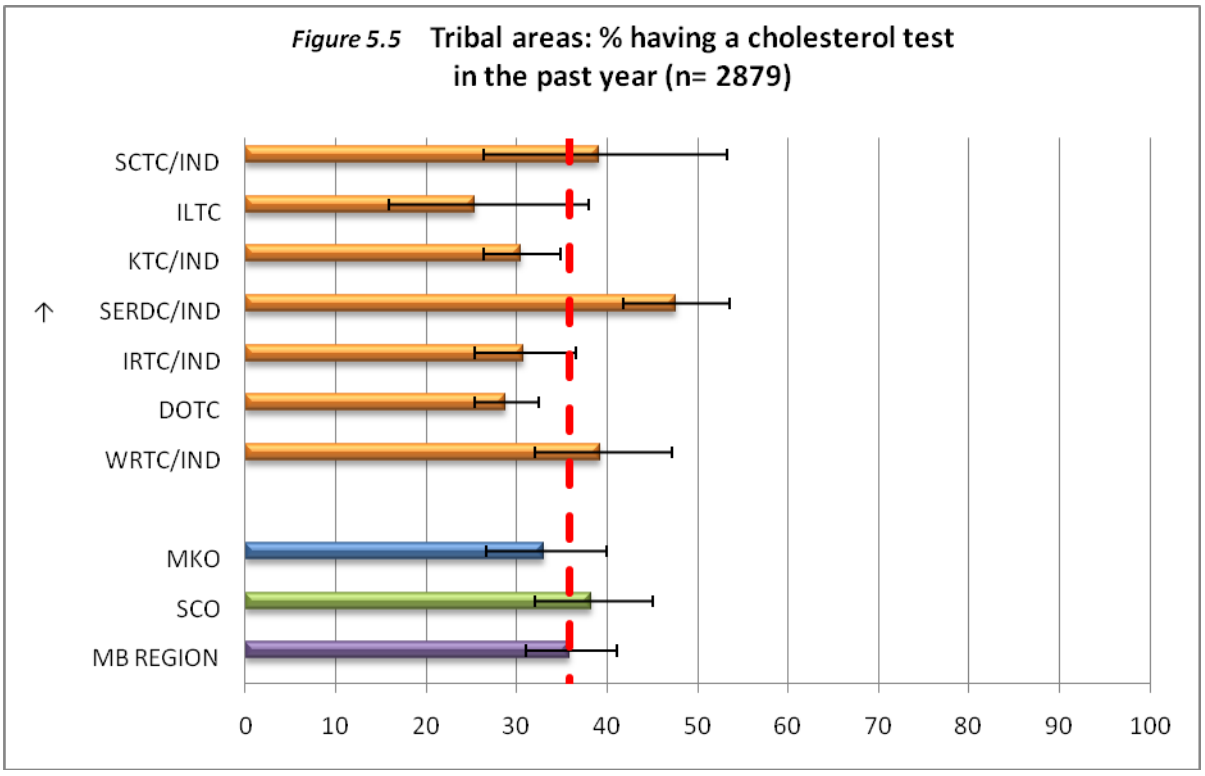
Having a complete physical exam in the past year (*Fig. 5.3*) was reported by 41% overall, with lower rates in the north than the south (MKO = 34%, SCO = 46%). Rates ranged from a low of 33% in ILTC to a high of 47% in both SERDC/IND and WRTC/IND.



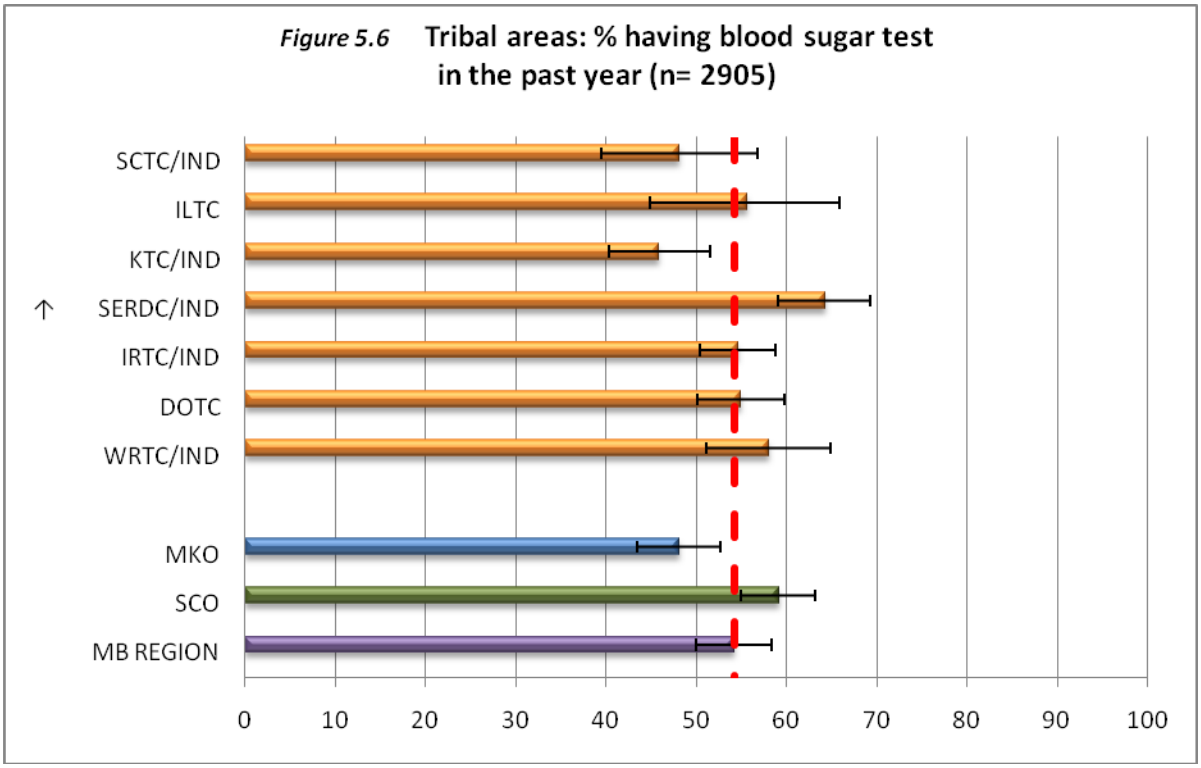
The majority of FN respondents (62%) overall had their blood pressure checked in the previous year (*Fig. 5.4*), with a difference of 56% in MKO vs. 67% in SCO. The range was from a high of 74% in SERDC/IND to a low of 51% in KTC/IND.



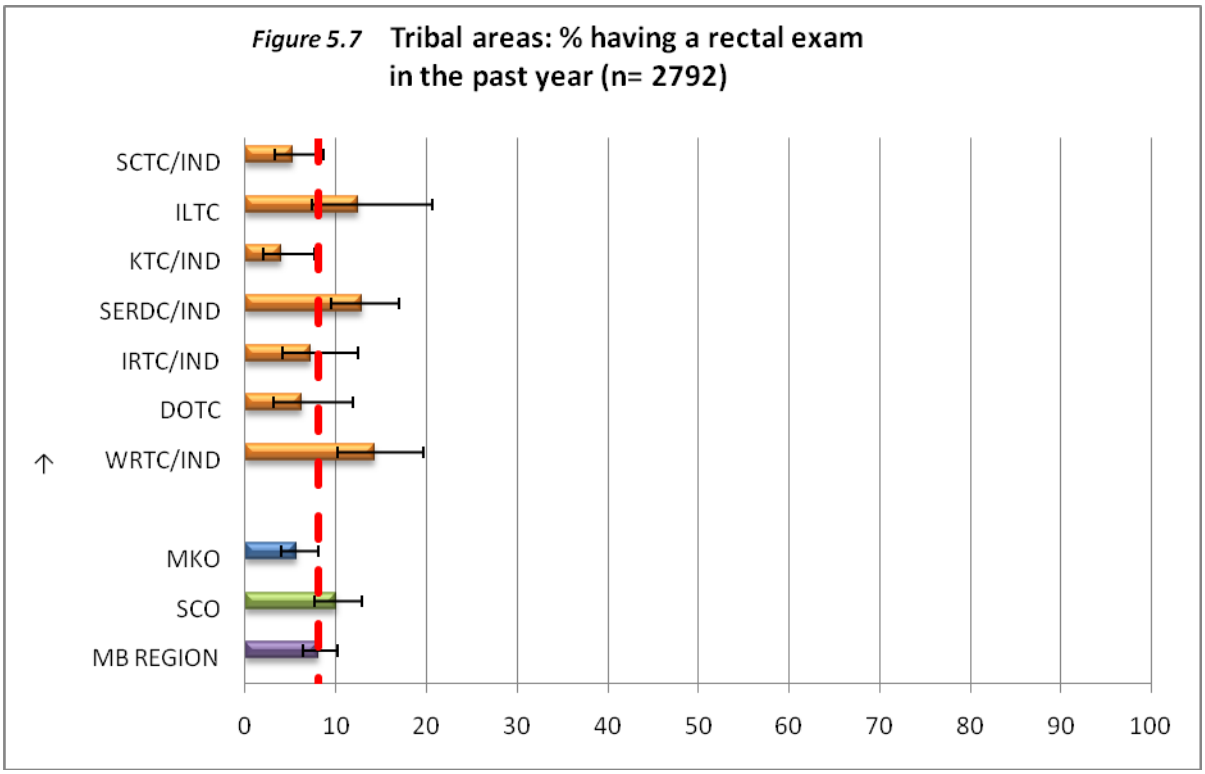
Thirty-six percent (36%) overall reported having had their cholesterol tested during the past year (*Fig. 5.5*), with slightly lower rates in the north than south (33% vs. 38%). The range was from 25% (ILTC) to a significant high of 48% (SERDC/IND).



SERDC/IND also reported a high percentage of blood sugar tests during the previous year (*Fig. 5.6*), significant at 64% compared to the overall Manitoba rate of 54% (MKO = 48%, SCO = 59%). The lowest rate of blood sugar testing was in KTC (46%).



Rectal exams during the past year (*Fig. 5.7*) were reported by 8% overall (MKO = 6%, SCO = 10%) with a statistically significant high of 14% in WRTC/IND and a low of 4% in KTC.



Screening tests

Mammogram tests within the past five years for breast cancer screening were reported by 27% (MKO = 26%, SCO = 28%) of all female FN survey respondents (*Fig. 5.8*). Fewer mammograms were reported in ILTC (statistically significant at 13%) and DOTC (statistically significant 15%). WRTC/IND reported the highest percentage of mammograms at 34%.

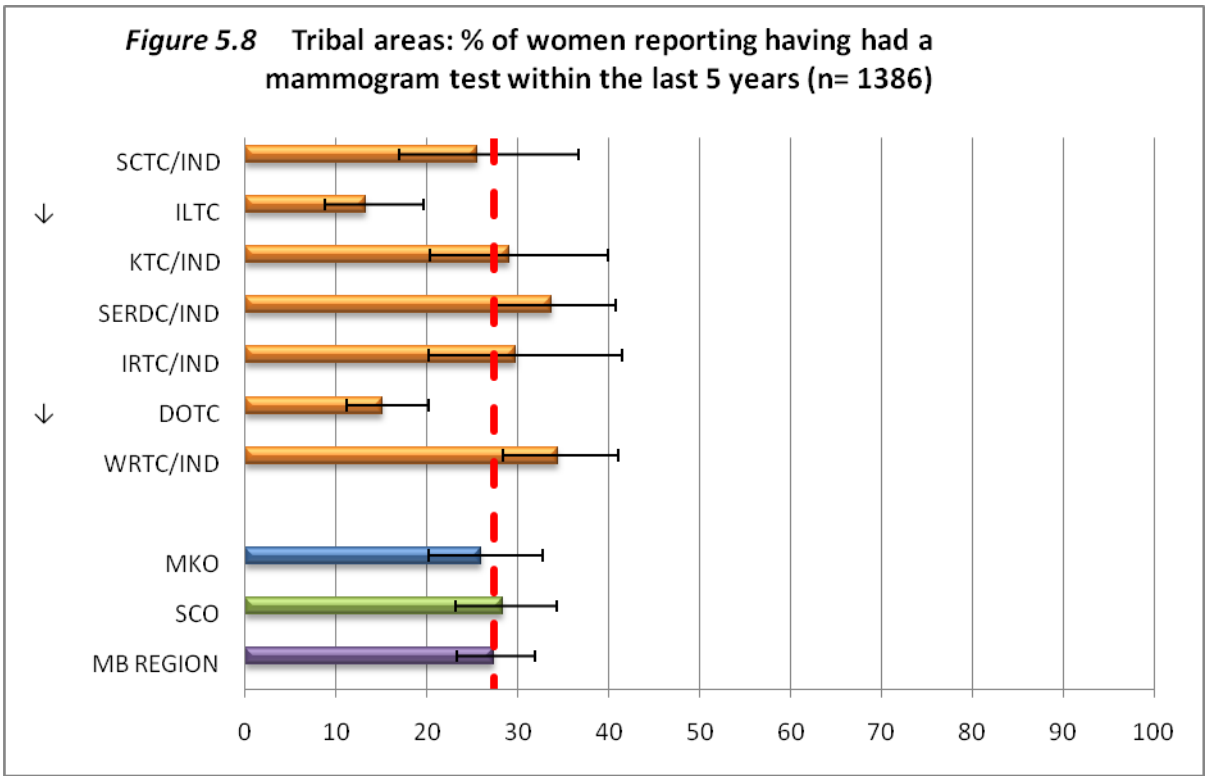
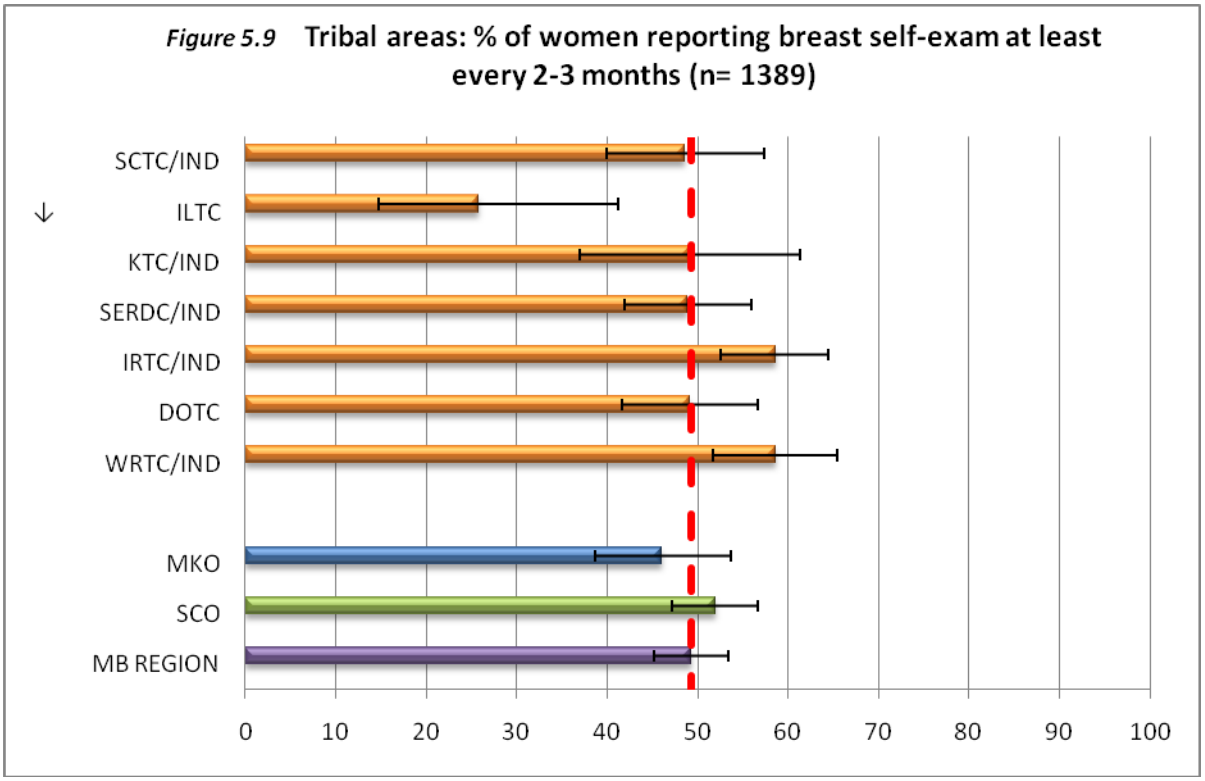


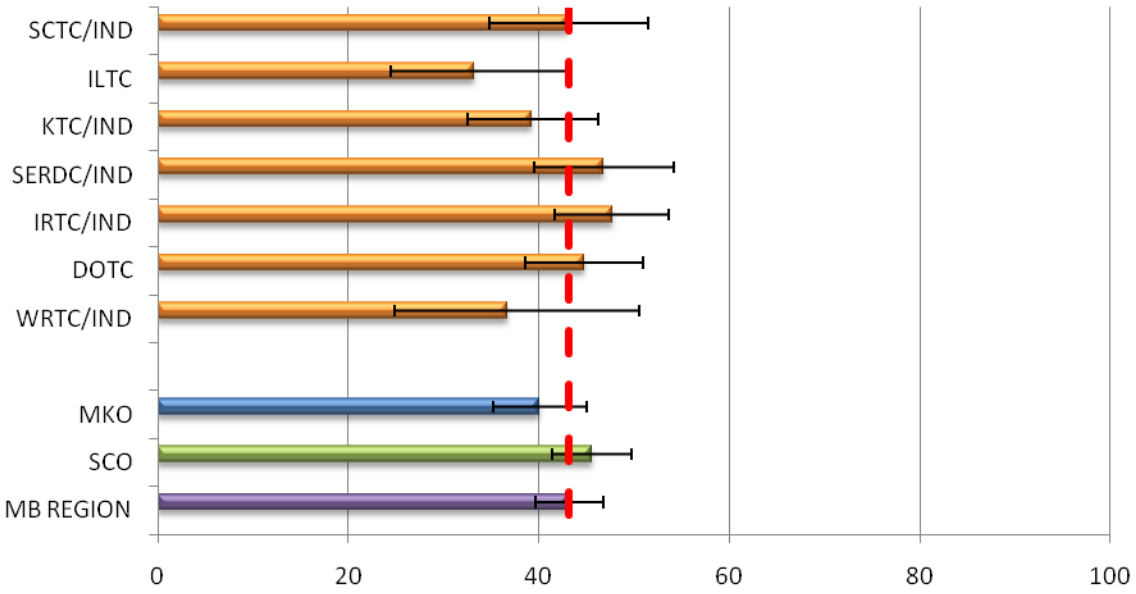
Figure 5.8 **Tribal areas: % of women reporting having had a mammogram test within the last 5 years (n= 1386)**

Breast self-exams at least every two or three months (*Fig. 5.9*) were reported by 49% of women (MKO = 46%, SCO = 52%). ILTC reported the least, statistically significant at 26%, and both IRTC/IND and WRTC/IND reported the most at 59% each.



PAP smear screening in the past twelve months for cervical cancer (*Fig. 5.10*) was reported by 43% of women overall (MKO = 40%, SCO = 46%). Again ILTC reported the lowest percentage (33%), followed by WRTC/IND (37%). The highest rate of PAP screening was in IRTC/IND at 48%.

Figure 5.10 **Tribal areas: % of women reporting having had a PAP smear test within the past year (n= 1379)**



Slightly more than half of Manitoba FN respondents (52% of all women and men; MKO = 49%, SCO = 55%) reported having had a vision or eye exam in the past year (*Fig. 5.11*). KTC/IND had the lowest rate at 43% and IRTC/IND had the highest at 58%.

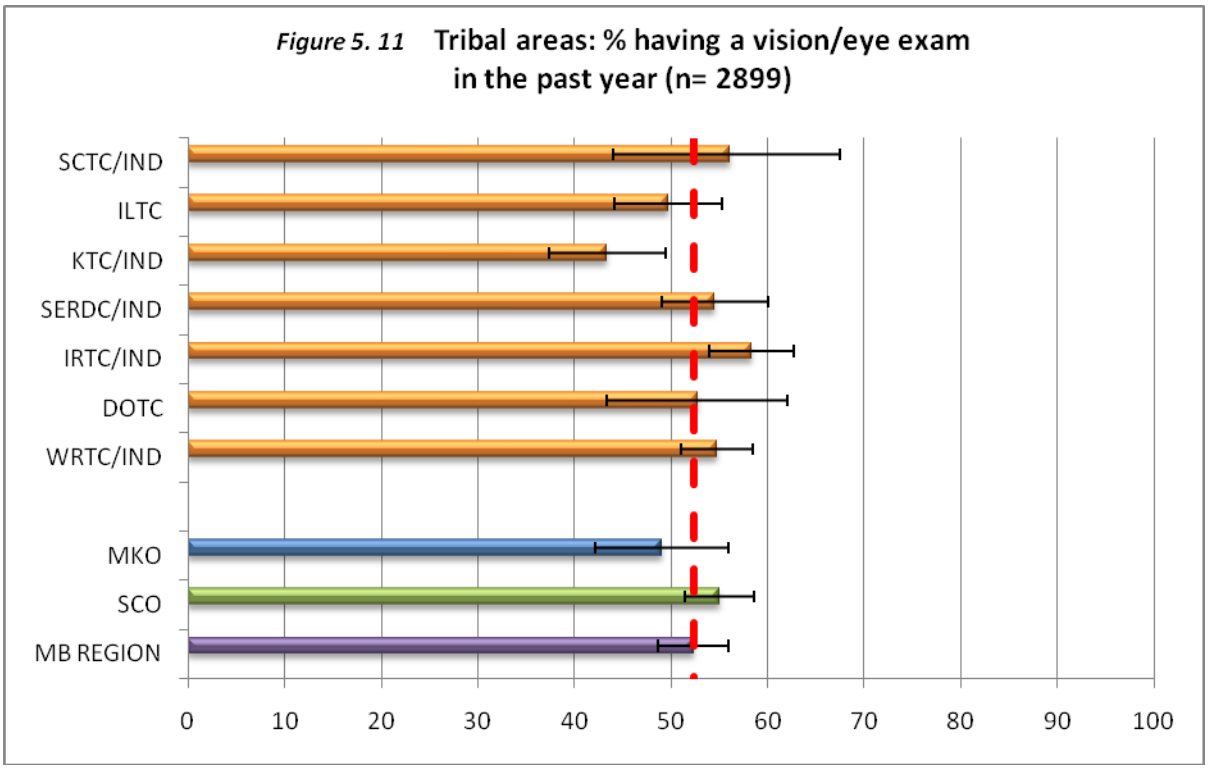
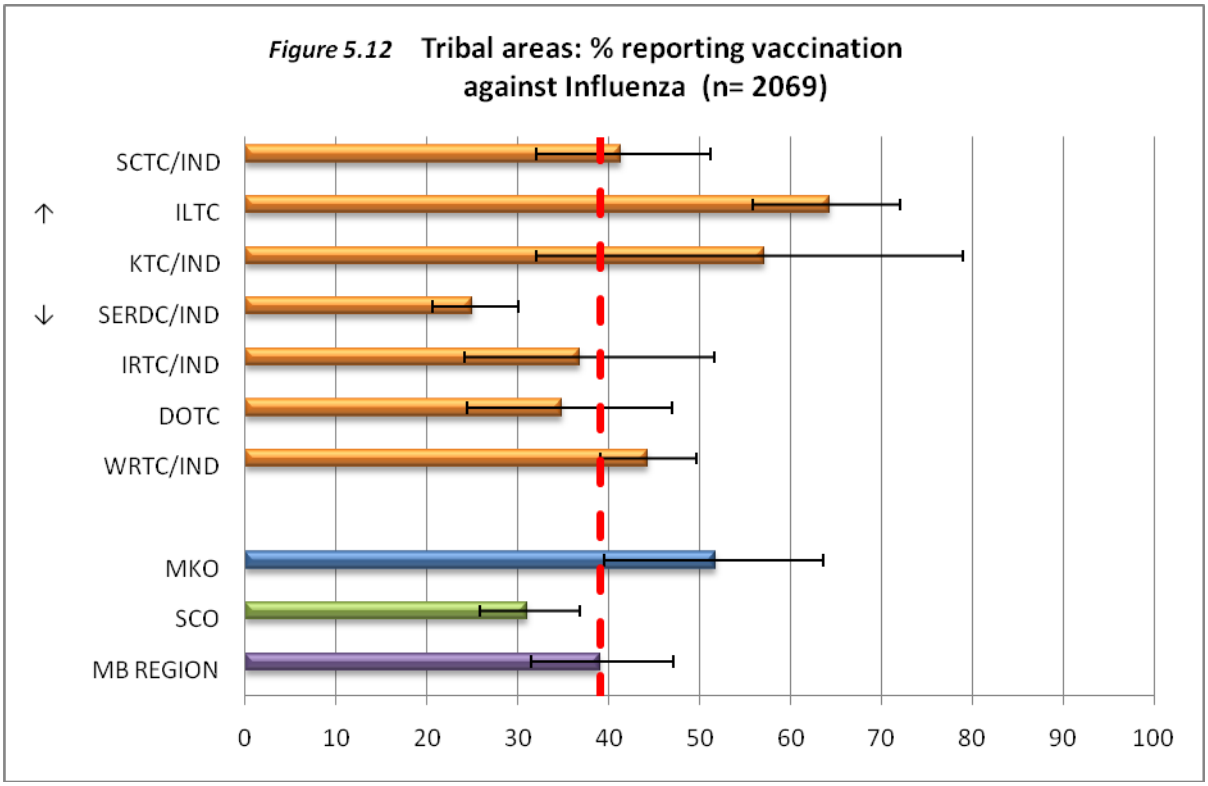


Figure 5. 11 **Tribal areas: % having a vision/eye exam in the past year (n= 2899)**

Vaccinations

There was a wide range of reports for influenza vaccinations in the twelve months prior to the survey (*Fig. 5.12*), with MKO reporting 52% and SCO reporting 31%, compared to the total Manitoba region at 39%. The lowest vaccination rate was in SERDC/IND, statistically significant at 25%, and the highest in ILTC, statistically significant at 64%.



Pneumonia vaccination rates during the same period (*Fig. 5.13*) ranged from a low of 3% (IRTC/IND) to a high of 13% (ILTC) compared to an overall rate of 8% (MKO = 10%, SCO = 6%).

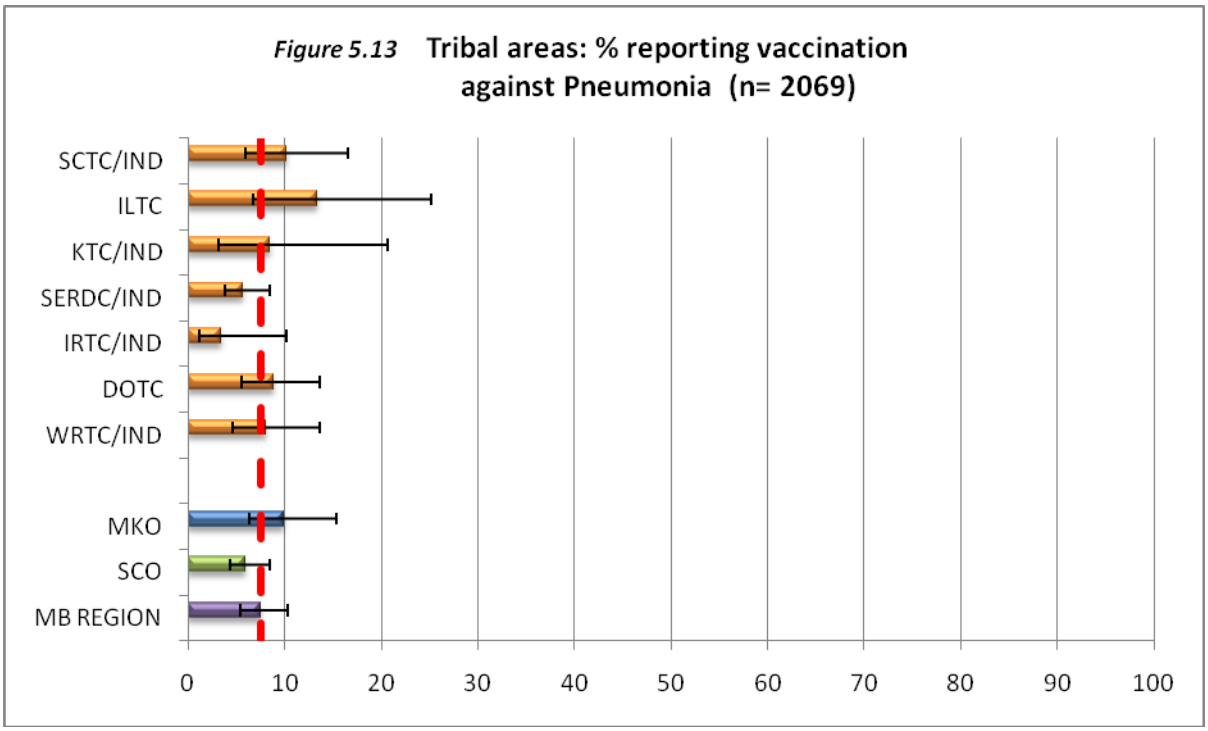
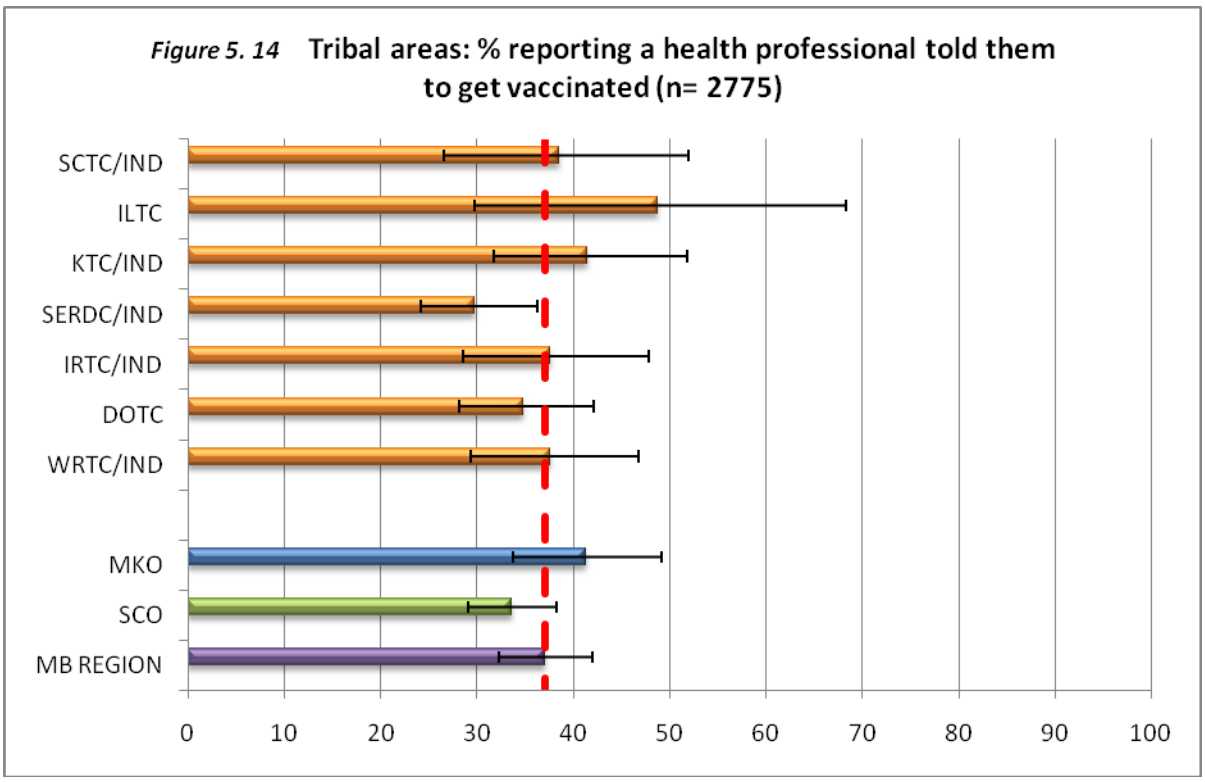


Figure 5.13 **Tribal areas: % reporting vaccination against Pneumonia (n= 2069)**

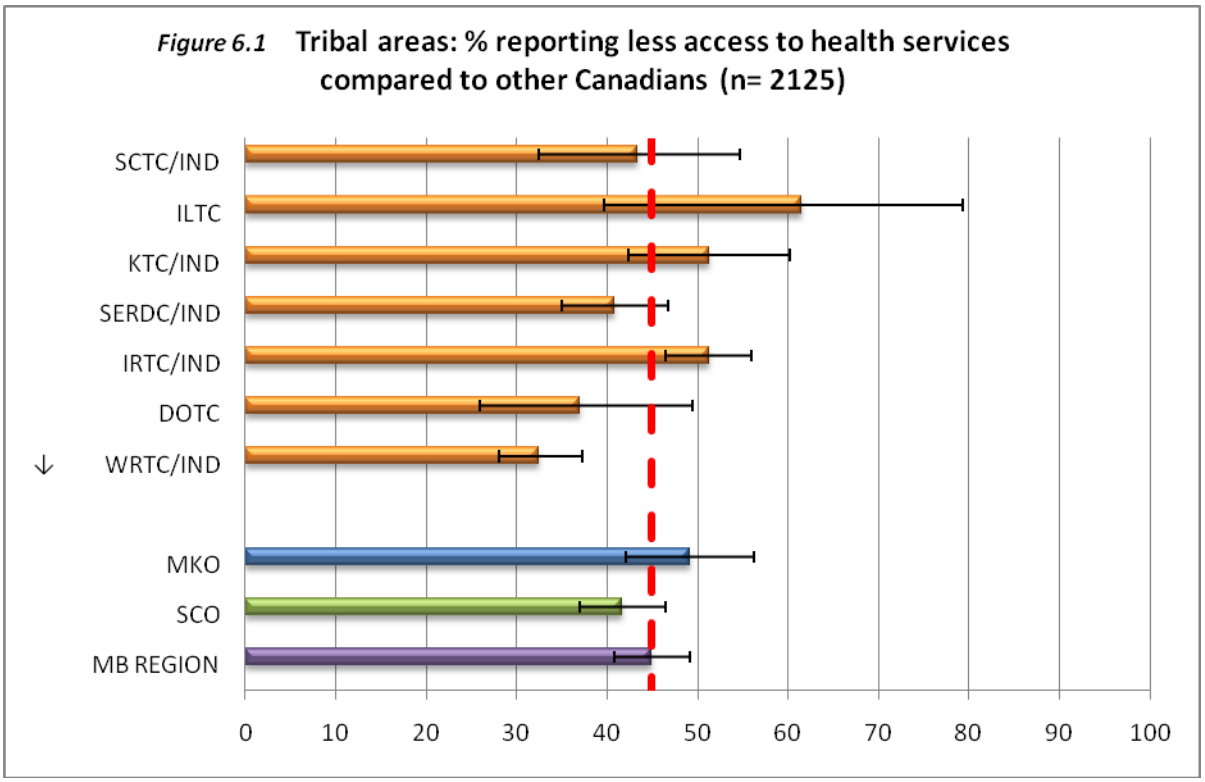
Thirty-seven percent (37%) of respondents overall (MKO = 41%, SCO = 34%) said that at one time they had been told by a health professional to be vaccinated (*Fig. 5.14*), with a total range of 30% - 49%. Rates in southern Tribal areas ranged from 30% in SERDC/IND to 38% in WRTC/IND), and in the northern Tribal areas from 39% in SCTC/IND to 49% in ILTC.



Barriers to Access of Health Services

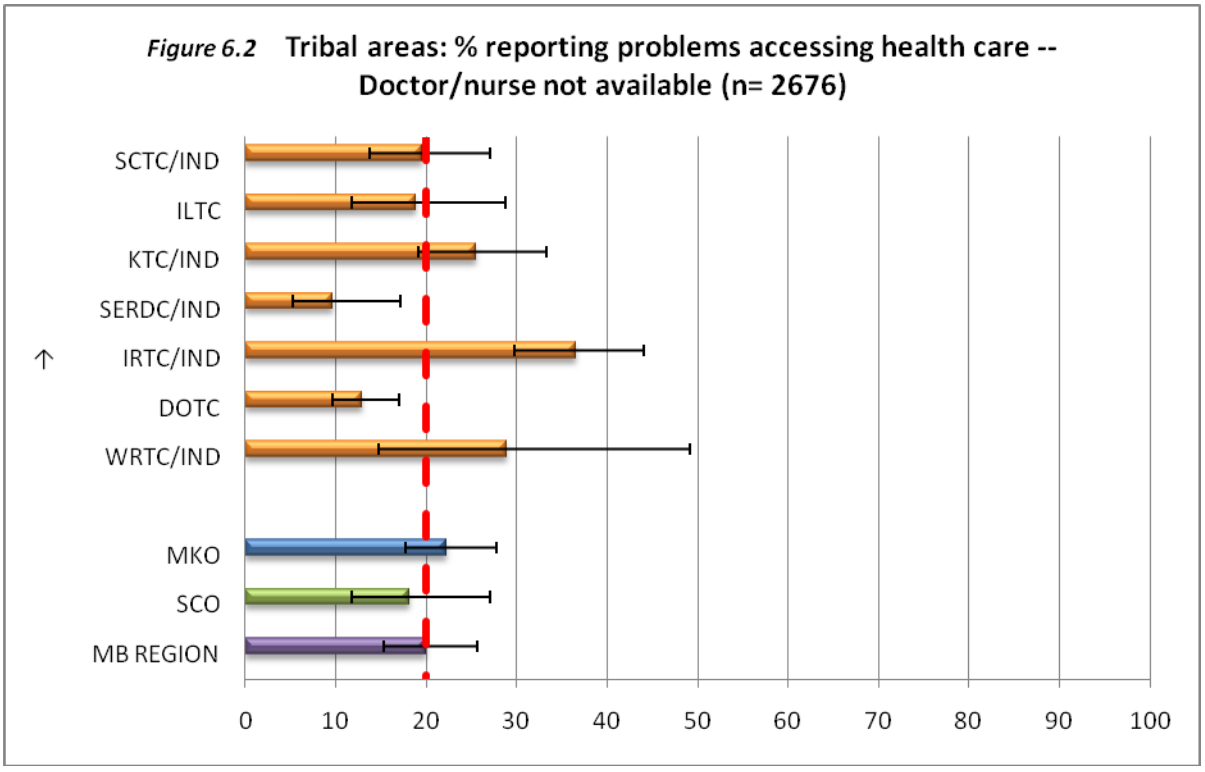
Access compared to other Canadians

Forty-five percent (45%) of Manitoba FN respondents (MKO = 49%, SCO = 42%) felt they had less access to health services compared to other Canadians (*Fig. 6.1*). WRTC/IND reported the lowest percentage of those reporting less access services (statistically significant at 32%) and ILTC reported the highest percentage of those reporting less access compared to other Canadians (61%).

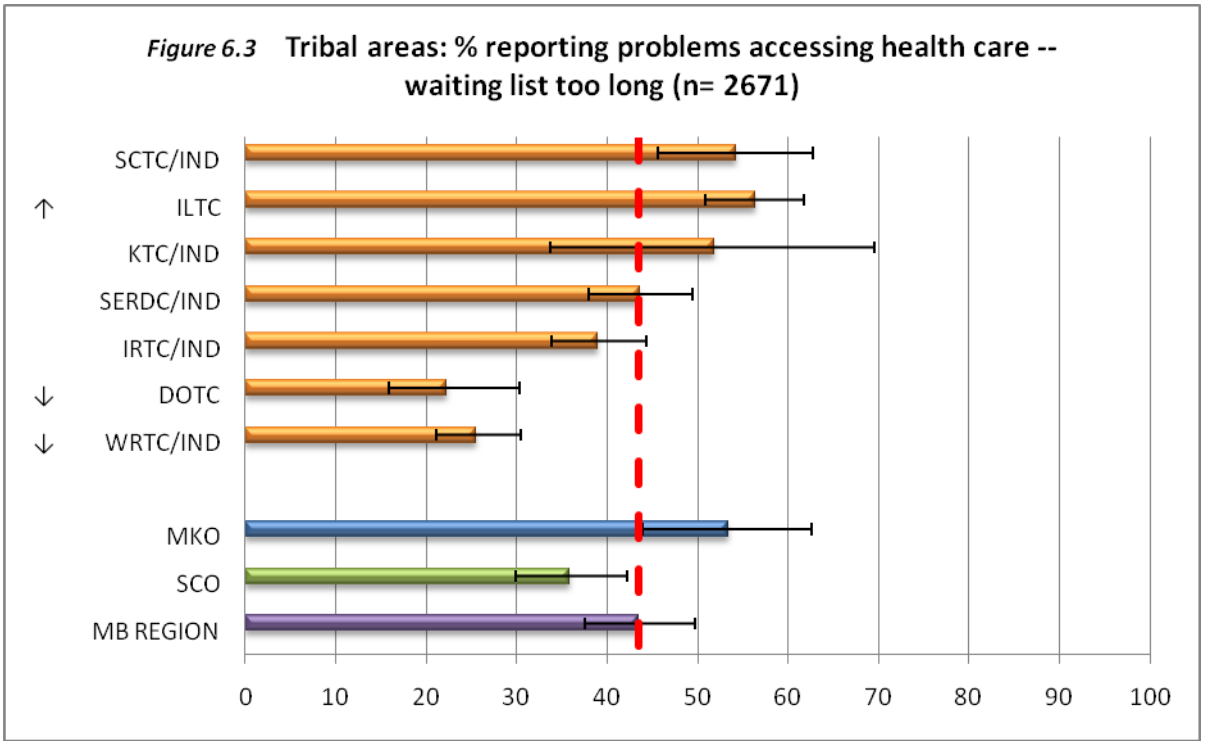


Problems regarding Access to Health Services

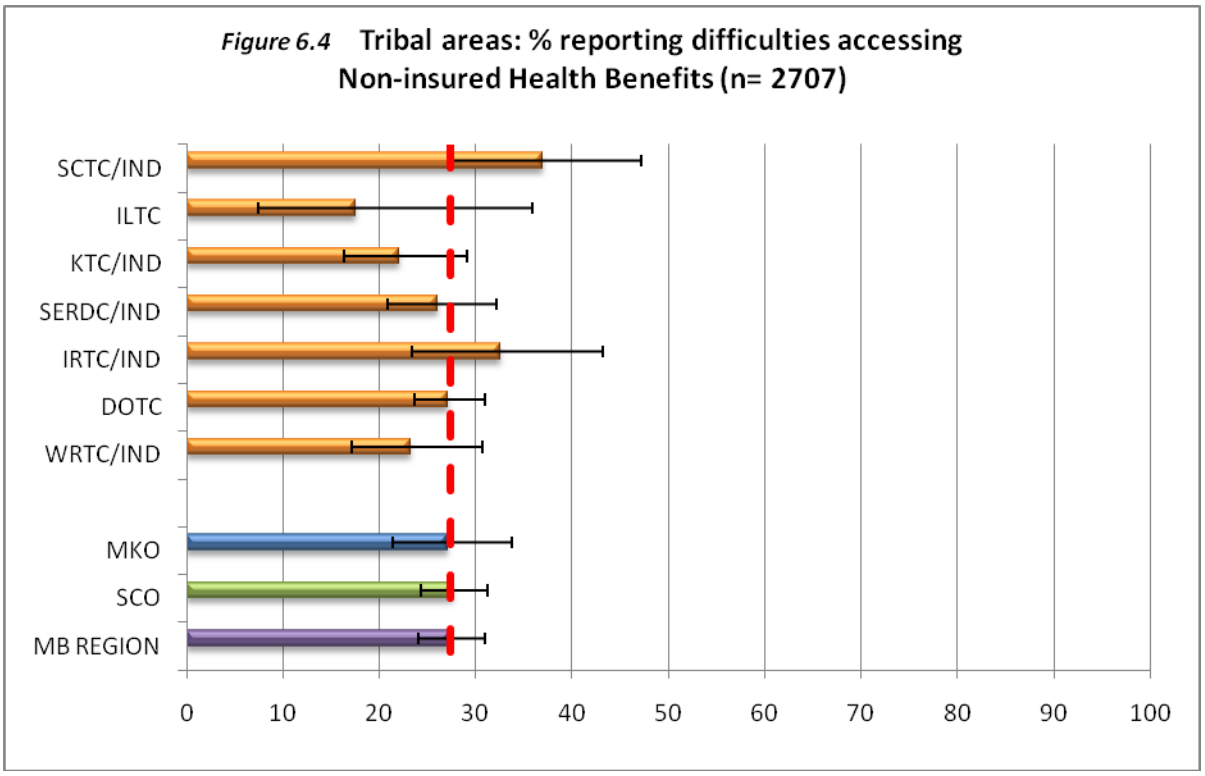
Twenty percent (20%; MKO = 22%, SCO = 18%) of those noting problems accessing health care reported that a doctor or nurse was not available (*Fig. 6.2*). This issue was greatest in IRTC/IND, statistically significant at 37%. SERDC/IND reported the least problems due to unavailability of doctors or nurses, at 10%.



Of those reporting they had problems accessing care (*Fig. 6.3*), 44% cited long waiting lists, ranging from 36% in SCO to 53% in MKO. The least problems with long waiting lists were reported by DOTC, statistically significant at 22%, and WRTC/IND, statistically significant at 26%. The most problems with waiting lists were reported by ILTC, statistically significant at 56%.



Difficulties accessing non-insured health benefits (*Fig. 6.4*) were reported by 27% of those noting problems, with no north/south difference. ILTC reported the least problems accessing benefits at 18% and SCTC/IND the most problems at 37%.



Treatment by Health Professionals

For the Manitoba region as a whole, 15% of respondents (MKO = 19%, SCO = 11%) reported poor treatment over the last few contacts with health professionals in the community because of their FN identity (*Fig. 6.5*). The highest reports of poor treatment in the community were for respondents in SCTC/IND at 26% compared to a low of 8% in WRTC/IND.

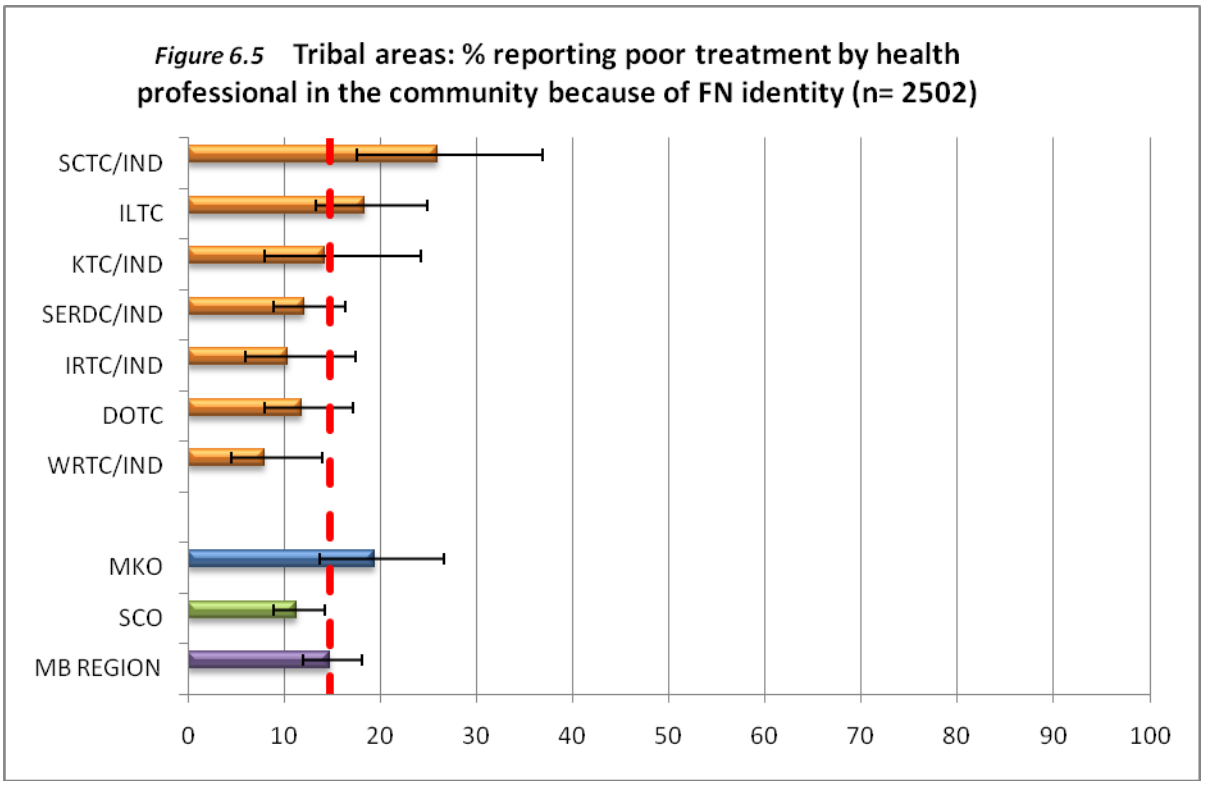


Figure 6.5 **Tribal areas: % reporting poor treatment by health professional in the community because of FN identity (n= 2502)**

Poor treatment over the last few contacts received from health professionals outside the community because of the respondent's FN identity (*Fig. 6.*6) was reported by 21% overall, with no north/south difference and a range from a low of 14% in WRTC/IND to a high of 29% in SCTC/IND.

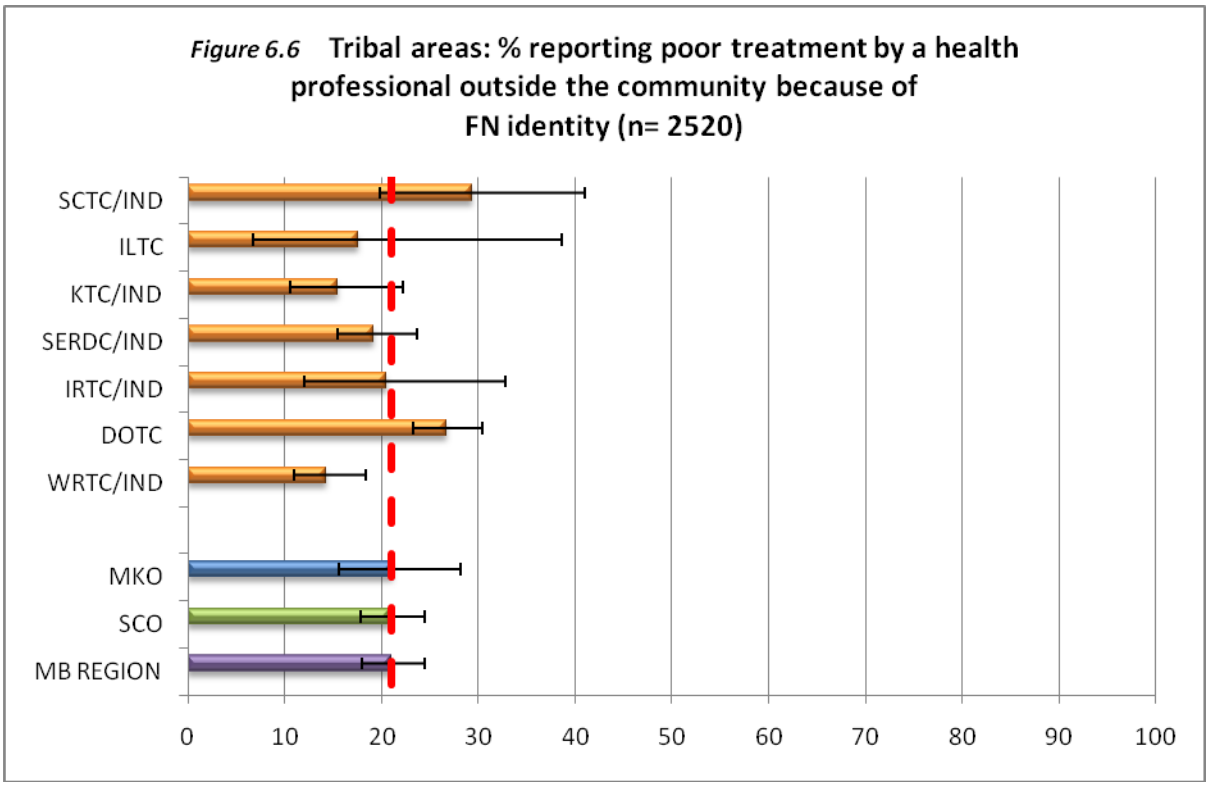
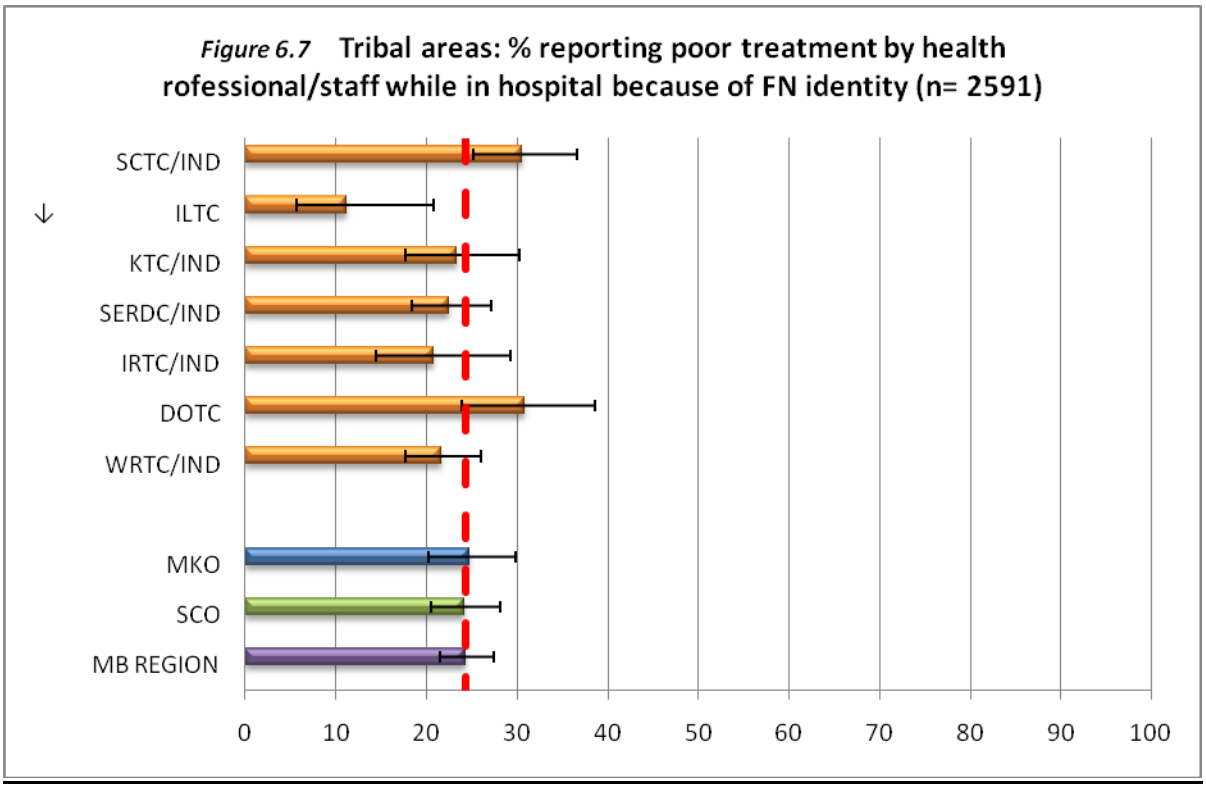


Figure 6.6 **Tribal areas: % reporting poor treatment by a health professional outside the community because of FN identity (n= 2520)**

Twenty-four percent (24% with no north/south difference) of respondents overall stated they had at some time been treated poorly because of FN identify by health professionals or staff while in a hospital (*Fig. 6.7*). Reports were lowest in ILTC, statistically significant at 11%, and highest in DOTC and SCTC/IND, both at 31%.



Conclusions/Limitations

The report has highlighted specific differences and similarities among tribal areas of the participating Manitoba First Nations on-reserve communities. We were able to provide a descriptive profile of the population at a specific point in time to show associations between characteristics, such as rates of diabetes and geographic location. In summary, the MFNRLHS cross-sectional survey has been particularly useful for this purpose, as it gives a picture of what was happening in the Manitoba First Nations population in 2002 and 2003.

Such survey data, however, cannot offer an understanding of how conditions may have changed from the past, or how they may change in the future. Prospective studies of the same population could help to better understand change, perhaps in relation to a targeted or multi-pronged intervention to improve health and the determinants of health. While the enhanced sampled made it possible to produce more accurate population estimates, not all communities achieved the targeted sample, which resulted in wide confidence intervals. This means that we cannot be statistically confident about these results.

Cross-sectional survey data also cannot identify the cause of disparities among Tribal areas. Nevertheless, the estimates produced are useful to generate discussions as to why conditions differ from one tribal area to another. While these estimates show who is different, they cannot provide an explanation about *why* these differences exist.

The collaboration model, introduced at the beginning of this report, is one way tribal areas can work collaboratively in the interpretation of these results. Through such a framework, tribal and community representatives can generate solutions in First Nations space guided by traditions representing north, south, east and west to advance the mental, emotional, physical and spiritual health of their community members.

Acknowledgement:

This sub-study, conducted under the Canadian Institute of Health Research *Manitoba First Nations Health Report Card Collaboration Project* (CIHR HOA 80062), was also made possible by the support of the Assembly of Manitoba Chiefs Grand Chief and the Assembly of Manitoba Chiefs Health and Information Governance Committee. This strong partnership is historically rooted in the development of the Manitoba First Nations Regional Health Survey and other jointly-partnered projects. The results and conclusions of this report however are those of the authors, and no official endorsement by the Assembly of Manitoba Chiefs is intended or should be inferred.

ONE WOMEN CONNECTING
One woman connecting with the sun and the moon,
Two rays of sun flowing into each hand, claiming health, claiming wellness (Artist: Jackie Traverse)