

Stats Talk WA: September Quarter, 2010 - Edition #35 (cat. no. 1304.5)

A View From The Top From the Regional Director

You might notice in this issue that one of our regular contributors, Phil Smythe, has penned an article on retirement. Fitting, given that Phil has just retired and is now travelling around Japan. Phil has been a pioneer in taking to heart the issue of really making statistics talk.

Over the last year he has been a private detective finding the average Western Australian, his article on what population growth means for WA hit the front page of The West and for a very short time he was the grim reaper talking about death. Phil was also the statistician behind the "Ask Brian" feature a few issues ago.

While the tone of these articles has been light hearted and they are intended to entertain as much as inform, they show how statistics can relate to our everyday lives. They show the breadth of statistics collected and published by the ABS to inform government decision making across Australia.

If we double or even triple those statistics by adding the administrative data collected by governments, we have a wealth of information to inform better decision making. If only it was that easy.

The truth is that administrative data is generally not well organised for statistical purposes. It suffers from data quality issues, is not clear about its scope or coverage, is not well described and is generally not very accessible. We need to start treating administrative data as a strategic asset for the State and managing it accordingly.

So thank you Phil, for showing us how stats relate to our everyday lives and best wishes in your retirement.



Michael Tindall, Government Statistician and ABS Regional Director, Western Australia

STATS TALK



Retiring?

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Latest WA Statistics

	WA	Australia
Population (Dec 2009)	2.3m	22.2m
CPI (annual rate, Jun 2010)	3.5% (Perth)	3.1%
Merchandise Exports* (Jul 2010)	\$9,444m	\$20,762m
Merchandise Imports* (Jul 2010)	\$2,026m	\$18,736m
Unemployment Rate**(Aug 2010)	4.2%	5.2%

^{*} Original estimates based on Australian Customs Service records. Figures are not based on a Balance of Payment basis.

^{**} Trend data.

KALAMUNDA POSTCARDS FROM THE CENSUS

In this issue, Postcards travel east for a bush walk through the very leafy Local Government Area (LGA) of Kalamunda. Home of unspoilt National Parks and spectacular views.

The name Kalamunda comes from local Aboriginal words Cala (home or hearth) and Munnda (forest) and it is the Northern Terminus of the famous Bibbulmun Track.

In the Census held on 8 August 2006, there were 49,534 people usually resident in the LGA of Kalamunda. Of these, 49.6% were males and 50.4% were females.

How old were they? Well, 20% of the population were children aged between 0-14 years. They were only slightly outnumbered by the more mature folk, that is, those aged 55 years and over (25%).

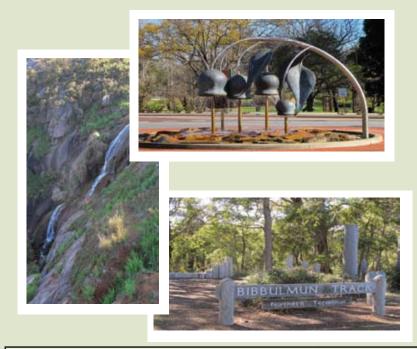
It is definitely the right place to get married and raise a family as 77% of occupied private dwellings were family households and 54% of people aged 15 years and over were married.

Kalamunda had a high percentage of English born residents (12%) compared with the rest of Australia (4%). So naturally English was the language of choice spoken at home for 89% of people. The most common language other than English was Italian with 2% of residents parlare la lingua.

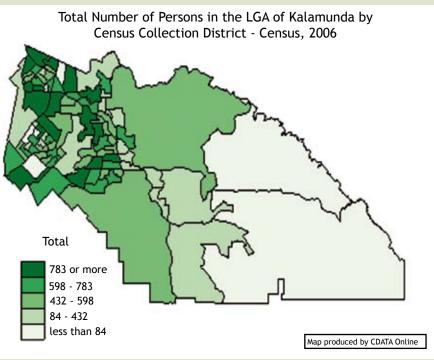
Workwise the residents tended to be mostly employed as Technicians and Trades Workers (18%) and Clerical and Administrative Workers (17%). The most common industry of employment for residents aged 15 years and over was School Education (5%) and Road Freight Transport (4%).

So what changes have happened to the population of Kalamunda over the past 5 years since the last Census?

All will be revealed after Census 2011.



A Selection of Statistics for the LGA of Kalamunda (sourced from 2006 Census Quick Stats)		
Number of people born overseas	13,158	
Total families	14,028	
Total participating in the labour force (15+)	26,087	
Median individual income (\$/weekly)	526	
Median household income (\$/weekly)	1,148	
Total private dwellings (includes unoccupied dwellings)	19,215	
Median rent (\$/weekly)	180	



HOUSING DENSITY

Western Australia Statistical Indicators

(CAT. NO. 1367.5)

Only one third of building approvals in Perth are for medium to high density housing.

Over the past four years, Western Australia has been the fastest growing state, with Perth the fastest growing capital city. Projections suggest that the population of Perth could grow to more than 2.2 million by 2031. To house this anticipated growth, the Western Australian Department of Planning estimates an extra 328,000 dwellings will be needed across the Perth and Peel Region.

An analysis was recently undertaken by the ABS to explore the relative proportions of building approvals for low, medium and high density housing to gauge the extent to which residential densities in Perth may be changing.

Using a methodology first adopted in a 2001 study, dwelling approvals by development type were scrutinised to see whether housing density in Perth may be moving towards higher urban density. Where approvals for medium density and high density dwellings increase as a proportion of total dwelling

approvals, greater density can be achieved.

A comparison of results from the current and 2001 studies identified minimal change in the mix of dwelling types over the decade.

Over two-thirds of building approvals in the Perth metropolitan area continued to be for single detached houses on their own block of land.

The earlier study had reported that single houses accounted for 68% of all residential building approvals; this compared with 67% in the current analysis. Similarly, clustered dwellings (comprising grouped houses, semi-detached, row or terrace houses and townhouses) accounted for 21% of all approvals in the recent study, slightly lower than the 23% reported in 2001. However, a small increase in the proportion of building approvals for flats, units and apartments, rising from 9% to 12% of all approvals, was noted.

Despite minimal change in the mix of dwelling types at this broad level, there was some evidence of increasing densification within medium and high density developments. In particular, within approvals for clustered dwellings, there was a trend away from two-dwelling developments in favour of three-dwelling developments on a single parcel of land. This may reflect a shift towards higher density grouped developments, allowing for greater utilisation of available land resources.

Not surprisingly, approvals for medium and high density dwellings tend to be concentrated in the older inner suburban areas of the city, while approvals for low density housing dominate in the outer metropolitan areas.

For further information see the full feature article A View of Housing Density in Perth, 2005-2009, released 30 July 2010 in Western Australian Statistical Indicators (cat. no. 1367.5).

You can now subscribe to Western Australian Statistical Indicators (cat. no. 1367.5) and be notified when new updates are released. Just access the publication on the ABS website (www.abs.gov.au) and click on the 'email notification' link in the green Page Tools bar.

This publication offers opportunities for in-depth analyses on economic, demographic, social or environmental topics to be undertaken on your behalf.

Examples of recent articles include:

- Adult Literacy in WA.
- Housing Finance Subsidies for First-Home Buyers.
- Preparedness for Emergencies and Household Assistance Required.

Suggestions for analytical articles on issues of relevance to the WA community are always welcome. Contact Sue Lee on (08) 9360 5391



BIRDS AND BEES

LET ME TELL YA 'BOUT THEM

We all know Western Australia is a great place to live, but it can be even more pleasurable when you have a special someone to share it with, if you get my drift.

It seems that West Aussies are an amorous bunch, with figures from Australian Demographic Statistics Dec 2009 (3101.0), of which Births are a major contributing factor, showing that WA recorded the fastest population growth rate of all states and territories in Australia for 2009, continuing to lead all-comers since beginning the streak back in 2007.

Western Australia's population grew by another 2.65% for the year to December 2009, comfortably beating off the likes of Queensland (2.44%) and the Northern Territory (2.21%), with Tasmania bringing up the rear with an unromantic 0.89%. Overall population growth has begun to slow however, with the latest figures representing a small downturn since the rampant days of 2008 where WA recorded a mighty 3.30% population increase for the year, and Australia's growth rate peaked at 2.16%.

For the 2009 calendar year, WA brought a record high of 30,884 newborns into the world, which certainly makes for a lot of screaming babies, sleepless nights and stinking nappies (I speak from experience with my youngest contributing to these figures and associated results).

Worryingly, according to Australian Social Trends June 2010 (4102.0), in Australia in 2008, parents of 89,000 children aged 0-12 indicated that they currently had an unmet need for formal child care. Demand for formal child care is sure to increase in the future with continued population growth and the fact that

there is an increasing participation of women in the workforce, meaning less stay-at-home mums. Parents and parents-to-be will be relieved to know that from 2004 to 2007 there was a 19% increase in the number of child care businesses in an effort to cope with the extra rugrats. In response to Helen Lovejoy's persistent questioning from The Simpsons, it seems that somebody is thinking of the children.

This increase in population from births was partially offset however, by one of the two "inevitables" in life, and I don't mean 'taxes'. In 2009 WA had 12,568 people "seeing the light". As a result, the 2009 Natural Increase (number of Births minus number of Deaths) rate for WA is a modest 0.83%.

But population increase is not solely attributable to Natural Increase. The majority of population growth comes from Net Overseas Migration (NOM), that is, the number of overseas arrivals less the number of overseas departures. Again, Western Australia leads the way, in percentage terms at least, with a 1.72% increase for 2009, with Victoria finding itself coming

second with a 1.44% NOM rate, both states well above the national rate of 1.28%.

The third and final component of population growth is Net Interstate Migration, which as the term suggests, is the number of interstate arrivals minus the number of interstate departures. WA (0.10%) runs a distant second behind Queensland (0.30%) for 2009. The GFC appears to have had a widespread effect with overall interstate migration decreasing substantially since 2008, when job-seekers were moving away in droves from NSW (-0.33%) and SA (-0.33%), and to a lesser degree, Victoria (-0.02%).

Or perhaps they were simply heading to WA, Queensland and the Northern Territory to find some of the afore-mentioned "action" on offer?



Marcus Arundale
Doing his bit for the population of
WA.



PULLING THE PIN

RETIRING AND NOT SO SHY

If you work long enough, you'll eventually become resigned to working forever.

This was one of the many startling findings from ABS publication 6238.0, Retirement and Retirement Intentions, Australia, July 2008 to June 2009.

We've all heard about Australia's aging (I'll also grudgingly accept 'ageing') population and how this will impact on the nation's labour force in the future. But what about right now?

Currently, of those aged 45-49 years, just 6% are retired, compared to 22% of 55-59 year olds, 70% of 65-69 year olds and 91% of those aged 70 years and over. Lots of people have been recently heard muttering that they'll need to work to 70 before they can retire. If that's so, it will mean a complete shift in retirement patterns.

Now I'm one of those 55-59 year olds mentioned above, or at least very soon will be. And I plan to join those 22% of that group already retired. I know why I'm retiring (time to let others enjoy the thrill of keeping the nation statistically informed), but what about the rest, what's their reason for pulling the pin?

I'll be part of the largest group, by reason, of retirees, those who 'reached retirement age/eligible for superannuation/pension' (42% of men and 27% of women). Difference though, between me and them, is the actual age of retirement.

This group (the 'reached retirement age/eligible for superannuation/pension' mob) had one of the highest average retirement ages of



all groups at 62 years, (63 years for men and 61 years for women). I'll be going some 7 years earlier than that. More time to roam northern Australia, hauling a caravan and using copious amounts of Grecian 2000, I figure.

Other commonly reported main reasons given by people for ceasing their last job were 'own sickness, injury or disability' (29% of men and 19% of women) and 'retrenched/ dismissed/no work available' (10% of men and 11% of women). Looks like I was part of the lucky group!

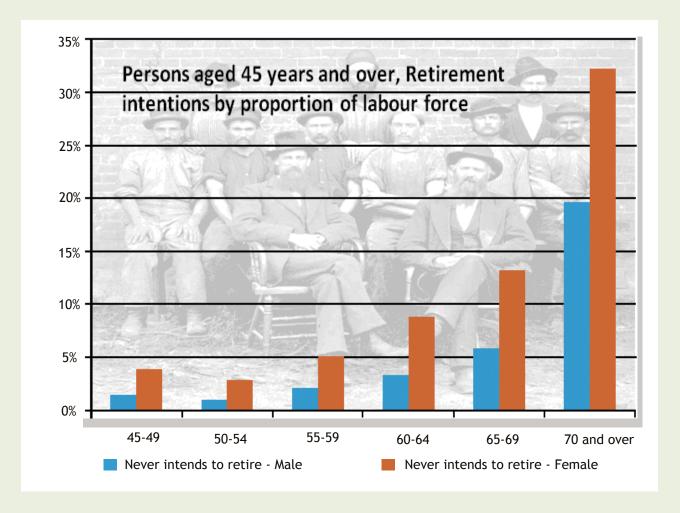
Of course it's all very well to retire, but you need some money to sustain you in your sunset years. For men, the most commonly reported main source of personal income at retirement was a 'Government pension or allowance' (52%), followed by 'superannuation or annuity' (26%).

Although a Government pension or allowance' was also the most common source among women (40%),

this was followed closely by 'no personal income' (40%). Of the women who reported 'no personal income', 91% reported 'partner's income' as their main source of funds for meeting living costs at retirement.

As a lifelong public servant I had no choice regarding superannuation. When I began work 37 years ago it was compulsory to join the Commonwealth Superannuation Scheme. No option for a naïve young boy to opt out and spend his money on fast cars and even faster women. Was that a good thing or a bad thing?

Of course, retirement doesn't always work out as planned. There were 217,700 people aged 45 years and over who had previously retired from the labour force, but at the time of the survey were either in the labour force or were planning to look for, or take up, work in the future. Most of this group were women (144,500). Seems once the blokes go, they never come back!



The most commonly reported reasons for returning to the labour force were 'financial need' (44%), 'bored/needed something to do' (35%) and 'interesting opportunity came up' (12%). I think if reasons one or two applied, then reason three is a no-brainer.

Of the 4.3 million people in the labour force aged 45 years and over, 3.4 million (78%) indicated that they intended to retire from the labour force in the future. This begs the question of what the other 22% were thinking. Are they planning to work forever?

Well, maybe they will! Of the remaining 954,700 people, 377,600 did not know whether they intended to retire from the labour force and 575,400 indicated no intention to retire from the labour force. If I was a potential employer, these are the people I'd be looking for. The remaining 1,600 were unemployed and had never worked, so it was easy for them to say they wouldn't stop working, wasn't it? And what about life after work? Women (42%)

were more likely to have thought about doing unpaid voluntary work than men (31%), who had mostly not thought about this at all (44%). Come on guys, get with the program.

With regard to being socially active, mentally active and physically active during retirement, the most common response among those intending to retire was to 'continue with current behaviours' (36%, 34% and 37%, respectively). In my case this could be a real worry.

So it looks like I could be the last of a dying breed, the early retirer. Luckily ABS statistics (3302.0.55.001 - Life Tables, Australia, 2006-2008) can tell me how long I'll live in retirement, before I actually die. A 54 year old male has an estimated life expectancy of 27.9 more years. This should see me last until I'm around 83 years of age.

An Australian woman of my wife's age could look forward to another 36 years. But, as it happens, my

wife originates from the longest living people in the world, the Japanese, which gives her a couple of years on top of that.

So with that I officially retire, from the paid workforce anyway. But I plan to keep track of the stats the ABS puts out and, in true grumpy old man fashion, write disparaging letters in long hand if I spot any errors.



Phil Smythe Former lifetime ABS employee, now touring Japan as a retired man.

CHI-SQUARE

A TESTING RELATIONSHIP

Chai latte or chi-square? I guess that depends upon whether you want a new age frou frou refreshing drink or a statistic.

Assuming you would like the statistic, you may be asking what's chi-square all about?

A chi-square (pronounced 'kai') is a statistical test which even comes with a groovy symbol x^2 . A chi-square tests whether two variables are related or independent of each other. These variables might be men and women's beverage choice, or income and suburb choice.

It is about making sure the results are what we might expect. One could ask, whether sex is related to beverage preference? As sex and beverage preference are categorical variables, (they can only take a set number of values) we can test this by using a chi-square test. Some may argue however, that there is a definite link between alcohol and sex but I digress.

Firstly we calculate a chi-square test statistic. This is a measure of how different the data we observe are to what we would expect to observe if the variables were truly independent. The higher the test-statistic, the more likely that the data we observe did not come from independent variables.

That's where the chi-square distribution comes in. We may observe data that give us a high test-statistic just by chance, but the chi-square distribution shows us how likely it is. The chi-square distribution takes slightly different shapes depending on how many categories (degrees-of-freedom) our variables have. (I often wonder if a teenage girl's degree of freedom is related to the age of her boyfriend and whether he has a car.)

Interestingly, when the degrees of freedom get very large, the shape begins to look like the bell curve we know and love. This is a property shared by the tea-distribution.. ahem... T-distribution.

So if the difference between what we observe and what we expect from independent variables is large (that is, the chi-square distribution tells us it is unlikely to be that large just by chance) then we reject the null hypothesis that the two variables are independent. What a shame we can't do a chi-square test on couples before they get married, I know of a lot of null hypotheses that would have been rejected.

Instead, we favour the alternative that there is a relationship between the variables. So like a mother, who is always looking into your relationships, chi-square can help us discover that there is a relationship but cannot look too deeply into what that relationship is (unlike your mother).

So who does these sorts of tests? The ABS does, in fact if you are interested there are some papers you could read such as Measuring and Correcting for Information Loss in Confidentialised Census Counts (cat. no. 1352.0.55.083) or Patterns of Innovation in Australian Businesses, 2005 (cat. no. 8163.0).

We are not the only ones, universities and health authorities do chi-square tests - for example, variables to test include the relationship between smoking and low birth weight babies.

Anything else you need to know? I guess that depends on what you are looking to find out! Have a look at the ABS website or contact your (or our) friendly methodologist for more information. Personally I am off to make a chail atte.



Naomi Summers Who actually prefers a flat white.



STATISTICAL NEWS

DEVELOPMENTS IN ABS STATISTICS

Pizza, pasta and pop music: A snapshot of Australian Students

Pizza and pasta are the favourite take-away choice for Australian students who completed the Australian Bureau of Statistics CensusAtSchool for 2010.

Over 22,000 students from Years four to 12 voluntarily submitted their data this year, with the aim to spark students' interest in statistics and to improve their statistical literacy. Results are designed for education purposes only.

Interesting results from the 2010 CensusAtSchool data include: Students in years 5 - 12 spend more hours per week hanging out with friends than using the computer/Internet.

The number of students with access to the Internet via broadband connection, has continued to increase in all states and territories.

Fourty percent of girls listen to pop as their favourite music whilst rap is the most popular choice for boyswith 21%. Students and teachers can access the data from the online Random Sampler to make comparisons between students like themselves and students in different year levels and parts of Australia.

For further information on the CensusAtSchool project including data for 2010, please visit the ABS website at www.abs.gov.au/censusatschool.

Where will you be on 9 August 2011?

The Australian Bureau of Statistics' (ABS') Census of Population and Housing will answer this question by counting the nation on 9 August 2011.

With under one year to go until the upcoming Census, planning is well underway for the largest peace time logistical exercise in Australia.

The Census aims to accurately measure the number of people in Australia on Census night wherever they are, from Australia's research hubs in Antarctica to remote Indigenous communities in northern Australia.

Next year's Census also marks 100 years of Census taking in Australia, and it remains the most comprehensive way of providing a snapshot of Australia, our key characteristics and where we live.

The Census helps define who we are and what your community looks like now and into the future. Census data supports planning, decision-making and funding at all levels of government, and is behind the services and facilities you use in your area every day.

The first results from the 2011 Census will be made public in June 2012.

Aussies short-term trips overseas - highest on record

Australian residents made a record 6.8 million short-term trips overseas in 2009-10. This is up from 5.8 million movements in 2008-09, and more than double the movements ten years ago.

The most popular destination for Australian residents going overseas on short-term trips (i.e. less than 1 year) was New Zealand, with over 1 million movements across the Tasman occurring in the last financial year.

The next most popular destinations were Indonesia (650,000 movements), the USA (630,000), the UK (460,000) and Thailand (430,000).

During the 2009-10 period, Australian residents on short-term trips stated their average time overseas was 15 days.

Further information can be found in Overseas Arrivals and Departures, June 2010 (cat. no. 3401.0) available for free from the ABS web site <www.abs.gov.au>.



CLIENT LIAISON

SUMMARY OF EVENTS

Data Linkage Dialogue

Data linkage is a process of combining information from two or more data sources based on information common to both datasets to produce new outputs.

A one day interactive symposium was held on Wednesday 14 July 2010 at the University of Western Australia and covered data linkage models, the risks and benefits of linking health data, and legal and bioethical issues. It included a facilitated discussion on future directions for health data linkage in Australia.

A range of speakers presented at the dialogue and then participated in a panel for the open discussion.

The symposium was co-sponsored by the Institute of Advanced Studies at UWA, the Australian Bureau of Statistics, The Population Health Research Network an ScienceNetwork WA.





WALGA

The Western Australian Local Government Association (WALGA) held their annual Convention and Trade Exhibition on 5, 6 and 7 August 2010.

The conference operates to address and discuss areas of common interest and shared experience in Local Government in WA.

Staff from the Australian Bureau of Statistics Client Services Branch and the Census Management group operated a multi media stand. They used the opportunity to highlight the importance that small area data plays in the operation and management of Local Governments.

The ABS stand was a great success and had many people visiting it. Local government representatives took the opportunity to discuss with ABS staff the upcoming Census in 2011.





Training and Development

Client Liaison staff were out and about last quarter, providing training and giving presentations to clients interested in ABS Statistics.

In conjunction with the Institute of Public Administration Australia (IPAA), Tracey Rowley presented a short course on understanding statistics to new graduates as part of the IPAA WA Professional Development Program.

Nellie Gaynor visited the Small Business Development Association as part of their BizBites program to demonstrate how to navigate the ABS website to help find relevant data for small business.

Greg Hilton hosted a video conference for clients interested in the recently released National Accounts.





RECENT RELEASES

PUBLICATIONS OF INTEREST

Publication Title	ABS Catalogue Number
Australian National Accounts, Jun 2010	5206.0
Retail Trade, Australia, Jul 2010	8501.0
Building Approvals, Australia, Jul 2010	8731.0
Government Finance Statistics, Australia, Jun Qtr 2010	5519.0.55.001
Australian Economic Indicators, Sep 2010	1350.0
Business Indicators, Australia, Jun 2010	5676.0
Managed Funds, Australia, Jun 2010	5655.0
Labour Statistics News, Aug 2010	6106.0
Construction Work Done, Australia, Jun 2010	8755.0
Government Financial Estimates, Australia, 2010-11	5501.0.55.001
Shipments of Wine and Brandy in Australia, Jun 2010	8504.0
Western Australian Statistical Indicators, 2010	1367.5
Cultural Funding by Government, Australia, 2008-09	4183.0
Livestock Products, Australia, Jun 2010	7215.0

SIZZLING STATISTICS

Getting Older?

Life expectancy of a child born in WA between 2006 and 2008 was estimated to be 79.3 years for boys and 84.0 for girls - three years higher than a decade ago. Western Australian Statistical Indicators. (cat. no. 1367.5)

Getting Married?

In the ten years to 2008, the median age at first marriage in WA increased to 29.9 years for males and 27.8 years for females. Marriages and Divorces, Australia, 2008. (cat. no. 3310.0)

Get out of Town Girls!

Across WA the sex ratio in June 2009 was 102.8 males for every 100 females. The highest ratio was in the Pilbara statistical district (129.2) and the lowest was in the Perth statistical district (100.9). Western Australian Statistical Indicators. (cat. no. 1367.5)

Getting Smarter?

In 2009, 62% of people aged 25-64 years in WA had obtained a non-school educational qualification, increasing from 59% in 2008. Of these nearly 25% had obtained a Bachelor degree or

higher. Australian Social Trends (cat. no. 4102.0)

Get Healthier

Cancer, ischaemic heart disease and stroke continue to be the main causes of death. Together, these account for more than half (53%) of all deaths in WA in 2008. Causes of Death (cat. no. 3303.0)

Get a Hug?

World Statistics Day is on 20 October 2010. This is your chance to reflect upon the value that statistics have in our lives and maybe hug a statistician or two.

About Our Courses

ABS Statistical Training

Basic Survey Design

The aim of this 2 day course is to give a broad overview of all facets of survey development. The course covers developing survey objectives, advantages and disadvantages of various collection methodologies, questionnaire development, data processing and reporting of results.

People who will be involved in conducting a sample survey, or people who would like to gain a broad understanding of the issues associated with the survey process should attend this workshop.

Course outcomes;

- Ability to formulate survey objectives and prepare project briefs.
- Appreciation of issues and limitations associated with survey management and design.
- Identification of appropriate survey techniques for data collection.
- Understanding of the entire survey process.

Date: 19 & 20 October 2010 Venue: Level 15, Exchange Plaza 2 The Esplanade, Perth

Cost: \$750.00

Registration: (08) 9360 5205





Making Quality Informed Decisions

This 1 day course is intended to assist people to effectively use a quality framework to systematically understand quality issues associated with using data sources.

This course will also equip participants with the necessary skills to apply that understanding when making a decision (eg, on policy). There is also a strong emphasis on the importance of using good quality data to promote informed decision-making.

This course is suitable for those who may need to develop and manage data collections, and wish to look at quality improvement.

Course outcomes;

- Ability to determine a data need using a quality framework.
- The skills to quality assess and evaluate possible data sources in the context of the data need (using a quality framework).
- Ability to identify the limitations of a data source using the results of the evaluation, the knowledge and ability to apply risk management concepts to make an informed decision.

Date: 30 November 2010 Venue: Level 15, Exchange Plaza 2 The Esplanade, Perth

Cost: \$450.00

Registrations: (08) 9360 5205

Stats Talk:Nellie Gaynor(08) 9360 5152Consultancies:Kevin Bolt(08) 9360 5168Census Products:David King(08) 9360 5105Training Services:Naomi Summers(08) 9360 5205

National Information Referral Service 1300 135 070