BREASTSCREEN QUEENSLAND BRISBANE NORTHSIDE SERVICE

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BREAST CANCER SCREENING AND FLAGS FOR GENETIC TESTING

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Breast cancer in Australia

Incidence

- Most common cancer diagnosed in women will account for > 28% of all cancers diagnosed in 2018
- 1 in 8 women will develop breast cancer by age 85
- ↑ risk with age (av. age 61, approx 79% > 50)
- Estimated in 2018, 18,235 women (& 148 men) diagnosed

Mortality

- 2nd leading cause of cancer-related death in women
- Estimated in 2018, 3,128 women (& 28 men) will have lost their lives to breast cancer

Survival

- 90.1% chance of surviving at least 5 years (2009-2013) 10 year survival 83%
- Better survival if smaller tumours. Early detection vital

Sources: Breast Cancer Network Australia, Current Breast Cancer Statistics in Australia 2018, Accessed 08/05/2017: https://www.bcna.org.au/media/6101/bcna-2018-current-breast-cancer-statistics-in-australia-31jan2018.pdf
Australian Institute of Health and Welfare, Breast Cancer Key Facts, Accessed 09/09/14, http://www.aihw.gov.au/cancer/breast/ *Cancer Australia, Report to the nation – breast cancer 2012, Cancer Australia, Surry Hills, NSW, 2012.*

Estimated age-specific incidence rates for breast cancer, 2016

Source: Cancer Australia, Accessed 2016 at : https://canceraustralia.gov.au/affected-cancer/cancer-types/breast-cancer/breast-cancer-statistics

World Health Organisation (WHO)

Breast cancer: prevention and control

- Breast cancer - top cancer in women - developed and the developing world
- Incidence increasing - due to ↑ life expectancy, urbanization and western lifestyles
- Early detection - to improve breast cancer outcome and survival remains the cornerstone of breast cancer control

Population-based cancer screening

- complex public health undertaking
- usually cost-effective when high-standard programs
- target all the population at risk
- equity in screening, diagnosis and treatment services
- narrow balance of benefits compared with harms

Evidence based: So far the only breast cancer screening method that has proved to be effective is mammography screening

Evidence that organized population-based mammography screening programs can reduce breast cancer mortality by around 20%

WHO: promotes breast cancer control within the context of national cancer control programmes (NCCP)

- **public health program designed to reduce the number of cancer cases and deaths and improve quality of life of cancer patients**
- systematic, equitable and evidence-based strategies for prevention, early detection, diagnosis, treatment and palliation using available resources
- goal-oriented, realistic, carefully prepared and appropriately funded through a participatory process in order to be effectively implemented
- requires accurate data, including reliable cancer registries and monitoring and evaluation programmes

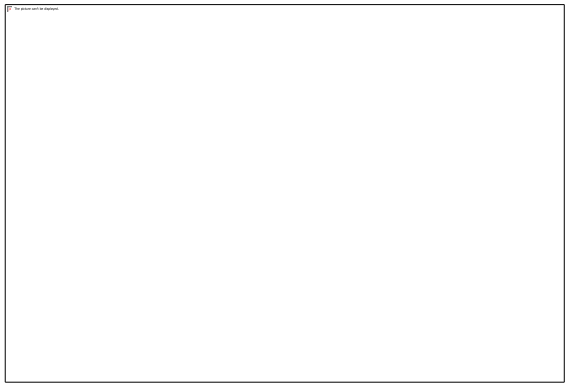
Key message

Early detection in order to improve breast cancer outcome and survival remains the cornerstone of breast cancer control.

Source: World Health Organisation, Breast cancer: prevention and control, Accessed 18/04/2017 at http://www.who.int/cancer/detection/breastcancer/en/

BreastScreen Queensland Program

- Part of National BreastScreen Australia Program (11 Qld services)
- **Aim: ↓ breast cancer morbidity & mortality using screening mammography. Aims for 70% participation.**



- Targets women 50–74.
- 40+ eligible.
- Two yearly screening. Some annual.
- 56.47% of target group participate (< goal 70%)
- ↑ participation
- recruit new women, high rescreens, meet annual targets
- The BreastScreen Queensland Program has contributed to reduction in mortality from breast cancer over the 27 years it has run.
- Five year survival rate 1982–1987 was 72.6% and 90.1% in 2009-2013.

Diagnostic Mammography

- Any age or gender
- Symptomatic
- Used to investigate a clinical problem
- Requires a doctor's referral to public or private radiology provider
- May incur a cost to the patient

To provide a diagnosis

Screening Mammography

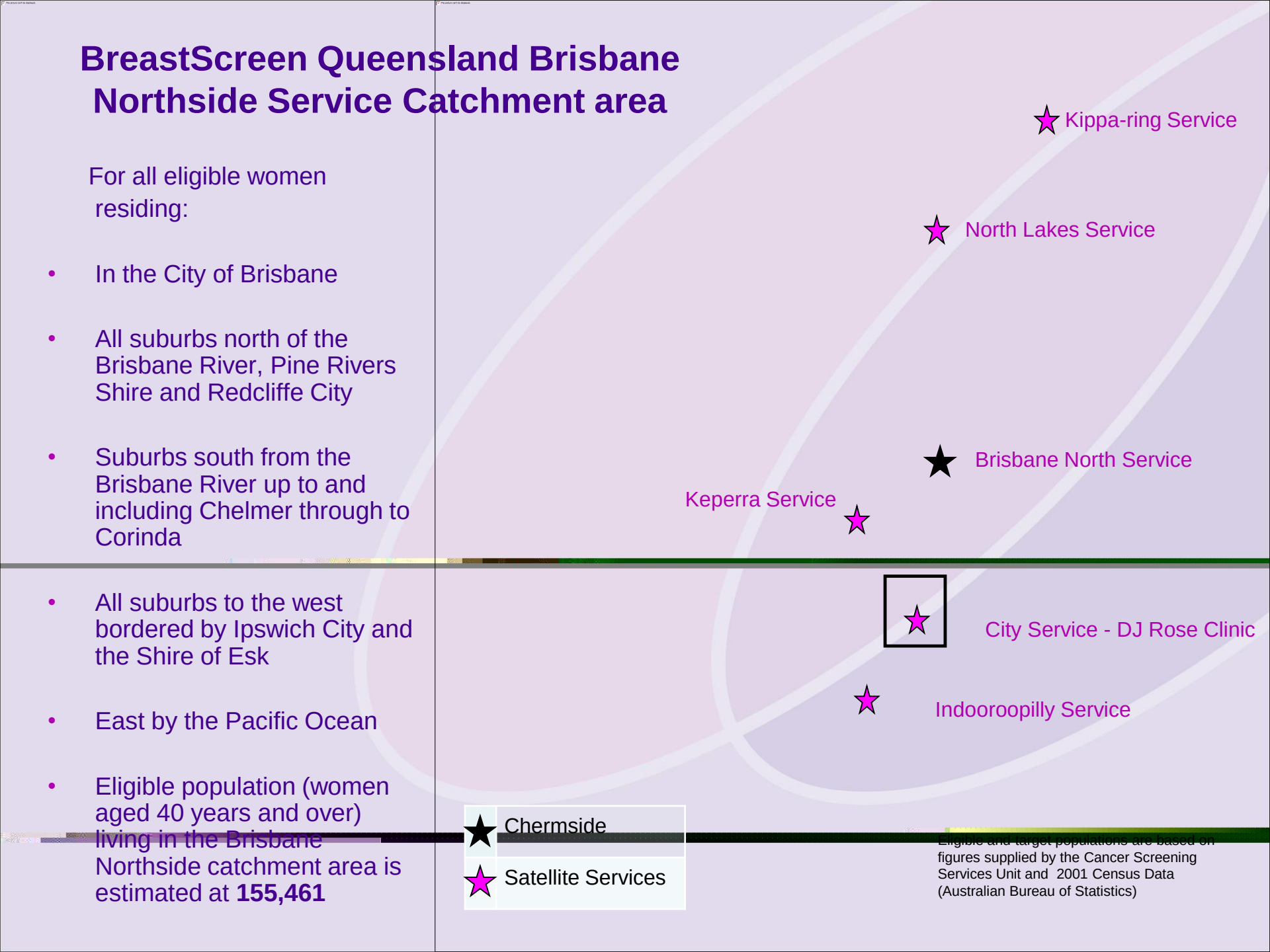
- Asymptomatic
- Used to find an early breast cancer (pre-clinical)
- FREE screening with BreastScreen Australia program, targeting women 50- 74 years
- Women aged 40 years and older eligible
- No doctor's referral required

To reduce morbidity and mortality

BreastScreen Queensland Brisbane Northside Service Catchment area

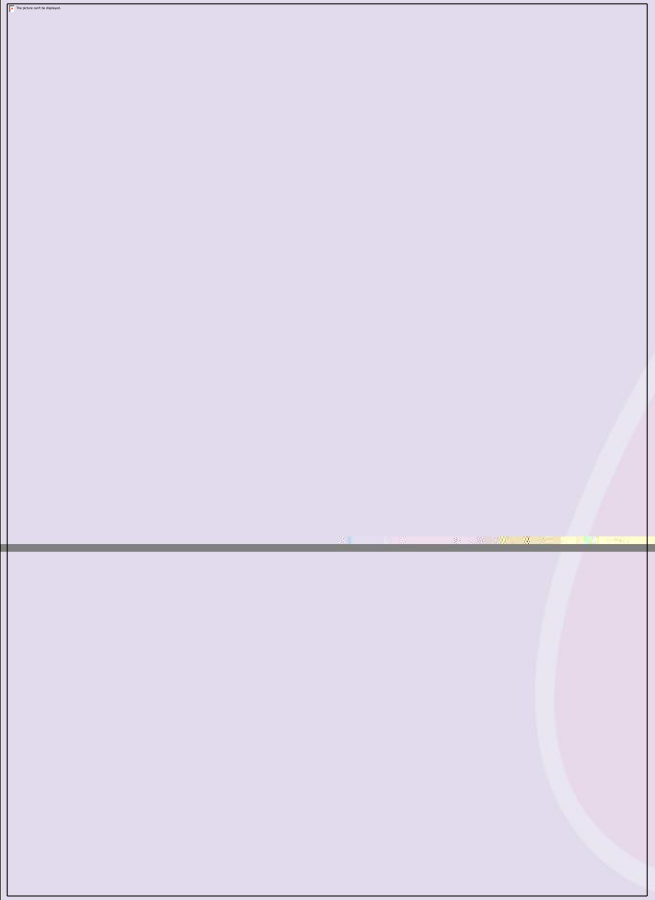
For all eligible women residing:

- In the City of Brisbane
- All suburbs north of the Brisbane River, Pine Rivers Shire and Redcliffe City
- Suburbs south from the Brisbane River up to and including Chelmer through to Corinda
- All suburbs to the west bordered by Ipswich City and the Shire of Esk
- East by the Pacific Ocean
- Eligible population (women aged 40 years and over) living in the Brisbane Northside catchment area is estimated at **155,461**



Eligible and target populations are based on figures supplied by the Cancer Screening Services Unit and 2001 Census Data (Australian Bureau of Statistics)

Barriers to breast screening



- Knowledge / information
- Attitudes to cancer & screening / preventive health
- Past unpleasant experiences
- Busy / ‘poor prioritisers’
- Access to services (ie. locations, after-hours, transport, ‘competitors’)
- Cultural / language
- Embarrassment / shame
- Fear
  - Procedure
  - Pain
  - Cancer
  - Radiation

CATEGORY 3: Potentially high risk

(Covers less than 1% of the female population)

Two 1° or 2° relatives on one side of the family diagnosed with breast or ovarian cancer **plus** one or more of the following features on the same side of the family:

- additional relative(s) with breast or ovarian cancer
- breast cancer diagnosed before the age of 40
- bilateral breast cancer
- breast and ovarian cancer in the same woman
- Ashkenazi or any Jewish ancestry
- breast cancer in a male relative
- Member of a family in which the presence of a high-risk breast cancer gene mutation has been established

Breast Cancer Genes

- Two genes associated with a high breast cancer risk have been discovered

  BRCA1 & BRCA2

- Up to 5% of all breast cancer may be due to these mutations

- Other cancer pre-disposing syndromes include Li Fraumeni syndrome (sarcomas), ATM & hereditary diffuse gastric cancer syndrome may increase risk of breast cancer.

Genetic Testing

- 80-90% of breast cancer cases diagnosed in Western Society occurs in women with no family history of the disease
- Only 1 or 2 in 1000 are at risk of developing breast cancer from having inherited a mutated gene.
- Knowing a woman carries a mutation raises the potential for disease prevention, early detection and improved treatment
- Genetic testing is only appropriate for a small proportion of individuals referred to family cancer clinics
- Must have a surviving affected family member to be tested
- A positive result has implications for the women and family members

Genetic Testing