#### Informing on Improved Fertility Psychological Care for Cancer Patients:

A systematic review of fertility-related psychological distress and reproductive concerns in cancer patients and proposed psychological intervention

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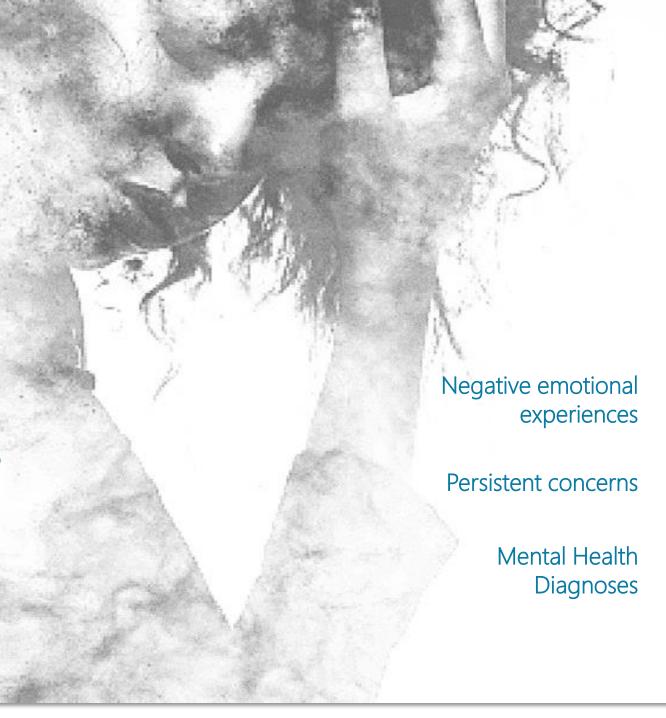


# Reproductive Concerns

Quality of Life

Psychological Distress

Services are Helpful



# Current Model Psychological Care

- Referral to specialist for FP discussion
- Opportunity of counselling to assist FP decision-making
- Limited fertility psychological ongoing assistance throughout treatment or survivorship



#### Fertility-Related Psychological Distress Across Treatment Time-Points



### Results

- 47 papers (30=quantitative; 13 qualitative; 4 mixed methods)
- 199-2018 most within USA (n=28)
- Majority reporting on female patients only (n=30), and only 4 on male alone
- 4 papers investigated childhood cancer survivors, 5 AYA patients
- 18 papers focused on specific cancer of reproduction (mostly breast n=7)
- Only 11 had a primary focus on fertility-related distress

#### Treatment time point

- Diagnosis (n=8)
- Treatment (n=6)
- Early survivorship (2-5 years approx.; n=8)
- Survivorship generally (n=6)
- Late survivorship (5-15 years; n=19)

### Psychological Distress by study and time point

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	Armuand et al. (2015)	Canada et al. (2007)	Carter, Sonoda et al. (2007)	Keim-Malpass et al. (2013)	Lawson et al. (2014)	Lawson et al. (2015)	Letourneau et al. (2012)	Razzano et al. (2014)	Partridge et al. (2004)*	Yee et al. (2016)*	-	Carter, Sonoda et al. (2010)	Connell et al. (2006)	Quinn et al. (2012) Sait (2011)	Armuand et al. (2014)		Benedict et al. (2016)	Carter, Chi et al. (2010)	Carter, Rowland et al. (2005)	Frederick et al, (2016)	Gorman et al. (2010)	Naday et al. (2013)	Salto et al. (2005)	Dryden et al. (2014)	Dunn et al. (2000)	Lloyd et al. (2014)	Rieker et al. (1990)	Rieker et al. (1989)	Bisseling (2009)	Bober et al. (2013)	Canada & Schover (2012)	Carter, Raviv et al. (2010)	Crawshaw et al. (2009)	Crawshaw & Sloper (2010)	Frumovitz et al. (2005)	Ganz et al. (2003)	Gorman et al. (2015)	Henry et al. (2012)	Kim et al. (2010)	Nilsson et al. (2014)	Lehmann et al. (2017)	Parton t al. (2017)	Schover et al. (1999)	Wenzel et al. (2002)	Wenzel et al. (2005)	Ussher et al. (2018)	Yi et al. (2016)
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Anxiety, worry	•		•		•	•		•		•						•			•	•	•	•	•		•					•	•	•	•	,						•		•				•	
Trauma, distress		•			•	•					•				•	•	•		•	•	•						•	•		•	•		•	,				•	•	•	•	•				•	
Regret, Disappointment				•			•					•	•													•																		•		•	
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Conception			•						•	•	•	•	•		•	•				•			•			•	•											•	•	•			•	•		•	•
family planning	•		•					•					•	•		•	•		•	•	•	•				•	•			•	•		•							•	•		•		•	•	
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Body Image										•															•																						
Relational concerns	•		•													•							•		•	•														•		•			•	•	•

### Diagnosis and Treatment

#### Psychological Distress

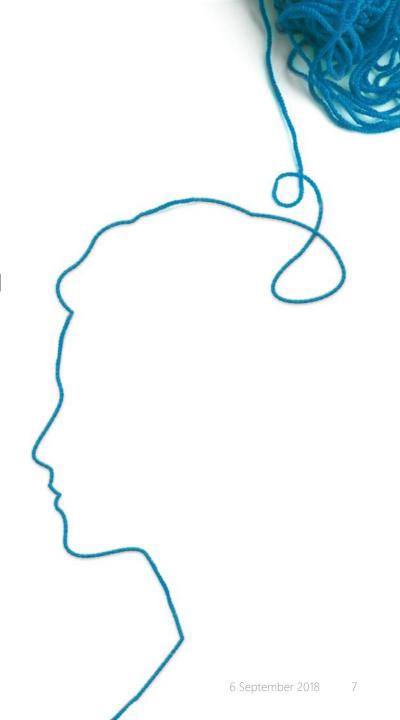
- For some as devastating as cancer
- Negative emotional responses to news of infertility and managing fertility treatment
- Poorer mental health; depression and anxiety (30-62%) compared to infertile non-cancer patients and (p<.05)</li>
- Anxiety and depression persist throughout FP Tx, but depression and trauma may reduce over time (subclinical at 12 months post Dx)

#### Reproductive Concerns

- Reproductive concerns (RC) experienced by majority of some patient samples (female cervical 90-100%) and are frequent (41-57%)
- RC persist throughout treatment (90% diagnosis, 100% 6 months, 73% at 2 years)
- Exploring RC may elevate anxiety

#### Intervention

 3 studies reported on usefulness of psychological intervention; psychosexual education, fertility counselling by a specialist or psychologist



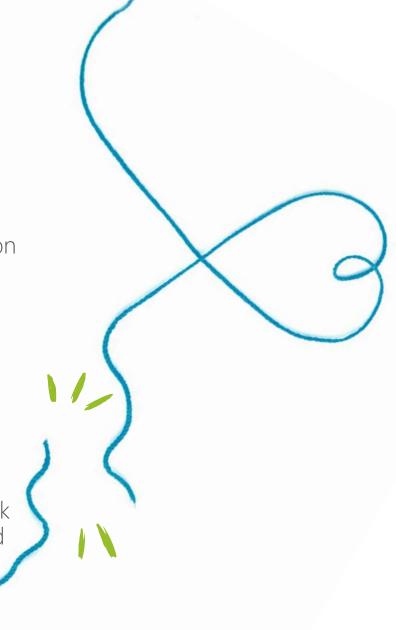
## Survivorship

#### Psychological Distress

- Range of negative emotional experiences
- Disruption to sense of self and life narrative
- Depression (22-30%) in post menopausal or infertility women
- Fertility-related trauma (20-72%), in particular intrusive memories.
  Correlated with depression (p<.0001)</li>
- Anxiety symptoms commonly reported
- Cancer site, type and treatment experiences all influence distress

Reproductive Concerns

- Associated with elevated depression (p<.0001 – p=.0002), OR1.3 with RCAC
- Unfulfilled desire for a child (30%) linked with greater trauma symptoms (intrusion and avoidance), higher cancer distress, lower QOL, and higher depression in nulliparous.
- Menopause symptoms increase risk of depression (OR 3.4), anxiety and trauma



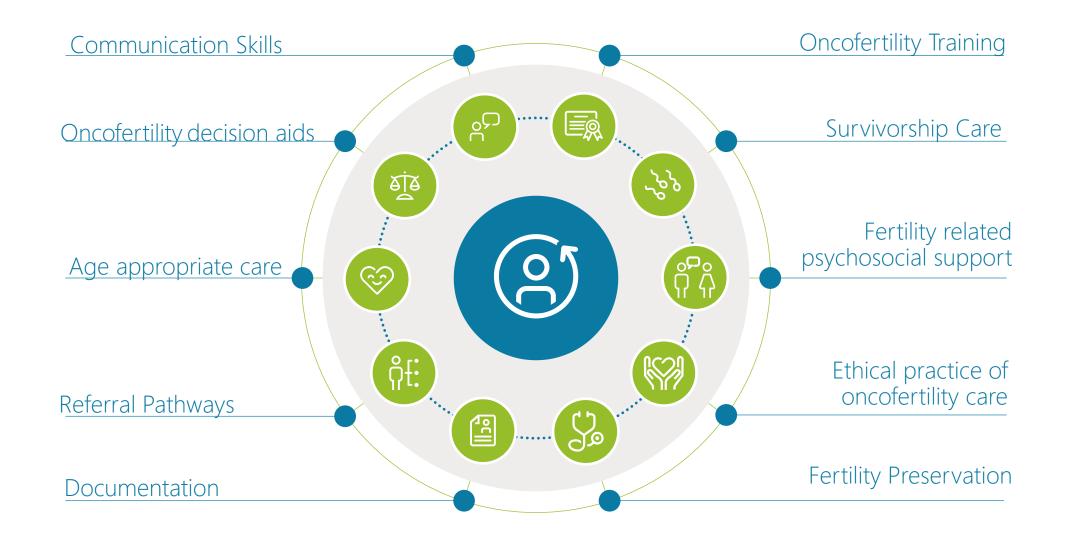


### Current landscape

- Fertility-related psychological distress and heightened reproductive concerns are both prevalent and persistent throughout all stages of cancer.
- Female patients and younger patients appear to be most at risk at time of diagnosis; female and childless/ interrupted family planning most impacted in survivorship
- Lack of psychological interventions post diagnosis or long term follow up care
- Wary of limited data, limited use of psychological clinical measures, limited number of interventions



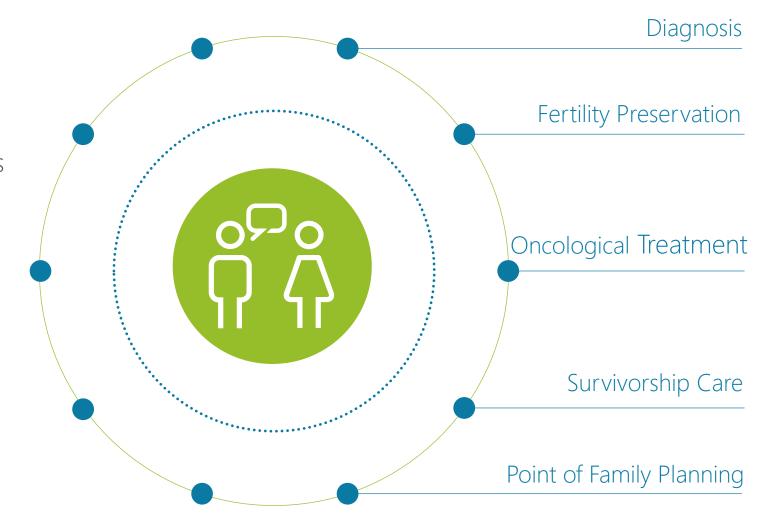
#### Model of Care Proposed by International Competency Framework



#### Oncofertility Psychological Proposed Model of Care

#### **Each Consult**

- Provision of Information
- Assess Fertility Concerns
- Assess Risk Factors
- Refer to Fertility Counsellor
- Access to psychological care



# Thank you

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