Declarations of interests

- Secretary of NIGPS (Nutrition Interest Group of the Pancreatic Society of GB and Ireland) – group has received educational grants from Viatris who market Creon

- Co-lead of the Nursing and Allied Health Professionals (NAHP) programme at the CRUK Cambridge Centre

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NUTRITIONAL MANAGEMENT

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What comes to mind when you think of the nutritional management of Diabetes and Pancreatic Cancer?

Aims of Nutritional Management

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Prevent:

- Hypoglycaemia
- Hyperglycaemia
- Exacerbation of malnutrition
- Malabsorption
- Diabetes related complications

Increase wellness for treatments

Things to consider....

- Advice for type 2 diabetes is largely inappropriate
- May carb count
- May be DAFNE trained (course on managing own diabetes)
- Need to adequately treat PEI (pancreatic exocrine insufficiency) alongside
- Need to navigate other treatments

POLL Which of these might you suggest in offering nutrition support to someone with pancreatic cancer and diabetes?

- Increase intake of high protein and energy foods and drinks
- Reduce intake to get blood glucose within target
- Avoid large volumes of sugary drinks/ sweets
- Reduce PERT intake to reduce carbohydrate digested
- Bed rest
- Avoid all sugar intake
- Optimise PERT doses and administration
- Moderate physical activity
- Reduce fat intake
- Increase sugar intake
- Forget blood glucose targets entirely
- ‘Little and often’ approach

Nutrition Support

- High protein and energy
- Do not reduce intake to get BG within target
    - Reasonable to avoid large volumes of sugary drinks/ sweets
- High BGs leads to energy loss as sugar in the urine
- Adequate PERT doses
- Carbohydrate awareness
- Physical activity
- Monitoring

Oral nutrition support tips

- Little and often
- Milky drinks
- Drink after meals not before
- Taste changes
- Good protein source with each meal
- Milk based puddings
- Fortify milk
- Oral nutritional supplements
  - Standard
  - Juice style
  - Fat based

Eating well with PC and DM

- Adequate PERT
- Good source of protein
- Avoid large quantities of high sugar/ GI foods or fluids between meals
- Carbohydrate awareness
- Physical activity
- Micronutrients
- May need to increase freq of BG monitoring
- Regular nutritional assessment and monitoring is important

Dietary treatment

No ‘diabetic diet’

Getting enough nutrition is often a high priority

Treatment often focuses on symptom control and prevention of hypos

Avoid full sugar fizzy drinks and sweets (except for hypo treatment)

Blood glucose targets will be individual

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IMPACT OF CANCER TREATMENT ON DIABETES MANAGEMENT

Diagnosis

- Assess BG management as close to diagnosis as possible
- Hyperglycaemia can contribute to weight loss and adds to fatigue
- If DM diagnosis came before PC diagnosis, check if type of diabetes needs to be reclassified
- Reestablish connection with DM team if needed

Fasting for procedures

- Useful to make a plan in advance of the fasting period
    - especially for people on an insulin pump
- People with insulin dependent diabetes will need to be on VRIII while fasting
- PET scans – aim for BG 4-11, may need correction dose of rapid acting insulin prior to scan

Surgery

- **Prehabilitation**
  - Optimise BG management
  - Usual care provider
  - May need to increase frequency of input
  - Discuss post-op management
- **Peri-op**
  - If on insulin, usually admit the day before and start VRIII when fasting
  - If on OHA (oral hypoglycaemic agents), usually VRIII when fasting
  - Short operations, may consider continuing to use insulin pump
  - Local policy re use of CGM
  - Usually avoid carb-loading pre-op drinks

Surgery

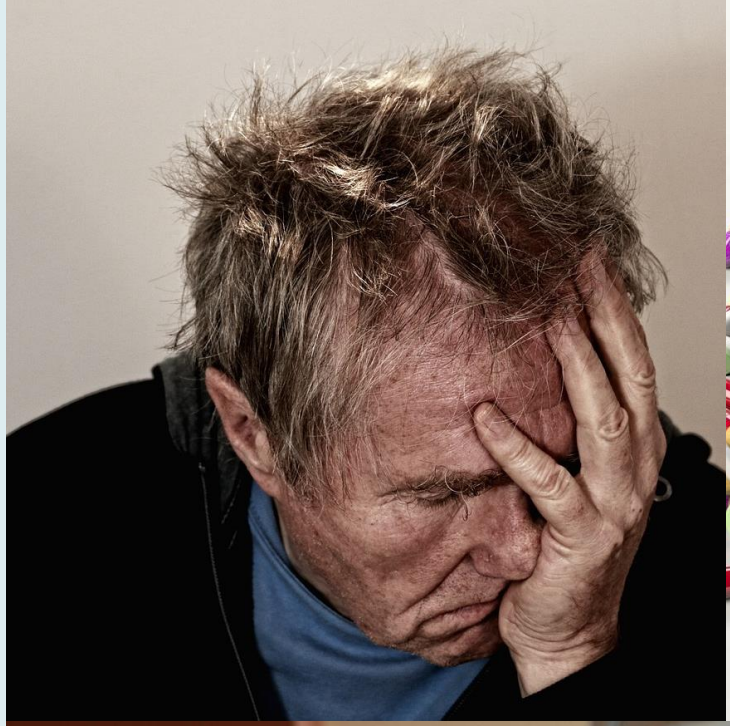
- **Intra-op**
  - Managed by anaesthetist
  - Basal insulin at usual time if via pen
  - If insulin pump, will need basal insulin via pen

- **Post-op**
  - VRIII +/- basal insulin initially
  - Usually eaten two meals/ on stable feed before come off VRIII
  - May have PN/ EN related hyperglycaemia without DM
  - Good BG management aids recovery
  - Challenges….

Challenges to post-op BG management

- Variable nutritional intake
- Changeable route of nutrition
- DGE – delayed gastric emptying
- PEI – absorption
- Reduced and variable physical activity levels
- Psychological health
- Post-op infections

Change of who manages the diabetes



Mrs P

- 70 yo woman
- PMHx: hypertension, thyroid disease and ischaemic heart disease
- July ’24 - CT and PET - 5cm head of pancreas mass, no metastases
- Aug ’24 – EUS FNA: atypia difficult to grade
- Imp: intraductal papillary mucinous neoplasm (IPMN)

- Can walk <½ mile, mostly limited by hip pain but also SOB, able to climb stairs without difficulty
- Smoked electric cigarettes for 10 years, prev smoked 20 per day for around 20 years

Mrs P

- Aug ’24
  - offered total pancreatectomy vs surveilace
  - saw dietitian, told would become insulin dependent diabetic with TP
  - pre-surgical Ax from DSN to explain;
    - function of pancreas
    - diabetes
    - 3c Diabetes
    - basal bolus insulin regimens
    - carb awareness
    - glucose monitoring
    - hypos
    - DVLA
    - post-op care

- May ’24 – HbA1c 37mmol/mol
  - Started on PERT by GP – Creon 25,000, 2 with meals, 1 with snacks

Mrs P

- Oct ‘24 – Mrs P decided to have resection
  - HbA1c: 48mmol/mol

- Nov ’24
  - Total pancreatectomy and splenectomy
  - VRIII started in theatre
  - Basal insulin started on diabetes review
  - Titrated up
  - Patient education on glucometer and insulin injections
  - Delay in transitioning off VRIII due to low intake
  - Mealtime insulin started VRIII stopped
  - Education on DKA, sick day rules and recap of prev info

Mrs P

- Pt unable to manage own diabetes
- Changed to mixed insulin with B and EM and basal insulin with EM
- DN to administer insulin and check BGs
- Referral to local Diabetes team for follow up

- Histology: PDAC on background of IPMN

Centre for Perioperative Care

Academy o
Medical Roy
Colleges

Guideline for Perioperative Care for People with Diabetes Mellitus Undergoing Elective and Emergency Surgery

Updated December 2022

JBDS-IP Joint British Diabetes Societies for inpatient care

Glycaemic management during enteral feeding for people with diabetes in hospital

A guideline from the
Joint British Diabetes Societies for Inpatient Care
(JBDS-IP) group

April 2024

Association of British Clinical Diabetologists

DISN UK GROUP

DIABETES UK
KNOW DIABETES. FIGHT DIABETES.

JBDS-IP Joint British Diabetes Societies for inpatient care

Using technology to support diabetes care in hospital:

A guideline from the
British Diabetes Societies for Inpatient Care
(JBDS-IP) Group
and
Diabetes Technology Network (DTN)

Revised March 2024

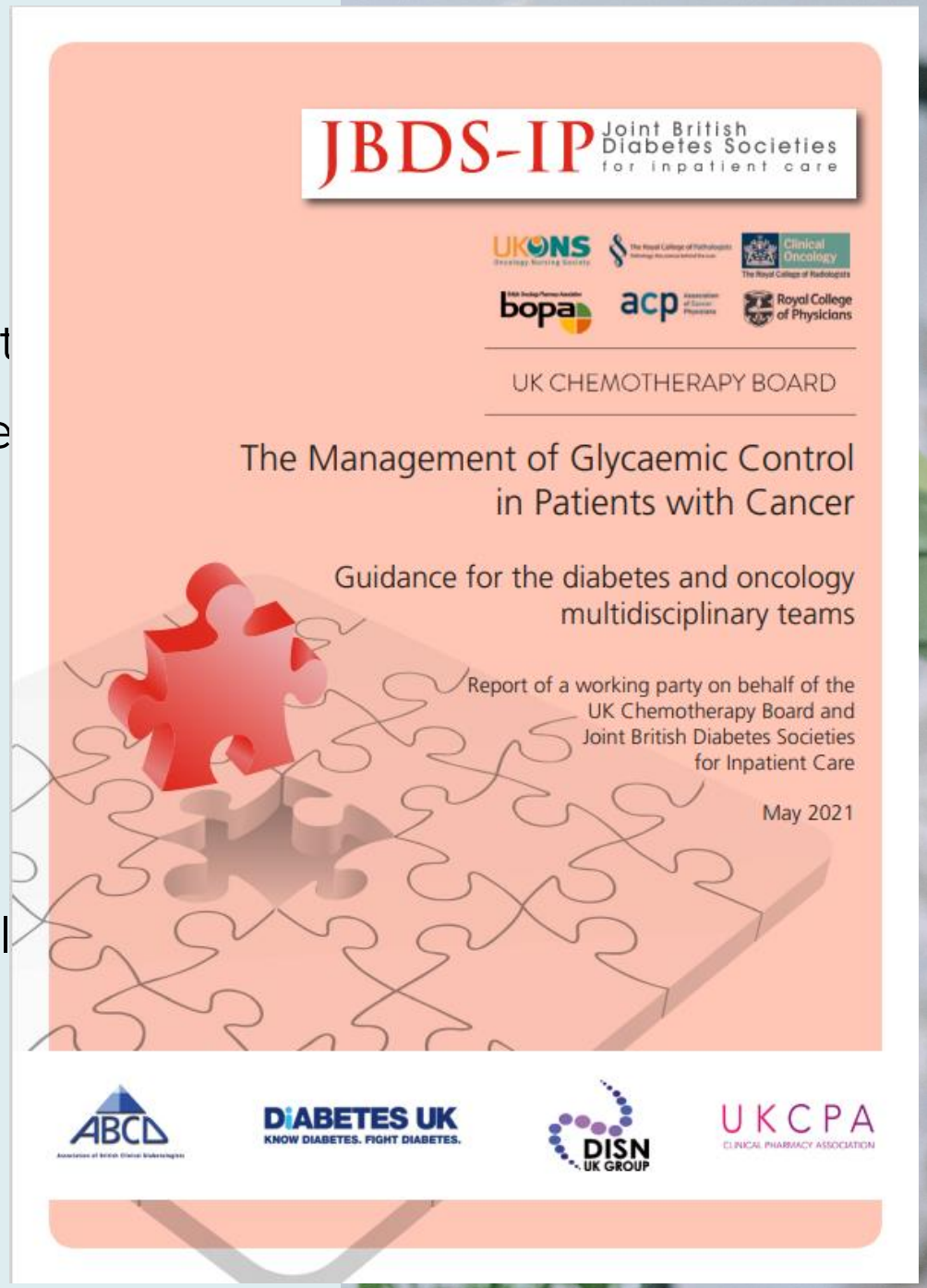
DISN UK GROUP

DIABETES UK
KNOW DIABETES. FIGHT DIABETES.

DTN UK
collaborate · evolve · support

Chemotherapy

- Regular monitoring
- Some chemo in glucose solut
- Variable intake and activity le through cycle
- Diarrhoea/ vomiting
- Admissions
- Steroids
- Infections
- Avoidance of eating for travel



Nausea, vomiting

- Usually eat less
- Lose nutrients consumed
    - Incl. carbohydrate that may have been counted and insulin injected for
- Must follow their sick day rules
- Gastric outlet obstruction (GOO) - nutrition stays in the stomach for longer
- May need to change route of nutritional intake, consistency and timing of meals and snacks

- Similar symptoms with delayed gastric emptying (DGE)

Reduced appetite

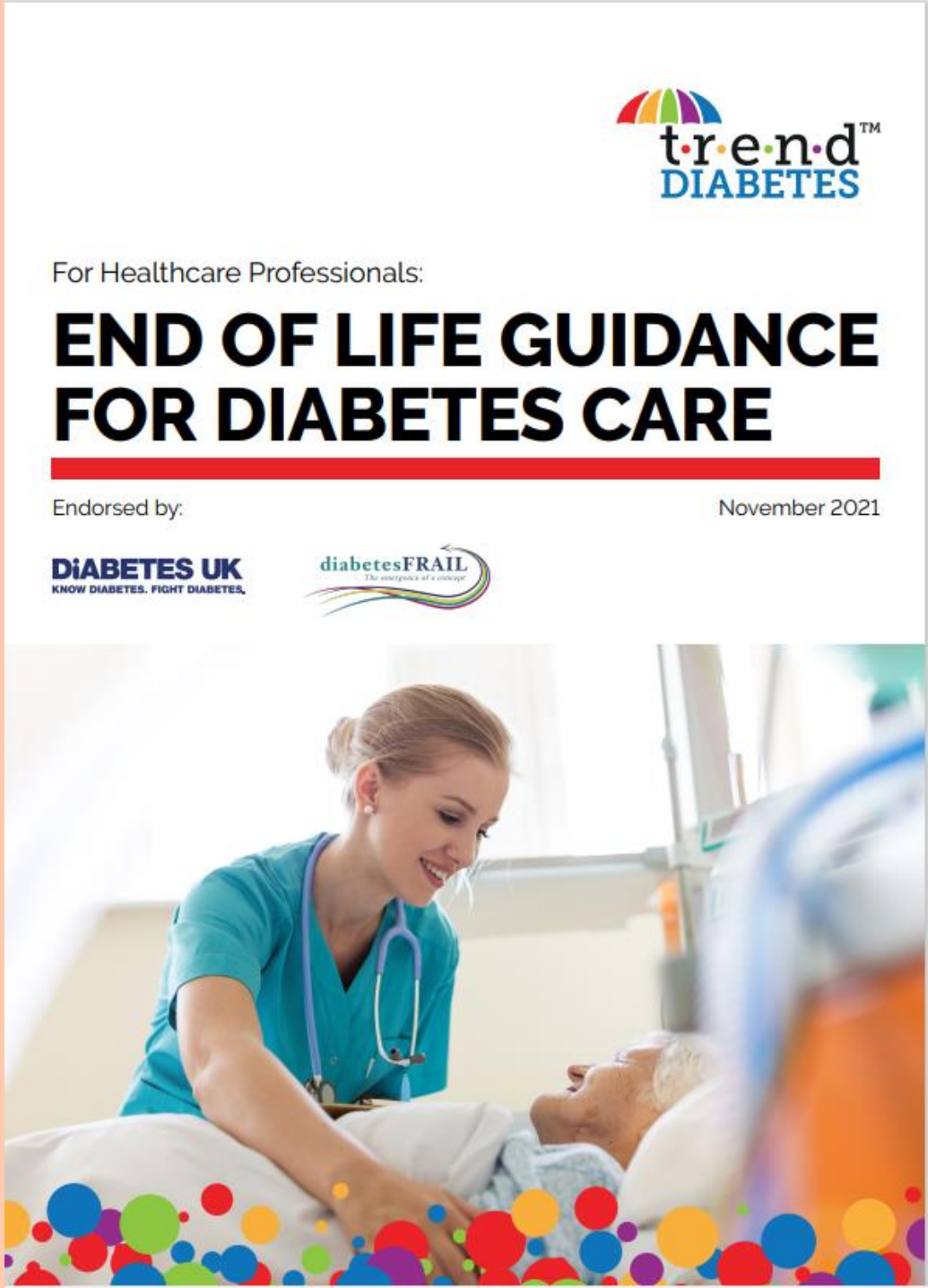
- Pressure of the tumour on the stomach, jaundice, depression, pain and fatigue can all cause reduced appetite
- Usually means eating and sometimes drinking less, often different food choices
- Likely to impact glucose levels

Diabetes at the end of life

- Aim for people to live as well as possible until they die
- **Goals** are likely to change
- **Intake** and **activity** levels likely to change
- **Insulin requirements** likely to change, therefore insulin administered changes

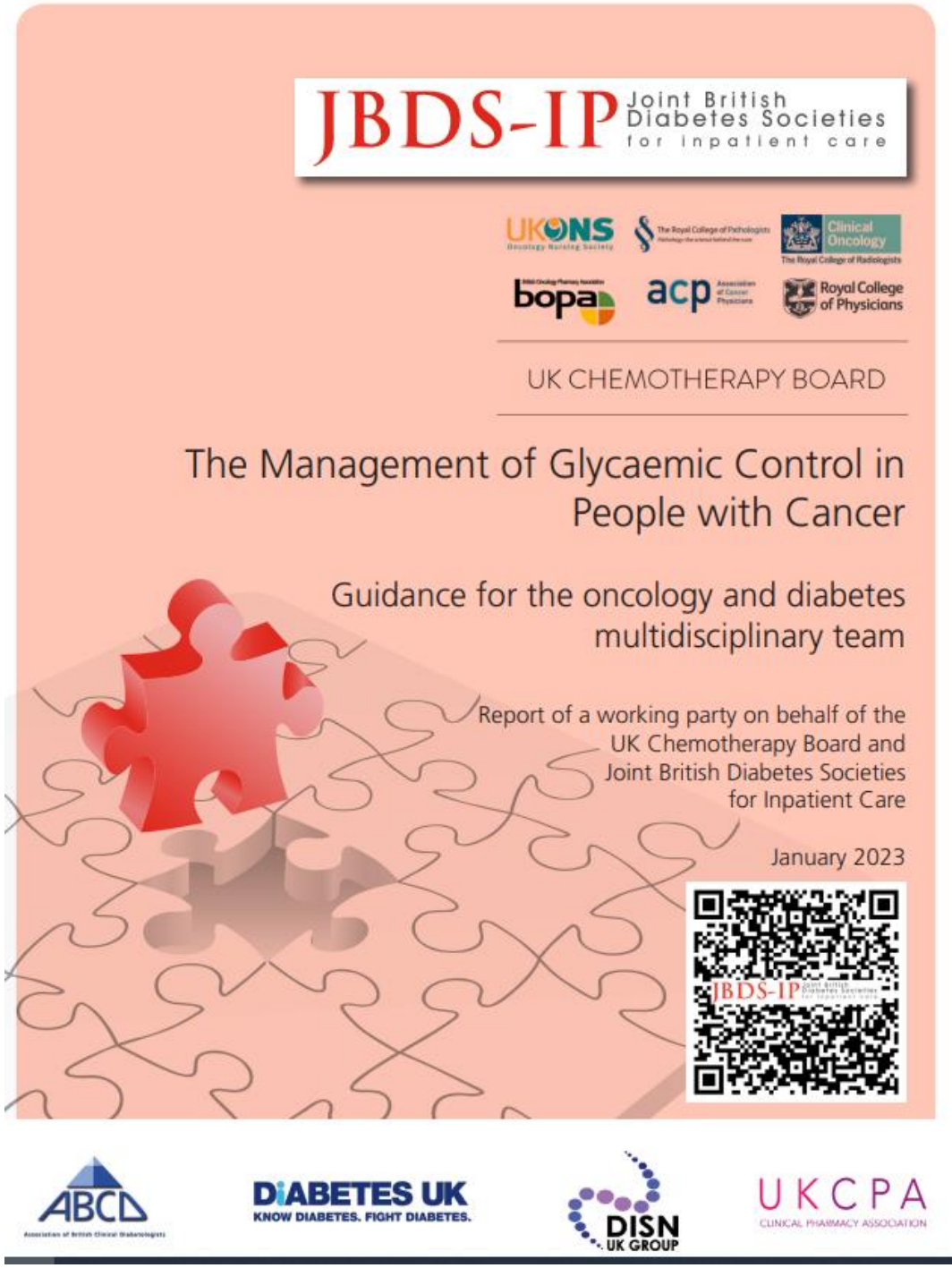
- Maintain independence
- Balance symptoms and consequences, focus on QoL
- ‘Pointless’ vs ‘giving up’
- With no pancreas insulin and glucose are required to sustain life

- Early identification and gold standard framework
- BG aim 1 – no <6 mmol/l
- BG aim 2 – no >15 mmol/l
- Non-insulin therapies reduced and eventually stopped
- Insulin not to be stopped in someone not producing it
- Benefits vs risk of harm



- Aware of renal function changes, may necessitate dose changes
- Regularly review hypo risk with changing eating patterns
- Match insulin regimens with activity level changes
- Review how able someone is to take their medication
- Aim for simple regimens

- Insulin pumps: continue to use provided self/ carers happy to manage
- In last days of life when eating little or nothing and no longer able to manage own pump, it can be used to deliver basal insulin requirements



Takeaway messages

- Early and regular consideration of diabetes management through diagnosis and treatment
- Adjust goals as appropriate
- Monitoring
- Communication
- Support the person and their intake rather then restricting them

Takeaway messages

- Determining the type of diabetes impacts treatment
- Longstanding diabetes is a risk factor for PC
- PC is a risk factor for diabetes
- Not all diabetes meds suitable in PC
- Targets may vary
- Both diabetes and PC are difficult to be diagnosed with and manage
- Team approach

THANK YOU

Pancreatic
CANCER UK