

## RESEARCH ARTICLE

### Evaluation of a Hospital-Based Return to Work intervention for Breast Cancer Patients

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#### ABSTRACT

**Background:** International research indicates that patients' needs for return-to-work (RTW) support should be addressed and integrated within the curative healthcare process and as early as possible in the treatment process. Using intervention mapping, a hospital based RTW intervention, named BRIDGE (Bridging health care and workspace), was developed with an emphasis on bridging the gap between healthcare and the workplace.

The aims of this evaluation were (a) to determine whether BRIDGE contributes to restoring participation and increasing quality of life for BC patients during their RTW process; and (b) to identify the needs and experiences of patients and healthcare professionals during this transmurial intervention process. This paper describes the quantitative and qualitative evaluation of the intervention.

**Method:** The mixed-method design of this study assessed quantitative outcome measures on patient level (perceived Quality of life), number of days on sick leave, relapse and experience with RTW support; and on healthcare worker level (days of duration of the RTW guided process, perception of satisfaction with RTW support and time spent by the occupational therapist and the multidisciplinary team). Semi structured interviews were used to evaluate qualitative measures on patient level, focus-group discussion was used to collect healthcare providers' perceptions.

**Results:** Of all eligible patients (n =179), 79 accepted to participate. Randomisation attributed 43 participants to the intervention group (IG) and 36 to the control group (CG). The outcomes showed that patients felt respected and empowered in their choices and actions regarding their professional career and that health care providers perceive the intervention as valuable support for their patients.

**Conclusions:** The BRIDGE intervention is highly appreciated both by HCPs and BC patients. Improvements can be made by elaborating the thoughtful follow-up which enables the BCM to stay in touch, to enable indication of the right moment for each patient to engage in the RTW process. It also would reinforce insights for the BCM to provide the type of service that fits patients' and all other stakeholders' needs. On the other hand, HCPs are not comfortable with the content as well as the potential impact. More emphasis on the thoughtful follow-up is needed to motivate HCPs to align with the idea of the BRIDGE intervention.

**Keywords:** Return to work intervention; breast cancer; hospital based; occupational therapy; evaluation

## 1. Introduction

An increasing number of women are diagnosed with breast cancer (BC) before the age of 65 in Western countries. Moreover, the age is decreasing and this is leading to a growing population of BC patients at working age<sup>1,2</sup>. For BC patients under 65, work contributes significantly to their Quality of Life (QoL)<sup>3-5</sup>. Today, BC is often a treatable or manageable disease, a fact that enables BC patients to resume their daily lives after treatment. Even though, the consequences of disease and treatment can cause chronicity that could hinder their (labour-) participation<sup>6-8</sup>. More than 40% of BC survivors do not succeed in resuming work<sup>9-14</sup>. For the other 60%, maintaining work during treatment or getting back to work remains far from easy and may lead to job loss<sup>12,15-18</sup>.

Female BC patients of working age experience a decline in their ability to work during and after treatment, leading to (temporary) changes in work status, work schedules, work hours and wages<sup>19</sup>. Uncertainty about their level of work (dis)ability contributes to patients' feelings of vulnerability, anxiety and insecurity<sup>20-22</sup>.

In countries such as Belgium, where the social insurance system is mostly orientated towards protecting income, claiming or providing support to return to work (RTW) is rather uncommon among patients, their healthcare providers and their employers<sup>23,24</sup>. The thereby existing gap between healthcare and the patient's work is due to a lack of knowledge on RTW and how to set up an adequate trajectory to (return to) work. This lack leads to disappointment, fragmentation of care and job loss, sometimes even after resuming work<sup>25-27</sup>. Stakeholders involved in the RTW process need coordinated support to manage challenges during the RTW trajectory<sup>28</sup>. Hence, the combined efforts of healthcare providers, patients and employers are essential for success in RTW.

International research clearly indicates that patients' needs for RTW support should be addressed and integrated within the curative healthcare process and as early as possible in the treatment process<sup>28-34</sup>. To do so, hospital-based

intervention is needed that provides tailored support to restore labour participation and that bridges the gap between the healthcare setting and the workplace<sup>26,35-37</sup>. The study by Pauwels et al.<sup>14</sup> underpins BC patients' need for support regarding RTW and indicates that, according to patients' and caregivers' opinions, those needs are insufficiently met. To bridge RTW support in health care with RTW support in the workplace, a hospital-based RTW intervention named BRIDGE<sup>(1)</sup> has been developed<sup>28</sup>.

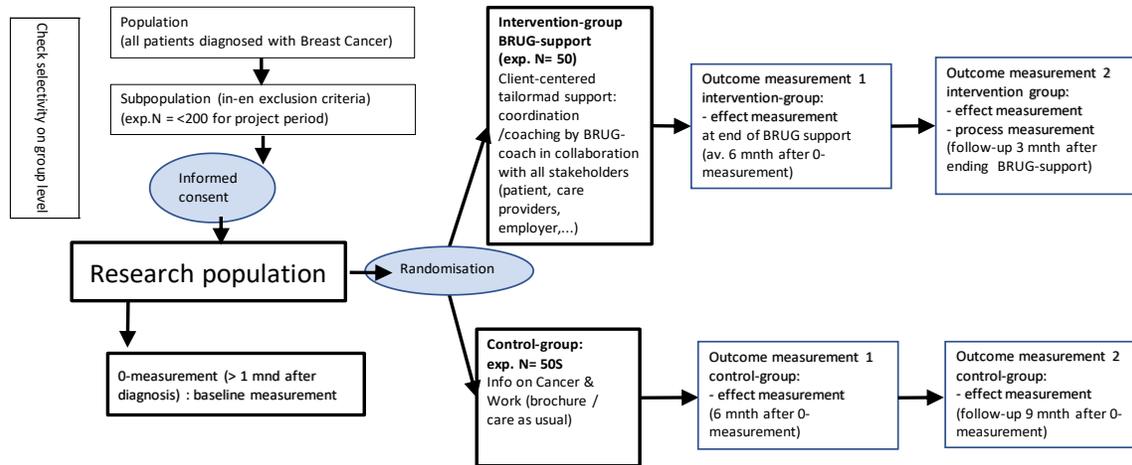
Using Intervention Mapping as protocol for development of this hospital-based RTW intervention, we aimed to answer patients' and healthcare professionals' needs by bridging the gap between healthcare and the workplace<sup>28,38</sup> and thereby contribute to enhancement of the quality of life of BC patients. In Dutch, the project is called BRIDGE (in English, BRIDGE), the acronym for Borstkanker Re-integratie vanUit Gezondheidszorg, to emphasise the aim of bridging that gap early: the intervention starts within one month after diagnosis and is completely integrated in the cure trajectory. An occupational therapist (OT) is assigned as case manager with a focus on bridging the RTW support in the hospital and in the workplace. The intervention is described in an earlier publication<sup>39</sup>. The current paper describes the quantitative and qualitative evaluation of the intervention.

## 2. Methods

The development and evaluation of The BRIDGE intervention was set up using intervention mapping as guideline for the development process. The process evaluation and qualitative evaluation study presented in this paper was embedded in a mimic randomised controlled trial (RCT), and conducted in two Belgian hospitals - one regional and one academic hospital-,<sup>40-43</sup>. Figure 1 visualises the design of the mimic RCT, qualitative evaluation and process evaluation (indicated in measure moments 1 & 2), including the selection of the research population.

(1) BRIDGE is based on BRUG ("Borstkanker Re-integratie vanUit Gezondheidszorg") which means Breast cancer healthcare based return to work

Figure 1: Design



The BRIDGE study was approved by the Social and Societal Ethics Committee of the Ethical Commission of the Catholic University of Leuven (registration number S58213) and the Ethics Committee of the Regional Hospital (registration number 15.96/onco15.15).

Eligible patients for the study were selected during 18 months using in- and exclusion criteria. The inclusion criteria of the intervention were patients with a BC diagnosis (regardless of type, stage or treatment) of working age who were legally entitled to work for at least five years and who were employed on the date of diagnosis (temporary or fixed contract, full-time or part-time

engagement). The exclusion criteria were: patient being self-employed (due to the significant differences in the legal situation compared to salaried workers), expected survival < 1 year by the treating physician, being unemployed on the date of diagnosis, and being unable to work for reasons other than BC at the time of diagnosis. The research specific indication instrument was used to include eligible patients<sup>44</sup>. Breast cancer patients within the inclusion criteria in both hospitals were invited to participate in the study; they were included following the results of the indication-process. Attribution of participants to the IG and to the CG was randomised by coin-toss.

## 2.1. Study sample

Table 1 specifies the in- and exclusion-criteria.

Inclusion criteria	Exclusion criteria
<ol style="list-style-type: none"> <li>1. BC diagnosis (regardless of type, stadium or treatment) at working age</li> <li>2. Legally entitled to work for at least 5 years;</li> <li>3. Employed at date of diagnosis (temporary or fixed contract, full-time or part time engagement)</li> <li>4. Having read, understood and signed the informed consent form.</li> </ol>	<ol style="list-style-type: none"> <li>1. Self-employed (due to the large differences in legal situation compared to salaried workers);</li> <li>2. Expected survival &lt; 1 year;</li> <li>3. Unemployed at the moment of diagnosis</li> <li>4. Not able to work for other reasons than BC on the moment of diagnosis</li> </ol>

## 2.2. Procedure

### 2.2.1. Inclusion and allocation

All eligible female BC patients in the two hospitals were screened by the oncologist who indicated who should be invited to participate in the research project (<1 month after date of diagnosis). Subsequently, a letter including the informed consent form and the first questionnaire and a return envelope was sent by post to the patient. Based on patient's file, demographic and personal information was recorded (integrated in the first questionnaire). Thereafter (see figure 1) patients were randomly allocated to one of both follow-up

groups. This allocation process occurred blinded for the researchers except for the BRIDGE case-manager (BCM) (E.S.).

### 2.2.2. Intervention group

Using the "BRIDGE roadmap"<sup>45</sup>, support for the intervention-group was offered by the BRIDGE case-manager following the five phases of the BRIDGE-intervention, which are in line with those described in other countries<sup>31</sup> and aim to:

1) assess (dis-)abilities of the patient, the workload and contextual factors which might impact on (re-) employment;

- 2) evaluate the match/discrepancies between abilities and demands of being at work, taking into account contextual factors (e.g. transport to work, combining workload and family duties);
- 3) establish short term and long term goals and frame a – therapeutic – plan that facilitates reaching those goals;
- 4) develop tailored interventions based on information from phase 1-3 and set up an RTW-plan in collaboration with all stakeholders (e.g. patient, oncological team, employer, social insurance); and
- 5) realise the RTW-plan and adapt it where necessary to reach the RTW goals of the patient and – thereby – enhance the QoL.

### 2.2.3. Control group

Control group participants receive care as usual (CAU) offered by the oncological teams at both hospitals. In-patients with questions regarding their work, could – if they wanted – connect to the breast care nurse, social worker or specialised psychologist. At the regional hospital (RH), CAU means that a brochure is offered in which general information is provided for all oncological patients. At the academic hospital (AH), CAU also includes a motivational interview in which information on work related issues is provided.

### 2.2.4. Sample qualitative effect study

Using ‘purposive sampling’, participants of each group were invited to participate in interviews following the research planning by a trained interviewer. We included patients with different medical conditions, age, personal and professional backgrounds, type of contract, and type of work. For the control group, data of the hospital files was used to select people of different professional backgrounds, age, medical situation and family situation.

### 2.2.5. Sample process evaluation

The intervention-group participants were interviewed on their process-perceptions and on the content and approach of the BRIDGE case-manager regarding the guidance of that process. The healthcare workers involved in the oncological team participated in a focus group (n = 4). The time-use of the BRIDGE case-manager and the other healthcare workers involved was registered to have a clear insight of the efforts made to deliver the BRIDGE-intervention.

The qualitative research consisted of two parts:

- 1) Semi-structured interviews with BC patients. Using ‘purposive sampling’, ten participants in the intervention and control group respectively

were invited by a trained interviewer to provide additional feedback and share their experiences with the trajectory. The aim was to register patient satisfaction and RTW-orientated perceptions.

- 2) A focus group with healthcare providers of the participating hospitals, including one oncologist, one psychologist and two oncology nurses. The aim was to register the healthcare professionals’ (HCPs’) convictions on their role and their perceptions on the implementation of the BRIDGE protocol.

The interview guide was developed based on previous research, in which the hospital-based RTW intervention was developed<sup>10,28,39</sup>. The audio records of the thereby conducted interviews were transcribed verbally and analysed by the same researchers (HD and ADR) who, as with the analysis of the semi-structured interviews, read the transcriptions separately and discussed the results in a number of meetings.

The quantitative part also consisted of two parts:

- 1) Three questionnaires that were sent to participants at baseline, after 6 months (or after the end of the intervention) and 9 months (or 3 months after the end of the intervention) to both the intervention (IG) and the control group (CG). This material was used for the quantitative effect evaluation.
- 2) The BRIDGE case manager (BCM) kept a logbook to track time use of the provided support to the IG. This was part of the process evaluation.

To maintain a clear focus, this paper presents the qualitative results of the evaluation. To avoid critical differences in the same manuscript, results of the quantitative part will be presented in a following paper.

## 3. Results

### 3.1. Characteristics of participants

One hundred and ninety-seven BC patients were invited to participate in the study, of which 79 agreed to participate. Randomisation attributed 43 participants to the intervention group (IG) and 36 to the control group (CG). The characteristics of the participants are provided in Table 1, in which the demographic information is organised into three subdivisions: 1) person-related, 2) disease-related, and 3) work-related characteristics.

**Person-related characteristics:** In the CG the average age is higher (49 years against 47 years in the IG). The education level is comparable in both groups: most of the participants have a degree from a higher secondary education or University College. Seventy-five percent of the participants in both groups live with their partner, whether or not

with children. Furthermore, most participants in both groups want to start full time with the same employer, but approximately 20% of the participants indicate that adjustments will be needed.

**Disease-related characteristics:** Being aimed at inclusion, large diversity in diagnosis and treatment and great variety in the duration of work disability are reported (CG 59; IG 102 days).

**Work-related characteristics:** Participants appear to be employed in many different sectors, although healthcare and services are the most common ( $n = 35$ ). The majority of the participants have an executive function, only a few have a management or directorial function ( $n = 5$ ). The number of participants who work full-time or part-time is comparable in both groups. **Table 1:** *participants' characteristics (person-, disease- and work-related) ( $n = 79$ )*

1) person-related characteristics	Control	Intervention	2) disease-related characteristics	Control	Intervention	3) work-related characteristics	Control	Intervention
Age	n (%)	n (%)	Diagnosis	n (%)	n (%)	Sector ( <i>multiple choice</i> )	n	n
Average	49y	47y	IDA <sup>2</sup>	8 (22)	9 (21)	Construction	1	1
Education	n (%)	n (%)	IDA + DCIS <sup>3</sup>	12 (33)	19 (44)	Services	9	8
None	1 (3)	1 (2)	ILA <sup>4</sup> + LCIS <sup>5</sup>	5 (14)	2 (5)	Healthcare	7	11
Primary education	1 (3)	1 (2)	DCIS	3 (8)	3 (7)	Trade	2	1
Lower secondary education	2 (6)	5 (12)	Other	3 (8)	4 (9)	Hospitality	4	1
Higher secondary education	10 (28)	12 (28)	Unknown	5 (14)	6 (14)	Industry	2	2
University college	12 (33)	18 (42)	Treatment	n (%)	n (%)	Farming	2	0
University	6 (17)	5 (12)	H <sup>6</sup>	3 (8)	3 (7)	Education	3	4
Missing data	4 (11)	1 (2)	R7 + H	5 (14)	9 (21)	Government	0	6
Family composition	n (%)	n (%)	NC <sup>8</sup> + GS <sup>9</sup>	1 (3)	2 (5)	Transport	1	2
Single	5 (14)	4 (9)	AC <sup>10</sup> + R + H	10 (28)	5 (12)	Other	9	8
Living with partner, with kids	16 (44)	25 (58)	NC + R + H	3 (8)	0 (0)	Unknown	3	1
Living with partner, no kids	11 (31)	8 (19)	NC + R + GS	2 (6)	5 (12)	Function ( <i>multiple choice</i> )	n	n
Co-parenting	1 (3)	3 (7)	AC + R + H + GS	1 (3)	2 (5)	Executive function	23	24
Other	0 (0)	2 (5)	Other	6 (17)	10 (23)	Cooperating supervisor	1	4
Missing data	3 (8)	1 (2)	Unknown	5 (14)	7 (16)	Supervisor	3	4
Goal of RTW ( <i>multiple choice</i> )	n	n	Duration of incapacity for work on inclusion	days	days	Middle management	2	4
RTW full time	23	27	Min	5	6	Management	2	1
RTW part time	9	10	Max	311	1460	Directorial	0	2
RTW with modifications	8	8	Average	59	102	Other	0	4
RTW but other work	2	0				Unknown	6	3
RTW by other employer	3	2				% of work	n (%)	n (%)
Clarification if RTW is an option	2	3				Full time	16 (44)	17 (40)
Missing data	4	5				Full time (combined)	0	1 (2)
						Part time	13 (36)	20 (47)
						Other	4 (11)	3 (7)
						Missing data	3 (8)	2 (5)

<sup>2</sup> IDA = invasive ductal carcinoma

<sup>3</sup> DCIS = ductal carcinoma in situ

<sup>4</sup> ILA = invasive lobular carcinoma

<sup>5</sup> LCIS = lobular carcinoma in situ

<sup>6</sup> H = hormonal therapy

<sup>7</sup> R = radiotherapy

<sup>8</sup> NC = neo-adjuvant therapy

<sup>9</sup> GS = genetical screening

<sup>10</sup> AC = adjuvant therapy

**Perception of working during/after treatment:** At the beginning of the diagnosis, 81% of the participants were convinced that they would not be able to work during treatment. However, 96% were convinced that they would return to work after treatment. To enable a better understanding of information by patients and HCPs and trying to clarify unclear issues raised in the interviews, the transcribed logbook of the BCM on the trajectory of each patient was used. This appeared to be very helpful to connect goals set at the beginning of the RTW-process with comments of patients on how they perceived this at the end of the BRUG-intervention. Respecting the agreements in the ethical approval, H.D. connected to the BCM with questions on unclear statements of patients, who then consulted the individual patients' logbooks to find out (e.g.; what the content of a specific action had been, what delays were caused by). This facilitated understanding and enabled us to get better insight in the way in which patients perceived the service they were offered regarding their RTW trajectory.

**Goal of RTW:** For the majority (94 %) of the participants returning to work is the ultimate goal on the moment they express their wish to participate in this research. This number decreases with time as participants experience increasing doubts: 70 % at T52 % at T2 and 38 % at T3. There is an increase in percentage of participants who start to think that a partial RTW or a RTW with adjustments of the workplace would be preferable over time: 23% at T1; 36% at T2 and 43% at T3.

**Advice for RTW:** Participants indicated that, if they needed advice on RTW, they would mainly seek it with their partner, colleagues, family doctor, friends, employer, medical specialist or fellow patients (in that order of importance).

### 3.2. Participating BC patients: semi-structured interviews

Referring to Knott et al. <sup>46</sup>, who state that generally data saturation in this type of research is reached after completing approximately 15 to 18 interviews, we included 21 of the 79 BC patients in the research-project (14 control-group members, 7 intervention-group members) who agreed to participate in an interview. For patients in the intervention-group the interview took place after the intervention, patients in the control-group were invited to participate 6 months after inclusion (see figure 1).

The semi-structured interviews that were used in this research project took place at the BC patient's home in order to limit burden for the BC patients and ranged from 30 to 90 minutes. The interviews were conducted by experienced interviewers, however not involved in the research-team of this project. The aim of the research project, the research questions and the topic list were thoroughly discussed with them and a verbal and written briefing was provided.

After they got notice from the BCM who contacted the patients (inviting them to participate in the interview), appointments for the interviews were made by telephone by the interviewers. This enabled strict respect for the ethical guidelines and the rules of privacy that were set in the protocol of the initial research project.

Interviews were transcribed verbally and analysed by two researchers (H.D. and A.D.R) who did read the transcriptions separately and discussed the results on several meetings.

### 3.3. Healthcare providers (HCPs): Focus-group discussion

Four HCP participated in a focus group discussion: 1 oncologist, 1 psychologist and 2 specialised nurses. The aim was to register the HCPs convictions on 1) their role regarding hospital based early RTW support for BC patients and of 2) their perceptions on the content and way of working during the implementation of the BRUG-protocol in their hospital. An interview-guide was developed based on literature and the input of these HCPs in de development of the BRUG-material in the preparative phase of the research project (e.g.; the HCPs experiences during the BRUG-project, the level of satisfaction and their perceptions on the importance of this type of service (RTW-support) as part of the care provided by the whole multidisciplinary team. The recorded session was transcribed verbally and analysed by the same researchers (H.D. and A.D.R) who – likewise the analysis of the semi-structured interviews - did read the transcriptions separately and discussed the results on several meetings.

### 3.4. Time use of BCM

Table 2 provides a summary of the efforts made by the BCM during the realisation of the intervention, with the average time use for each type of action.

**Table 2:** time use of BCM per type of action

Time use per type of action	Minimum – maximum
<b>Number of contacts</b>	Min 2 - max 10
<b>Type of contact</b>	
- Telephone	- Min 5 - max 15
- E-mail	- Min 8 - max 20
- Home visit	- Min 1 - max 5
- Meetings (employer, social security, etc.)	- Min 0 - max 2
<b>Time use per contact (in minutes)</b>	
- Telephone	- Min 5' - max 30'
- E-mail	- Min 2' - max 10'
- Home visit	- Min 45' - max 150'
- Meetings (employer, social security, etc.)	- Min 30' - max 180'
<b>Time use per participant (in hours)</b>	Min 8 - max 24
<b>Time of the intervention from start to end (in months)</b>	Min 2 - max 24

### 3.5. Experienced effect of The BRIDGE intervention

By the end of the project period, five of the participants in the IG (n=15) resumed their usual work without any problems. Four participants were preparing and making arrangements to return to work. Three participants decided not to return to work yet due to medical reasons or issues in the workplace, or they did not get the legally required approval of the occupational physician. Three participants decided to not return to work by opting for (early) retirement.

### 3.6. Patients' and healthcare professionals' perceptions

In the following paragraphs, the process and effect evaluation are presented from the viewpoint of the participating BC patients (quotes from BC patients) and healthcare professionals (quotes from HCPs).

#### 3.6.1. Process evaluation by the breast cancer patients

##### Start as early as possible

The starting point differs across the participants. Participants indicate a tendency by stating that it is better to start as early as possible.

According to the participants, the following items are important in the RTW process as enrolled in the BRIDGE intervention:

- The starting point depends on the medical, personal and professional situation of each patient and cannot be initiated externally. The individual's response on treatment and the occurring side-effects also affect the indication of the best moment to engage in RTW, as well as the patient's feeling that it is time for her to return to work.

*"There are enormous differences between the treatments. If people don't need chemo, things can move much faster."* (34)

- By thoughtful follow-up of the evolution of each patient, it can become clear what the most appropriate moment would be to start the process of returning to professional activities. A respectful approach towards each patient's perceptions on her own situation is essential in determining the starting point of that patient's RTW process.

*"Yes, also, how do you feel and how do you see things? Just by asking myself a few questions. How do you see this resumption of work; think about it, is it achievable, is it feasible? The conversations we had in advance, before we went to the employer, mean that I know better for myself that, OK, I want to make this proposal to my employer."* (18)

##### Tailor the intervention

Offering guidance tailored to the individual situation of the participants appears to be essential. In more detail, the following items are especially important to take account:

- The BC patient's personal situation is a key element in the RTW process. The consequences of medical interventions (including their side-effects) as well as the situation at home have a great influence. Dealing with all of the individual consequences of cancer and its treatment is inevitable. A difficult home situation or problems in the private atmosphere determine the BC patient's personal feeling of being able to return to professional activities (or not).

*"And they said to me that I had to work on the till and I'd already said 'Oh, no I'd really rather not do that'. And yet they continued to push for me to work on the tills."* (15)

*"Now, from the other side, they can see your living situation, so the fact that the meeting happens at home offers added value."* (18)

- Participants find themselves in a complex and unknown administrative situation. Clear, tailor-made information is an essential starting point for a trajectory that fits patients' situations.

*"What can be done with the healthcare insurance fund, when you're working part-time for example? How can that be organized with the employer, will the employer allow it? Yes, that type of thing..." (19)*

*"But if I look at how many problems there are between me and my employer or arranging the healthcare fund..." (62)*

- The individuality of each BC patient makes customisation indispensable because, in addition to the wide variety of medical treatments and the way in which patients respond to them, developments that have occurred at their workplace and the impact of their illness on their own personal situation are so intertwined that a complex set of factors arises, which BC patients find difficult to cope with.

*"No, that went wrong. Why or how or what, I don't really know. But, from the moment that we had effective contact, from 'Look, it's like this...' From that moment, things really started to run more smoothly. That offered genuine added value for me." (18)*

*"So, that was all arranged and you just had to go along with it, whether you wanted to or not. You had to. So, whether you wanted to go to the hospital or not, you had an appointment so you had to go." (62)*

#### **Supporting the (adaptation of the) RTW plan**

Mutual influences of personal, work and disease factors create a need for support, tailored to these developments, including assistance in setting up or rethinking previously made RTW plans.

*"Yes, there's so much to process, so much to deal with. And I found, I found this was a help to me and... I would recommend it to everybody, to do it like that and..." (74)*

- Likewise determining as early as possible the individual interpretation of the BC patient's personal situation is also a strong determinant in providing appropriate customisation of the RTW process. The individuality of the patients and their personal circumstances sometimes make it necessary for them to go back to work sooner than they would prefer to (e.g. to provide income), or it just prevents them from resuming work in the way they think would be most suitable (e.g. necessary adaptations are not ready when the RTW is due to start).

*"So, once everything is OK, I want to work, I'm a young woman so I want another job if I can work. Yes, I will find something." (10)*

*"And it's time that I got back to normal or maybe things are a bit difficult for me financially. Because you are living on the healthcare fund." (62)*

*"It was such a disappointment, like 'what is this? And what do I do now?' And it really set me back. I felt like 'I'm not welcome there any more'." (28)*

- Dialogue with HCPs on how and when to start work appears to be less evident in some cases. Some BC patients perceive the input of HCPs as (too) protective, giving them the feeling that a decision is being made on their behalf.

*"... the assistant came over and said: 'yes, I will sign you off sick'. I said: 'hang on, how long will I be signed off?' 'At least a month.' I said: 'No no, I don't want to take that long, I don't want to be off sick for that long.' And the assistant wasn't sure what they were seeing or hearing." (2)*

*"I saw the ombudsman in X, she advised me against it. She said: 'It is already emotional enough, leave it be.' In this respect, the oncologists were actually more supportive." (14)*

*"On the 16<sup>th</sup> January, I had to go back to the occupational physician. They were amazed that I wanted to work. And then they said: you can work half a day and have half a day off on the healthcare fund. Come back on the 16<sup>th</sup> January and we can decide what to do. Whether I could work more or not." (3)*

- Other participants lacked the commitment of their caregivers and felt that they were being left on their own.

*"I felt as if they left me up the creek without a paddle. I'd had my operation and that was that. (16)*

Some participants also expressed the feeling of being in an incapable situation, perceiving their opinion to be overruled by HCPs regarding their own possibilities and limitations.

*"But they said to me that the occupational physician must provide a recommendation about how many hours to work. But that didn't work out very well because the occupational physician was scared that the advisory doctor would suspend me." (32)*

*"And I wanted to work and went to see the occupational physician, because you can't just start working, and he said: 'No, you can't work.' He just said it straight out. And I said: 'Yes, but my paperwork only runs to then?' 'OK, then you can go back to the doctor.'" (16)*

#### **Appreciation for reliable support**

The fact that the BCM strictly adhered to the agreements made during the intervention was highly appreciated.

*"Yes, and the fact that they called me to ask if I'd heard from my employer." (18)*

- The combination of providing information, empowerment, and direct, active support that can be very specific (e.g. the BCM being present during a conversation with the employer or the medical advisor from the social insurance services) is repeatedly cited by participants when asked to give examples of what they perceive as tailored customisation.

*"Then I heard from the employer and was also able to call her at home. 'Yes, but let it sink in slowly to begin with.' Yes, just like a coach at that moment. Something like: 'Take your time, let it all sink in.' Last week, they rang me again when I'd been to see the plastic surgeon. They also agreed to ring a few more times. Just the fact that they were like 'hang in there', that they are keeping an eye on me." (18)*

*"Yes, that fact that I can talk to someone is a great help. After all, you don't have to talk about cancer all the time but it does me good to chat about it." (7)*

- Taking the specific context of the BC patient into account and relating the propositions for work-orientated actions to stakeholders' viewpoint is essential in setting up a tailor-made RTW-process.

*"They noticed that I was feeling a little uncertain about it. What should you say to your employer? (...) Just the fact that they were there, even if they didn't actually say much. That there was a second person there who knew what was going on and how things could turn out. Yes, that was very reassuring for me." (18)*

- Developments in the legal framework and the associated social security regulations are often difficult for both participants and their employers to comprehend. As a result, legal measures intended as incentives are not always correctly implemented, which makes them more of a barrier.

*"In the end, here in Belgium - I don't know if it's different elsewhere - the healthcare fund is there to allow you to work 20%, 30%, 40% or 50%, but that is per week. And, as a chemo patient, I can't do that per week. Because the first week that I have chemo, I can't work at all." (14)*

#### **Appreciation for health care**

The healthcare services and the attitude of HCPs are highly valued by participants. However, BC patients indicate growing feelings of uncertainty when in contact with the HCPs, which results in achieving the opposite effect, with participants feeling not understood by HCPs.

*"I will just work. And he looked at me strangely. He said: 'Wait until you hear what they say in H.' In H.*

*they said precisely the same. Then I sort of thought. Yes, but... And then, I blanched a bit and thought OK. But when ? Yes, when, then ?" (28)*

- Being able to RTW is both an incentive and a barrier for participants. For them, being at work is a sign of recovery. They also indicate that being at work has a healing effect for them. At the same time, they indicate that resuming work involves the risk of overburdening, resulting in a break in the RTW which means that sustainable employment potentially cannot be achieved or maintained.

*"What I had, I was not expecting at all. In 2015, they made me shift supervisor. And in 2015, on 26 October, I found out I had cancer and everyone said: 'Yes, you won't lose your job, we'll keep it open for you,' and I went back to work on 1 December." (3)*

*"... I had already said 'Oh no, I'd rather not do that.' But they carried on pushing, trying to get me to work on the till." (15)*

- Progressive insight into their own situation as a result of experiences during treatment, and having to make choices that will probably influence the rest of their lives are factors that have a strong influence on what they refer to as 'customisation'. Guidance worthy of that name must take into account the insights that arise during the course of treatment and recovery.

*"I went into care as a nurse. And now I no longer need to work as a nurse, on my own." (62)*

#### **The BCM meets expectations**

In summary, ranked by the level of the BCM's contribution, the various forms of support experienced by IG participants are as follows:

- Having access to a point of contact is a reassuring thought for participants, even if they feel that, based on their own strengths, they might be capable of carrying out the RTW process themselves.
- Being able to tell their story sound board and providing suitable information with which participants can get back to work themselves, inform their employer, etc.
- Having access to a guiding function is another effect that participants report. This relates to the BCM's contribution in clarifying the different options that participants have in mind, in order to enable them to look at those options from different angles, to define the pros and cons, and to support their decision-making by asking reflective questions (shared decision making).

- By keeping in touch at regular intervals and being present as a "travel companion", participants experience the presence of the BCM as a concrete support that has an "empowering" effect without making them feel pushed in one direction or another. Feeling ready and/or feeling able to engage in sometimes difficult conversations (with a partner, family, colleagues, etc.) is also mentioned and appreciated as an effect of the input of the BCM.
- For BC patients, a clear added value of the presence of the BCM is that they have someone who can accompany them in their contact with their employer or other stakeholders (e.g. medical advisors from social insurance companies, union delegates). Such support can help them in engaging in such contact and, afterwards, the BCM takes the role of a soundboard for understanding, interpreting and remembering the content of the conversation, the agreements made.

However, some reported that the BCM has not been available when needed. Compiling the transcriptions of the interviews with the notes in the logbook of the BCM showed that ambiguities can arise if the BCM's appointments are met on time (e.g. I only want to be contacted again within two months), when changes in the situation of these participants have occurred in the meantime. This gives rise to the impression that the BCM has not been in contact for about two months.

#### **Appreciation of availability of support**

Knowing that there is someone present in the hospital who can be contacted with questions and who can be available for support was reported by all participants as reassuring. This perception was based on the posters and folders that were available in the hospital to make the research project known to potential participants. Even though this is susceptible to the creation of bias, participants reported that knowledge of the existence of the research project contributes to a good feeling and provides a certain form of reassurance.

Information and the awareness of its availability are important. It is noteworthy that both participants from the IG and CG mentioned their awareness of the opportunity to get in touch with someone they would be able to rely on.

#### **3.6.2. Effect evaluation by the BC patients**

The IG interviewees explain that the immediate added value of the intervention is that one's worries

are reduced. The interviewees of the IG indicate that work is an important part of their QoL and that they perceived their diagnosis as a threat to their quality of life. For them, being able to resume work is an extension of their recovery process, and the BRIDGE intervention has contributed to this in a supportive and meaningful way.

*"Now I feel a bit more secure. I noticed that I became very insecure in many areas, despite the mindfulness and that sort of thing. But, yes, you feel as if they are right behind you, guiding you. How should I approach these things? I can go to her with my questions, and she will try to find an answer for me. If she doesn't know the answer, she will try to find it. Or, she'll send me something. 'That voluntary work', for example. She emailed me the documents or sent me a link to say 'That's where you can find it.' She gets involved and works alongside me and really takes a few of the worries off my hands." (18)*

#### **3.6.3. Perspective of healthcare professionals**

In addition to the opinion of the participants themselves, the perception of the HCPs is relevant when it comes to complementing care as usual (CAU) with additional RTW-orientated support during and after treatment for BC patients.

#### **Conflicting concerns**

Introducing RTW as part of the care trajectory did raise conflicting concerns among the care providers in the focus group:

- HCPs find that patients already have too much to deal with and that it is not necessary to confront them with additional worry regarding work and resumption of work. At the same time, they notice in their contacts with patients that - certainly at the beginning of the diagnosis and recovery process - patients have to deal with a lot of questions to which CAU cannot provide answers.

*"...But, yeah, when you hear from people that 'we are worried about our jobs', maybe at the start we could say something like 'Look, someone will call you, maintain contact'. It is probably a good idea to focus on this. Because, if I'm honest, I don't do that now (SP4- 288).*

- If addressed directly by patients regarding work-related issues, the members of the multidisciplinary team are inclined to answer but they feel uncomfortable because they lack targeted knowledge to provide adequate answers.

*"...My advice is actually, yes, because you don't really know the patient very well, so I think, if they have a good relationship with someone at work,*

maybe their manager, that they could trust them, could say something to them about it. That they are concerned about the options, about being offered adapted work.” (SP4-67)

“I also notice, if you start to talk about work, that some people find it stressful because they think ‘That’s the last thing I was thinking about’. Or they think: ‘They’re just prattling on about work. Do I have to think about that?’ And they could have a type of panic attack: ‘Hey, do I have to worry about that too?’ So, yes, making this a sort of systematic line of questioning, I’m not really behind that.” (SP3-630)

- When a specific team member, in this case the BCM, can focus on the RTW, HCPs certainly perceive the input of that team member as a valuable addition to the psychosocial services currently provided, where they appreciate the added value for their patients and for the quality of the team’s service.

*It must be monitored individually per patient. That’s how it should be. Start by following it all up. But it’s not that simple, I don’t think.” (SP2-277)*

- HCPs strongly agreed that it is not possible to indicate the best moment to talk to a patient about work and to provide a fixed point in the eventual procedure. Therefore, the HCPs refer to the large variety in illnesses, treatments and responses, the personal and professional circumstances of the patients.

“Not every patient has the same treatment (thereafter). Processes run at their own speed. I think it varies per patient, when they are ready to think about work and start wondering about how that all falls into place. After all, to begin with, they are so absorbed in the treatment process that they are not really involved, and don’t want to be. But a little while later, they might come back to: ‘Oh yes, work, I need to start thinking about that’. I think that, to begin with, they close themselves off a bit so they can cope with what they are having to face. But when is the right moment? I think it has to be viewed individually depending on the treatment they have to undergo afterwards. Sometimes it runs very smoothly, radiation and then done.” (SP2-135)

#### **The BRIDGE intervention is regarded useful**

From their own point of view, however, the HCPs did indicate that they have positive expectations about the extent to which an intervention such as BRIDGE can contribute to maintaining/resuming employment participation and therefore also to the quality of life of their patients.

“They only thing I can evaluate is that we have someone we can send people to. I think that’s positive.

She has become a point of contact in the hospital.” (SP5-102)

#### **4. Discussion**

There are very few evaluation studies of RTW interventions that start in the hospital<sup>30,36,47</sup>. In this study, the process and the experienced effect of a RTW intervention that bridges hospital support with workplace support, BRIDGE, were evaluated. Twenty-one patients were interviewed and the main professional involved in the RTW support (the BCM), took notes in the logbook, including the time spent. The major findings indicate that the BRIDGE intervention is highly appreciated both by HCPs and BC patients. The timing of the intervention is an issue, and for those not starting immediately thoughtful follow-up would enable the BCM to stay in touch, to enable indication of the right moment for each patient to engage in the RTW process. Staying in touch would also reinforce insights for the BCM to provide the type of service that fits patients’ and all other stakeholders’ needs. HCPs are not completely comfortable with the content as well as the potential impact though. More emphasis on the thoughtful follow-up is needed to motivate HCPs to align with the idea of the BRIDGE intervention.

##### **4.1. Methodological considerations**

Regarding the method, the response was too low. This was due to a lower participation than expected to the intervention and a lower participation to the questionnaire study, with substantial drop-out during follow-up. Questions that were asked informally by BC patients to the BCM at informal encounters in the hospital made clear that some patients decided not to participate in the intervention because they disbelieved they would ever be able to get back to work.

Informal response (to other HCP’s in the MDT) showed that focus on medical recovery was very important for eligible patients. Even though the communication on the project clearly stated the limited duration of this project, patients said that knowing a work-oriented support could be available at the hospital provided some feeling of comfort diminished the urge to present themselves as potential participant. The latter reasons in particular are a striking phenomenon. This shows that empowerment and intrinsic motivation are important. These insights are in line with the concerns that Sanson et al. found regarding RCTs for evaluating population-based interventions are related to both methodology and pragmatic concerns, including population availability, contamination, time for follow-up, external validity, cost, ethics and informed consent, and the restrictions of innovative research questions<sup>42</sup>.

The systematic review by Lamore et al.<sup>48</sup> highlights the need for a clear definition on the concept “return to work”. They suggest to define the as a *proactive approach initiated by the patient or healthcare professionals to maintain work during treatment or to get RTW (full-time, part-time or with adapted work hours) after treatment. With such definition, RTW does not mean “restoring the patient’s former lifestyle”* (page 16). The concept RTW that is used in the BRIDGE intervention connects to this definition, indicating also that restoring a certain level of QoL appears to be more important for the participants in this study than the return to their pre-diagnostic status.

Woods et al. also used a small sized RCT (60 participants) to evaluate the feasibility of their workbook-guided intervention to support work-related goals among cancer survivors (including BC patients)<sup>49</sup>. They indicated that a feasibility study can be part of the development process as described in the IM approach (steps 5 and 6), as used in the development process of the BRIDGE intervention<sup>50,51</sup>.

Burdorf et al. state that such a design supports innovative research in occupational health as it offers a new platform upon which to examine the effectiveness and feasibility of interventions<sup>52</sup>. Both studies highly emphasis on the importance of direct and active patient-participation in their own RTW-trajectory, which also is a strong element of the BRIDGE intervention.

There are very few evaluation studies of RTW interventions that start in the hospital<sup>53-55</sup>. Although having access to an early RTW, and although support appeared to be a major concern for BC patients, there is no standardised RTW intervention that provides hospital-based support to bridge the gap between healthcare and work. The BRIDGE intervention that aimed to answer this unmet need of BC patients was therefore not only based on international literature on RTW in BC. It also was inspired by research on RTW in other groups of patients who are confronted with chronicity (e.g. rheumatic arthritis, heart failure, other tumour sites)<sup>56-60</sup>.

In evaluating the BRIDGE intervention, we included insights from BC patients and HCPs. The qualitative study enabled us to gain an insight in the requirements of a RTW intervention that 1) would closely fit the BC patients’ needs, in combination with 2) the role of HCPs. The semi-structured interviews allowed for an exploration of the reasons why some participants may respond more positively to the intervention than others. It also indicated which modifications were necessary to connect the intervention to the large variation in

individual circumstances between patients (personal-, work- and illness-related differences). The strict respect of the patient’s perspective implemented in this research approach had the potential to decrease the proactive impact of the RTW intervention in the intervention group. That is one of the reasons why we noted ambiguities in making appointments or making contact with BC patients, as cited in the effect evaluation.

In our study, we focused on the patients’ perspective and the perspective of the caregivers, especially the occupational therapists. We also indicated that besides those perspectives as starting point, the perspective of other stakeholders (e.g. employers) were important when developing a RTW intervention. In this study the employers’ perspective is mentioned but a more in depth exploration might provide more detailed information to improve a clear understanding of the role that employers have in the Belgian social and legislative context regarding RTW for their employees. Other opportunities that also would reduce work-disability in BC patients when supported regarding their RTW (e.g. decreasing administrative and medical treatment costs) are not taken into account in this study as they cannot be influenced by our client-centred intervention, that is to be realised on individual level. However, participants in the intervention group did question the BCM on that type of information. Integration of HCP’s (e.g. social workers) could diminish that burden for patients and other HCPs.

#### 4.2. Content reflections

The BRIDGE intervention was delivered by the BRIDGE case manager (BCM): an OT integrated into the oncology team in the hospital based on earlier research that clarifies that an OT is qualified to take the role of case manager in guiding the RTW process for BC patients<sup>61-63</sup>. The requirements for this role were a bachelor’s degree in occupational therapy, experience in case management of RTW, and additional education in rehabilitation ergonomics. These requirements enable the OT to pay specific attention to workplace-based issues, taking into account national legislation on occupational health and well-being in the workplace. They also enhanced the BCM’s ability to consult workers and their employers regarding workplace adaptations that could improve the success of the RTW process. Other research has shown the value of OT competencies that were added to the professional skills of a multidisciplinary team in oncology<sup>63</sup>. Hatton et al<sup>64</sup> found two themes that are of importance for the inclusion of OT into RTW-support for cancer patients: expectations of the cancer

experience versus reality, and vulnerability during the return to work trajectory. Those topics also appeared as elements in the contribution of the BCM in the BRIDGE intervention.

Participants perceived the BRIDGE intervention as useful, especially due to the fact that actions were tailored to their individual situation. Though international literature suggests that supporting a RTW should start early in the treatment and recovery process, participants indicate a tendency by stating that it is better to start as early as possible. Therefore, we tailored the start of the process to the BC patients' needs, which consequently meant that a generic, fixed starting point for the process could not be designated: some patients did take the information they got to invite them for participation in the BRIDGE intervention as their "starting point", others referred to their specific start of the contact with the BCM.

Participants also appreciated the tailored support from the BCM in a coaching, empowering manner, although they sometimes felt challenged by items that were introduced during the individual discussions. This enabled participants to follow a trajectory that fitted their own personal, medical and professional situation. It also helped them to reach the goals they had pointed out for themselves at the beginning of their RTW trajectory, leaving them empowered after the intervention. Such a type of tailored intervention is described several times in international literature and was strongly inspirational for developing the BRIDGE intervention<sup>50</sup>.

However, HCPs are hindered by the uncertainties and emotional burden of the disease and treatment for patients in promoting RTW in their CAU. During the BRIDGE intervention, contact between HCPs at the hospital and participants was not intensive, since the HCPs tended to refer to the BCM who was present in the hospital. HCPs did not contact the BCM on their own initiative, thus limiting the exchange of information on patient needs, patient situation, etc. As a result, information on the effects of the BRIDGE intervention was not available to be implemented into the RTW process, neither from their own experiences with participants involved in the counselling process, nor from the responses HCPs had received from the participants.

The "thoughtful" and empathetic follow-up by the BCM should be elaborated and made more explicit in the first phase of the BRIDGE intervention. One approach to do so could be that regular contact between the BCM and the patient is agreed upon at the very start of the contact (at diagnosis and during treatment). Furthermore, future amendments should integrate the household of the patient as well as offer administrative support during the RTW.

Although factors predicting success in RTW are well studied (e.g. early stage BC, higher education, low physical job demands, supportive employer), those findings do not clearly indicate what criteria (e.g. high risk for unemployment, self-estimation of need for support) should be taken into account to identify potential participants in health care based RTW support<sup>15-21</sup>. As indicated by our studies 1 and 2 as well as in other research, empowering patients who intend to be self-supportive from the moment of diagnosis on, during the period of treatment and beyond appears to be as important for answering patient needs as providing different types of psychosocial support, goal setting and decision making<sup>22-25</sup>. These findings were confirmed in our results of study 4, when describing the RTW needs of BC patients in the first step of the Intervention Mapping (IM) approach. There still is much unclarified regarding determining what patients are in need for empowerment instead of support; what patients are at risk on losing their employment due to BC diagnosis and treatment; and for what patients setting up a RTW intervention might be beneficial as it could be leading to sustainable work resumption and enhancing QoL.

A final weakness is the tension between evidence and practice. For example, international literature indicates that an early start is necessary<sup>50,53,65-69</sup>, as well as implementation in existing, multidisciplinary treatments. However, in reality, implementation of scientific research results into daily care practice appears to be far from obvious<sup>70-77</sup>. Future research should therefore focus more on implementing this guideline in existing practice.

## 5. Conclusion

Though the BRIDGE-intervention (of which the description is published elsewhere<sup>44</sup>) does connect to the patient's needs, self induced selection bias (patients who thought RTW would be too difficult excluded themselves) limited participation of BC patients. Postponing their decision – and by doing so excluding themselves - might also been caused by the way of communication (posters and flyers) in combination with the duration of the inclusion-period. Greidanus et al<sup>78</sup> implemented direct contribution of specialists during consult with their patients. This also might improve participation on the right moment for the individual BC patient.

The BRIDGE intervention is highly appreciated both by HCPs and BC patients. Improvements can be made by elaborating the thoughtful follow-up, certainly in the first phase of the intervention (assessment of the (dis-)abilities of the patient, workload and contextual factors). This phase often starts while patients still have medical treatment to come and have to cope with side-effects on

different levels (e.g. personal, family, social, and professional). “Thoughtful” follow-up enables the BCM to stay in touch, be available when questions arise and be present at the moment actions can be set up to engage in resuming work. This would not only enable the right moment for each patient to engage in the RTW process to be indicated, it also would reinforce insights for the BCM to provide the type of service that fits patients’ and all other stakeholders’ needs. Consequently, patients could be even more empowered to RTW and regain their premorbid roles. On the other hand, HCPs do not include RTW issues in their CAU as they are not comfortable with the content as well as the potential impact. More emphasis on the thoughtful follow-up is needed to motivate HCPs to align with the idea of the BRIDGE intervention.

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