international accreditation being achieved, the time to treatment saw a further 20% improvement (41% from initial value) of 21 days from diagnosis to treatment. The case-mix was now heavily weighted towards the systemic treatment of 71% and primary surgery 29%.

**Conclusion(s):** The implementation of accredited systems and optimization of the MDM environment saw a dramatic improvement in patients’ service. Throughout the accreditation period, the procedures allowed for a two-week reduction in time to treatment (40% improvement) from a previous 5-week standard.

**Conflict of Interest:** No significant relationships.

### P103

**Hospital vs community screening for breast cancer**

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**Goals:** Jarvis Breast Centre (JC) is a breast screening centre for women in Surrey and Hampshire. Anyone with a suspicious node in the axilla are sent to Frimley Park Hospital (FPH) for a repeated axillary USS. This will confirm if there is significant pathology and to escalate management. The aim of our study is to compare axillary USS’s of both institutions to determine their significance.

**Methods:** A retrospective study looking at individuals invited for breast screening as per national guidelines. This sample is taken from those who visited JC between 1/01/19–31/12/19. Data collection was done using FPH’s EDMS and ICE Software. Axillary USS, FNA and histology were recorded. Data analysis was done using Microsoft Excel.

**Results:** 132 women were identified. 125/132 women were deemed to have a negative result (95%) however 50 patients had a repeated scan at FPH (68%). 17/90 of patients had positive histology when they were negative in JC and had a repeated scan at FPH (19%). 46/132 patients who had negative results at JC and did not have a repeat USS at FPH (35%). Of those who did not have a repeat scan, 5/46 patients had positive histology (11%). There were 17 FNAs completed and 3/17 were positive. 8/11 patients were axilla USS positive in JC but negative USS in FPH.

**Conclusion(s):** Patients who are USS positive at JC didn’t need to have a repeat scan at FPH however Individuals who are USS negative at JC may consider a repeat scan at FPH.

**Conflict of Interest:** No significant relationships.

### P104

**Strategies for breast cancer surgery during & after COVID-19 pandemic**

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**Goals:** COVID-19 global pandemic has seriously affected many health systems around the world, particularly in countries extremely hit remarkably such as Italy, Spain and the UK. As a response, hospitals had to reduce access to elective patients to avoid the spread of infectious disease, and many international societies and groups of experts have published clinical guidelines and recommendations about surgical management of breast cancer patients in this time of crisis and issued COVID guidelines to prioritize surgery for whom time is critical and cannot be deferred.

**Methods:** We performed a comprehensive review from November 1, 2019 to October 25, 2020 of the published literature in English language on COVID-19. Keywords used were: Coronavirus, COVID-19, nCoV, Breast Cancer, Corona crisis, Breast Surgery. Studies were included if they fulfilled specific eligibility criteria such as combination of keywords to focus the subject of COVID-19 and breast surgery. Non-scientific commentary, reports, and news articles were excluded from the analysis.

**Results:** Among the 118 research articles included in the analysis, 9 articles were included. Based on the review and experts’ opinions; there were strong supportive arguments to support providing surgery in breast cancer services, therefore we proposed a strategy to be implemented to resume and to keep providing breast cancer surgery during the pandemic: Provide a one stop triple assessment clinic for patients with a high suspicion of cancer, agreed MDT treatment decisions, provide a single pre-op consultation, perform Breast surgery under day case setup, offer routine wider margin excision where feasible, oncoplastic and reconstructive breast surgery in carefully selected patient, single post op results consultation with follow up phone/Teleconsultation as needed, regular locoregional guidelines review, surgery prioritizing to be escalated or de-escalated according to the level of pandemic with regular revision of pooled waiting lists.

**Conclusion(s):** COVID-19 may live with us for many months and years, we still face the uncertainty to the course of the pandemic and the challenges of the future waves with a considerable concern over the impact on cancer patients, including accumulated untreated cases. To avoid such additional impact and deaths from breast cancer, new protocols under new norms to are of paramount importance to continue to deliver breast cancer surgery safely.

**Conflict of Interest:** No significant relationships.

### P105

**A cost-effectiveness analysis of trastuzumab in Taiwanese patients with stage II-III HER2-positive breast cancer and axillary node metastasis**

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**Goals:** Since 2011 in Taiwan, the country’s National Health Insurance (NHI) system has reimbursed trastuzumab for locoregional HER2-positive breast cancers. There is a lack of empiric data regarding this costly drug’s utility outside of Western settings, and many studies have relied on models extrapolating from clinical trial versus real-world settings. Thus, we sought to assess this drug’s cost-effectiveness with nationally representative data.

**Methods:** We used claims data from the NHI Research Database and oncologic data from the Taiwan Cancer Registry to link patients with stage II-III HER2-positive breast cancer and axillary node involvement from 2011–2014. The doses of trastuzumab each patient received within a year were recorded (0–8, 9–16, ≥17). Survival functions were generated and subsequently used by rolling extrapolation algorithms to estimate five-year overall survival and expected life-years saved by trastuzumab. To determine the incremental cost-effectiveness ratio (ICER), monthly costs were estimated using average expenditures weighted by hazard functions, then multiplied by survival rates to provide estimated five-year costs.

**Results:** A total of 2,511 patients were included (0–8 doses: 422, 9–16 doses: 613, ≥17 doses: 1,476). Compared to the 0–8 doses group, the ≥17 doses group had significantly higher five-year overall survival (91% vs. 74%, p < 0.001). The ≥17 doses group had significantly higher five-year mean medical expenses than the <17 doses group (New Taiwan [NT] $1,632,150 vs. NT $1,260,017, p < 0.001), and the ICER between these groups was NT $1,630,577 per life-year saved. This ICER was well below NT $2,414,588 per life-year saved, a figure based on a common willingness-to-pay threshold of three times a country’s per capita gross domestic product.
**Conflict of Interest:** No significant relationships.

**Predictive and prognostic factors**

**P106**  
The effects of prognostic factors on metastasis and survival of patients with breast cancer using a multi-state model  
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**Goals:** Breast cancer is the most common type of cancer in women worldwide. The multi-state models help in more closely studying the factors affecting the survival of patients with this cancer. Therefore, in this study, we aimed to analyze breast cancer data using the multi-state model.

**Methods:** This was a registry-based retrospective cohort study conducted on 2030 Iranian patients with breast cancer in 2020. Data were obtained from the patients' electronic medical records. Notably, the patients' follow-up time varied from one month to 15 years. In this regard, the initial treatment, metastasis, and death are considered as the first, second, and absorbing states, respectively. The multi-state model was utilized for modeling and analyzing the data at a 95% significance level using the MSM package in R software.

**Results:** The mean age (±SD) of the patients included at diagnosis time was 55.3 (±12.07) years old. The first one-year and 5-years adjusted transition probabilities for transitions from treatment to metastasis were estimated as 0.85 (0.15–0.89) and 0.45 (0.21–0.61), and for metastasis to death transitions, they were estimated as 0.15 (0.1–0.21) and 0.55 (0.41–0.69), respectively. The EBRT method [HR: 7.39, (0.19–28.74)], stage greater than or equal to I [HR: 1.14, (0.66–20.88)], and tumor grade greater than or equal to II [HR: 6.48, (0.55–28.39)] had an increased hazard on the transitions from treatment to metastasis state. Moreover, the average sojourn times were estimated as 0.27 and 74.85 months for the treatment and metastasis states, respectively.

**Conclusion(s):** The multi-state models by providing valuable information can help to explain the factors affecting the natural course of diseases for clinical usage compared to the other survival models.

**Conflict of Interest:** No significant relationships.

**P107**  
Breast cancer after in vitro fertilization (IVF): can ovary stimulation and follicular response affect prognostic factors?  
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**Goals:** The follicular response is related with estradiol level. Study in breast cancer patients after IVF if ovarian response or number of IVF cycles affects the prognostic factors.

**Methods:** Patients with breast cancer who underwent IVF are studied the prognostic factors (Ki67, HER2, estrogen receptor (ER), progesterone receptor (PR), oncogene p53, histologic grade) in relation to the ovary response and number of IVF cycles.

**Results:** 73 patients with breast cancer after IVF are studied. They performed 135 cycles of IVF; 36 (49.3%) with 1 IVF and 37 (50.7%) with more than one IVF. Hyper response was present in at least 1 IVF in 24 (32.9%) patients and there was no hyper response in any IVF in 49 (67.1%) patients. The prognostic factors were: Ki 67 >20 in 31.91% (15/47) Ki 67 ≤20 in 68.08% (32/47), HER2 + 31.94% (23/72) HER2 – 68.05% (49/72), p53 + 45.09% (23/51), p53 – 54.90% (28/51), HG II-III 56.36% (31/55), HG I 43.63% (24/55), RE + 87.5% (63/72), RE – 12.5% (9/72), RP + 76.38% (55/72), RP – 23.61% (17/72). None of prognostic factors varied with the ovary response (hyper response in at least one IVF cycle, normal response, normal or low response) (p = ns). The only prognostic factor that varied with the IVF number was p53 +. Patients with p53 + (23/51), 7 (30.4%) has one IVF, and 16 (69.5%) have more one IVF (p < 0.005).

**Conclusion(s):** In breast cancer after IVF, the ovary response not affect Ki67, HER2, estrogen receptor, progesterone receptor, p53, and histologic grade. p53 positive is more frequent in patients with more than one IVF.

**Conflict of Interest:** No significant relationships.

**P108**  
Predictive mathematical modelling of recurrence periods for the secondary distant metastases in patients with ER/PR/HER2/Ki-67 subtypes of breast cancer  
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**Goals:** Previously, a mathematical model of primary tumor (PT) growth and secondary distant metastases (sdMTS) growth in breast cancer (BC) (CoMPaS), considering the TNM classification, was presented (Tyuryumina E. et al, 2018). Goal: To detect the recurrence periods for visible sdMTS via CoMPaS in patients with different subtypes ER/PR/HER2/Ki-67 of breast cancer.

**Methods:** The model CoMPaS is based on an exponential growth model and complementing formulas, and the model corresponds to the TNM classification and subtypes ER/PR/HER2/Ki-67 classification. CoMPaS allows calculating the tumor volume doubling time (TVDT) of the PT and sdMTSs and the earliest recurrence period of sdMTSs. The CoMPaS model reflects:

1) subtypes of BC such as ER/PR/HER2/Ki-67, where Luminal A = HR(+)/HER2(-), Luminal B = HR(+)/HER2(+), Luminal B = HR(+)/HER2(-), HR(-)/HER2(+), and HR(-)/HER2(-), depending on the TVDTs;
2) the growth processes of the PT and sdMTSs in BC patients without or with lymph node metastases (MTSs) in accordance with the 8th edition AJCC prognostic staging system for breast cancer.

**Results:** Critical growth periods of BC are defined via CoMPaS:

1) the non-visible growth period of the PT;
2) the visible growth period of the PT (appearance of the sdMTSs in other parts of body);
3) the non-visible growth period of the sdMTSs; and
4) the visible growth period of the sdMTSs.