Anticoagulation clinic cost estimation (2019 vs.2020), and COVID-19 pandemic impact

3 months estimation

Coagucheck cost calculation for 2019:

| Month | Average booked and seen in three months | 20% | Cost (x 14) |
|-------|----------------------------------------|-----|-------------|
| Mar-19 | 343                                    | 68.6 | 960.4       |
| Apr-19 | 389                                    | 77.8 | 1089.2      |
| Jul-19 | 414                                    | 82.8 | 1159.2      |
| **Total** | **382.00**                              |     | **1069.6**  |

| Month | Average booked walk-in three months | 50% | Cost (x 14) |
|-------|-------------------------------------|-----|-------------|
| Mar-19 | 161                                  | 80.5 | 1127        |
| Apr-19 | 197                                  | 98.5 | 1379        |
| Jul-19 | 144                                  | 72   | 1008        |
| **Total** | **167.33**                              |     | **1171.33333** |

| Month | Average walk-in in three months | 100% | Cost (x 14) |
|-------|---------------------------------|------|-------------|
| Mar-19 | 123                              | 123  | 1722        |
| Apr-19 | 112                              | 112  | 1568        |
| Jul-19 | 177                              | 177  | 2478        |
| **Total** | **137.33**                                      |     | **1922.66667** |

Coagucheck cost calculation for 2020:

| Month | Average booked and seen in three months | 20% | Cost (x 14) |
|-------|----------------------------------------|-----|-------------|
| Apr-20 | 0                                      | 0   | 0           |
| Jun-20 | 54                                     | 10.8 | 151.2      |
| Jul-20 | 32                                     | 6.4 | 89.6        |
| **Total** | **28.66666667**                          |     | **80.2666666** |

| Month | Average booked walk-in three months | 50% | Cost (x 14) |
|-------|-------------------------------------|-----|-------------|
| Apr-20 | 7                                    | 3.5 | 49          |
| Jun-20 | 0                                    | 0   | 0           |
| Jul-20 | 73                                   | 36.5 | 511        |
| **Total** | **26.67**                              |     | **186.66666** |

| Month | Average walk-in in three months | 100% | Cost (x 14) |
|-------|---------------------------------|------|-------------|
| Apr-20 | 56                                | 56   | 784         |
| Jun-20 | 69                                | 69   | 966         |
| Jul-20 | 52                                | 52   | 728         |
| **Total** | **59.00**                                      |     | **826**     |

| Total cost | 4163.6 |

Percentage of cost savings in coagucheck = 4164 - 1093 = 3071 (74%)
# Final Cost for Anticoagulation Clinic

## Average Pt #

| Average Pt #     | 2019 (n=686.67) | 2020 (n=611) | Difference  | COMMENT                                      |
|------------------|-----------------|--------------|-------------|----------------------------------------------|
| Nurse            | 3433.35 SAR (based on 686.76 CAME) | 571.7 SAR (based on 114.34 CAME) | 2776.7 | Based on the rate of 60 SAR/hour (only came) |
| Clinical pharmacist | 137334 SAR | 122200 SAR | 15134 | Based on 200 SAR per patient               |
| Coaguocheck      | 4164 SAR | 1092.933333 SAR | 3070.666667 | Based on 14 SAR/strip                      |
| Pt/INR in the lab | 46712 SAR | 47651.2 SAR | -939.2 | 120 SAR/patient                            |
| Total            | 191643.35 SAR | 171515.83 SAR | 20127.52 | 10.50259245% saved                        |

## Projected Cost Saving for 12 Months:

| MONTHS | 2019 (COST SAR) | 2020 (COST SAR) | Difference (SAVED SAR) | % SAVED          |
|--------|-----------------|-----------------|------------------------|-----------------|
| 3 months | 191643.35 | 171515.83 | 20127.52 | 10.50259245% saved |
| 12 months | 766573.4 | 686063.32 | 80510.08 | 42.0103698 |
**Summary:**
Virtual anticoagulation clinic implantation had saved 10.5% of the total cost during the study follow up 3 months period. The anticipated cost saving per year will be more than 80,000 SAR (42%). As per the institution directive and precautionary measured applied during COVID-19 pandemic, all patients were directed to laboratory services to do their coagulation profile before the clinic visit due date, unless the patient need to be seen physically in the clinic (new patients), and this had been reflected on a very negligible cost reduction in coagulation profile at laboratory services. Minimal savings (11%) was noticed in clinical pharmacist cost. However, a significant reduction and saving in the cost of more than 70% was noticed in coaguochrome (point of care) utilization in the clinic, and more than 80% in the nurses cost.

The clinical pharmacist cost per patient visit is 200 SAR. At usual circumstances, one patient is usually evaluated in average time of seven (10 -15) minutes, and this had been reflected as 16 -24 patients has been seen by one clinical pharmacist in each clinic. Conversely, this time altered to five (5-10) minutes per patient in virtual clinic workflow during COVID-19 pandemic which resulted in roughly doubling the number of patient (24 – 48) that can be seen by one clinic pharmacist per clinic. This amount of time saving can be utilized in many other improvement projects in adult ambulatory clinics managed by clinical pharmacist.