



Background



Figure 1

Placenta, a vascular tissue which nourishes the unborn baby is the end product after each delivery. Cleaning of this autoclavable stainless steel triangular dish (Fig 1) with heavily blood stains is tedious and it poses potential risks to healthcare worker in their handling of this soiled instrument as shown (Fig 2). To facilitate easy removal of blood stains due to coagulation of blood, pre-enzymatic spray is introduced to keep this blood stained dish moist before sending the triangular dish to CSSD for re-autoclaving. However, this work process is time consuming with potential risks of blood and body fluid exposure. Hence, there is a need to improve this work process for staff working in labour and delivery suite to reduce the risks of exposure.

Figure 2: Previous Workflow



<p>Triangular dish with placenta, blood and amniotic fluids</p>	<p>Transfer the placenta into plastic bag, more transfer more risks of exposure to blood and body fluids</p>	<p>Tie the plastic bag and take weigh before discarding into biohazard bag, or double bag for patients who are claiming. More handling more risks of exposure to blood and body fluids</p>	<p>Use enzymatic spray to clean the triangular dish before sending to CSSD for re-autoclaving. Time consuming as blood coagulated, risks of exposure to blood and body</p>
---	--	--	--

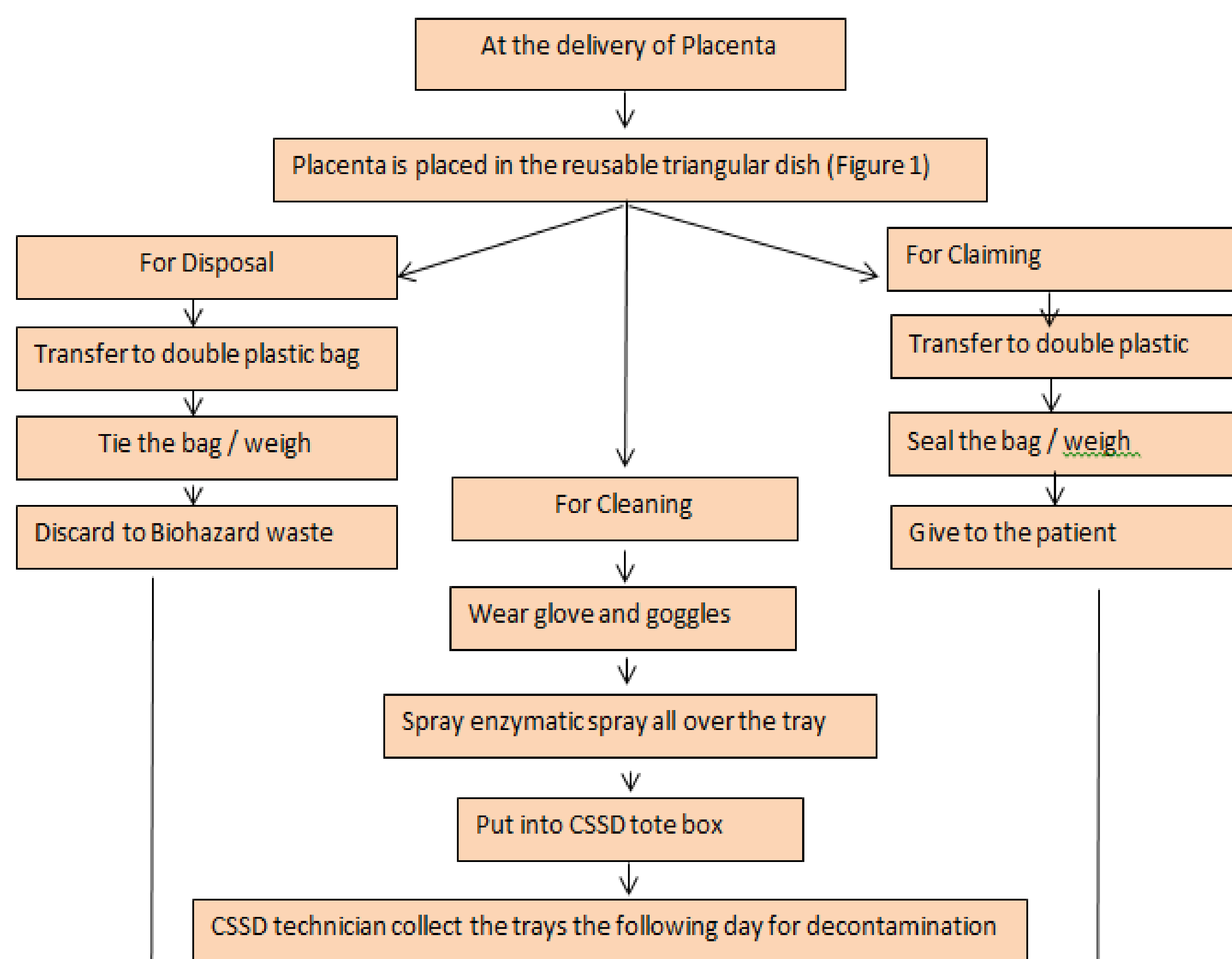
Aim

To ensure zero risk of healthcare-associated infection in the process of handling and disposal of placenta upon delivery .

Methodology

Problem analysis

Problem occurs : O



Increase risks of blood and body fluids exposure due to:

1. Transferring of heavily blood and body fluids placenta to plastic bag, more handling more risks involved.
2. Use of enzymatic spray to the heavily blood and body fluids stained triangular dish, splashing risks.

Interventions

Team Members brainstormed on solutions to eliminate the high risk of blood body fluids exposure to the health care team with the following solution :




Testing of Solution	Problems encounter	Accept idea?
<p>Testing of Solution 1 : Using Green towel Using sterile green towel to lay the triangular tray to receive placenta so that the dish will have less blood body fluids stains</p> 	<p>Obstetricians and midwives feedback regarding solution 1 that it was clumsy and dirty. During clearing, green towel soaked and stained with heavily blood, amniotic fluids and placenta made the clearing of placenta and cleaning more difficult. It increases the risks of blood and body fluids exposure to the health care staff.</p>	No
<p>Test of Solution 2 : Using Wrapping paper Autoclaved sterile reusable triangular dish came with 2 layer of wrapping papers. Using without removing the inner wrapping paper to receive placenta (Usual practice remove the 2 layer of wrapping papers), so that the dish would have less blood and body fluids stains</p> 	<p>Obstetrician and midwives commented that the solution 2 inner white paper takes out space and insufficient to receive the placenta. White wrapping paper projected the blood stained more obvious and look dangerous. Opening out the wrapping paper in the triangular dish that contained placenta, blood and amniotic fluid was tedious and time consuming. It also predisposed blood and body fluids exposure risks to health care staff.</p>	No
<p>Testing of solution 3 : Disposable dish With the help of the Material Management Department, a sterile disposable single use kidney dish was sourced and tested as a receptacle for placentas.</p> 	<p>Refer Figure 3 Obstetrician and midwives are pleased with the solution 3 as the benefits of using disposable sterile 1 liter kidney dish are : - Disposable single use no contamination - Neat and look good - Light weight - Presentable (as patient's spouse is present during delivery)</p>	Yes

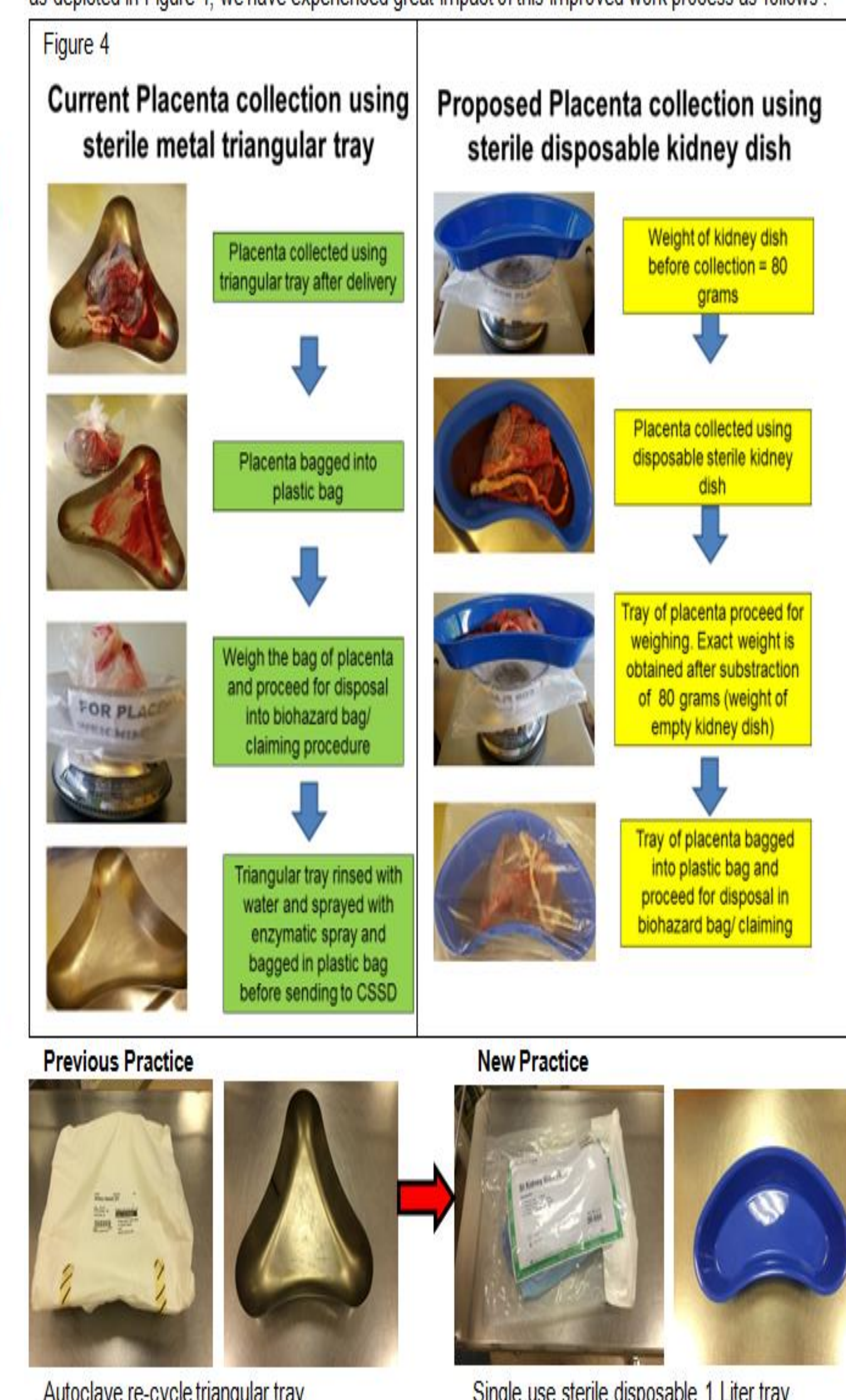
Figure 3

With the revised workflow using disposable kidney dish for handling the placenta after maternal delivery as depicted in Figure 4, we have experienced great impact of this improved work process as follows :

Evaluation on disposable kidney dish by Labour ward

	Doctor	Nurse
1 Space enough to contain the placenta?	Yes	Yes
2 Easy to use to receive placenta?	Yes	Yes
3 Able to examine placenta effectively?	Yes, acceptable	Yes
4 Less discomfort to mothers?	Patient verbalised no discomfort	Patient verbalised no discomfort
5 Good gripping	Yes	Yes
6 Dimension is acceptable	Yes	Yes
7 Other comments:	-Price? - For assisted delivery? enough space? - To evaluate further?	- Price?

**For assisted delivery- Need to 'break the bed', patient's pelvic is at the edge of the bed, staff need to manually hold the kidney dish to receive the placenta*



Results

1. Achieved International Safety Goal number 5 'Reduce risk of healthcare associated infection'.
2. Cost Saving

Cost saving of the Pre-enzymatic spray and autoclaving of triangular dish:

Cost saving items	Total Save
Autoclaving of triangular dish is \$11each, disposable single use 1 litre kidney dish cost \$3.80 (with GST) cost saving of \$7.20 per delivery, multiply by 150 cases per month	\$1,080.00
Enzymatic spray per bottle - \$48.50 (946mls/bottle) Average amount of enzymatic used per case is about 20 ml Therefore a total of 2 bottles is needed per month	\$ 97.00
Grand Total save per month	\$1,177.00

3. Time Saving

Time saved - each cleaning takes 3 minutes
The total number of delivery is 150 cases per month, multiply by 3 minutes per case
Therefore a total of 450 minutes - 7.5 hrs saved / month.