Improving drug prescription and administration safety – a breakthrough project

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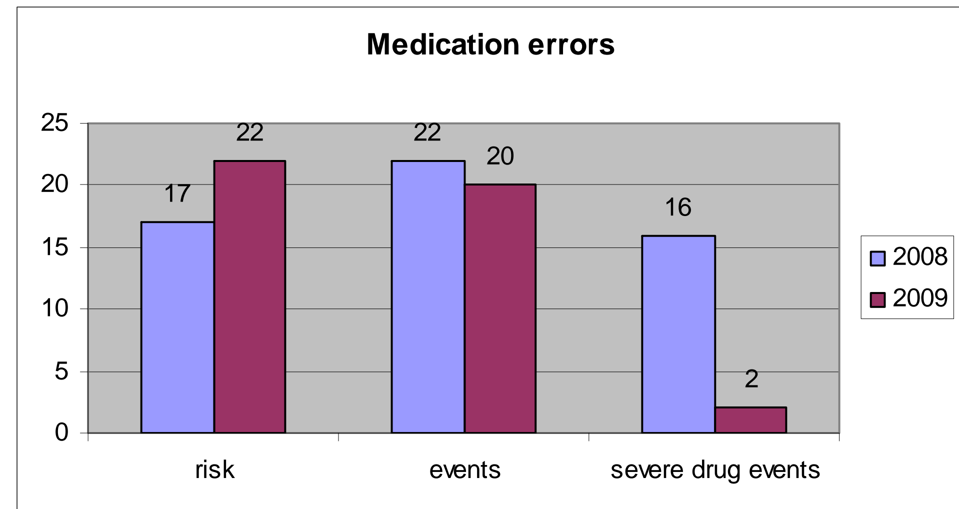
Background

At our unit many medications errors were registered during 2008, some of them with severe outcome for patients.

All members of the staff were asked to share their views on factors increasing the risk of medication errors.

The risk analysis tool identified twelve factors with a high score. We introduced eight barriers during the project.

We chose one identified risk with low score, the potential risk when nurses interact with technical equipment involved in drug administration.



Our purpose

1.To improve drug prescription and administration safety and identify factors increasing the risk of medication error.

2 To reduce potential risk factors that include the process for drug prescription and administration, nurse’s interaction with technical equipment involved in drug administration.

3.Introduction of medication reconciliation

Enviroment for drugstoring at our Central Intensive Care Unit

Enviroment for drug storing and preparations in patient room

What have we done for patient safety?

For drugstore safety

One risk *was* mix-up errors in the drug storage

Barrier:

Natriumtiosulfat

The procurement of drugs is performed in cooperation with the quality and patient unit at Karolinska Hospital to minimise any risks.

We actively try to separate drug packets that looks too much alike.

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Noradrenalin

Another risk: similar looking drug packets constitute a risk of confusion

Barrier

We separate similar looking drug packets on the storage shelf (look alike).

We separate drugs with similar names on the storage shelf (sound alike).

Other risks in the enviroment for drug storing have resulted in

Barriers:

We have introduced a more distinct labelling of drug placement in the central unit storage.

Antidots have gained a special placement in the storage.

We have compiled a list of synonyms for antibiotics.

In the future: Implement the drug automat during 2010.

For medication prescriptions safety

There were risks in the process for drug prescriptions

Barriers:

We clarify the importance of using the specific drug protocols (i.e favourites in the digital drug module) for this unit to all doctors and nurses.

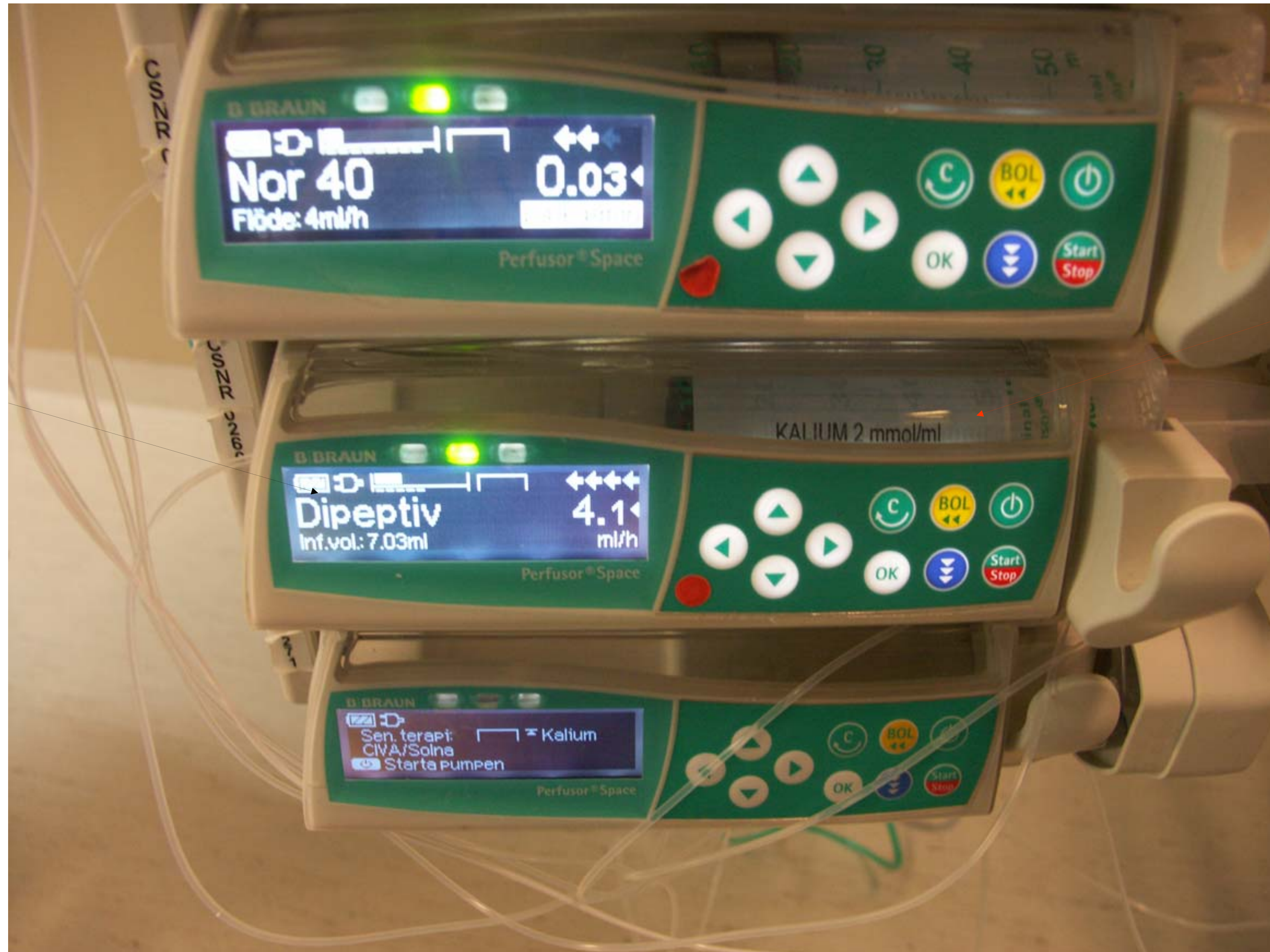
We have introduced access to pharmacy drug register for all doctors.

We have revised all drug protocols (favourites) in the digital drug journals in order to make these more safe.

For drug administration safety

One risk- there were flaws in control of drug administration by the syringepump

Syringepump adjusted for



The syringe is labelled with a different drug.

Risks with administration of drugs due to preparation of drugs

The space in the patient ward where nurses prepare drugs is very limited.

There is a risk that the nurse is disturbed by colleagues, relatives or telephone calls.

The nurse experiences stress and lack of time.

Sometimes the volume is very high in the patient ward.

Barrier

The space for drug preparation is limited and there is no possibility to offer separate room in the patient area.

Hence, all co-workers are requested to provide an undisturbed environment for drug administration by avoiding to disrupt the person who is preparing the drugs.

We discovered a potential risk when nurses interacted with technical equiment involved in drug administration. Hence, we performed measurements at the syringe pumps each month.

Goal: 100% correct compliance

Variables of measure

- The drug protocol agrees with the syringe label
- The name of the drug is visible in the display (correct placement of labels)
- Date and signature should be visible when opening the shuffer
- Correct preservation information on the drug mixture (12 hours)

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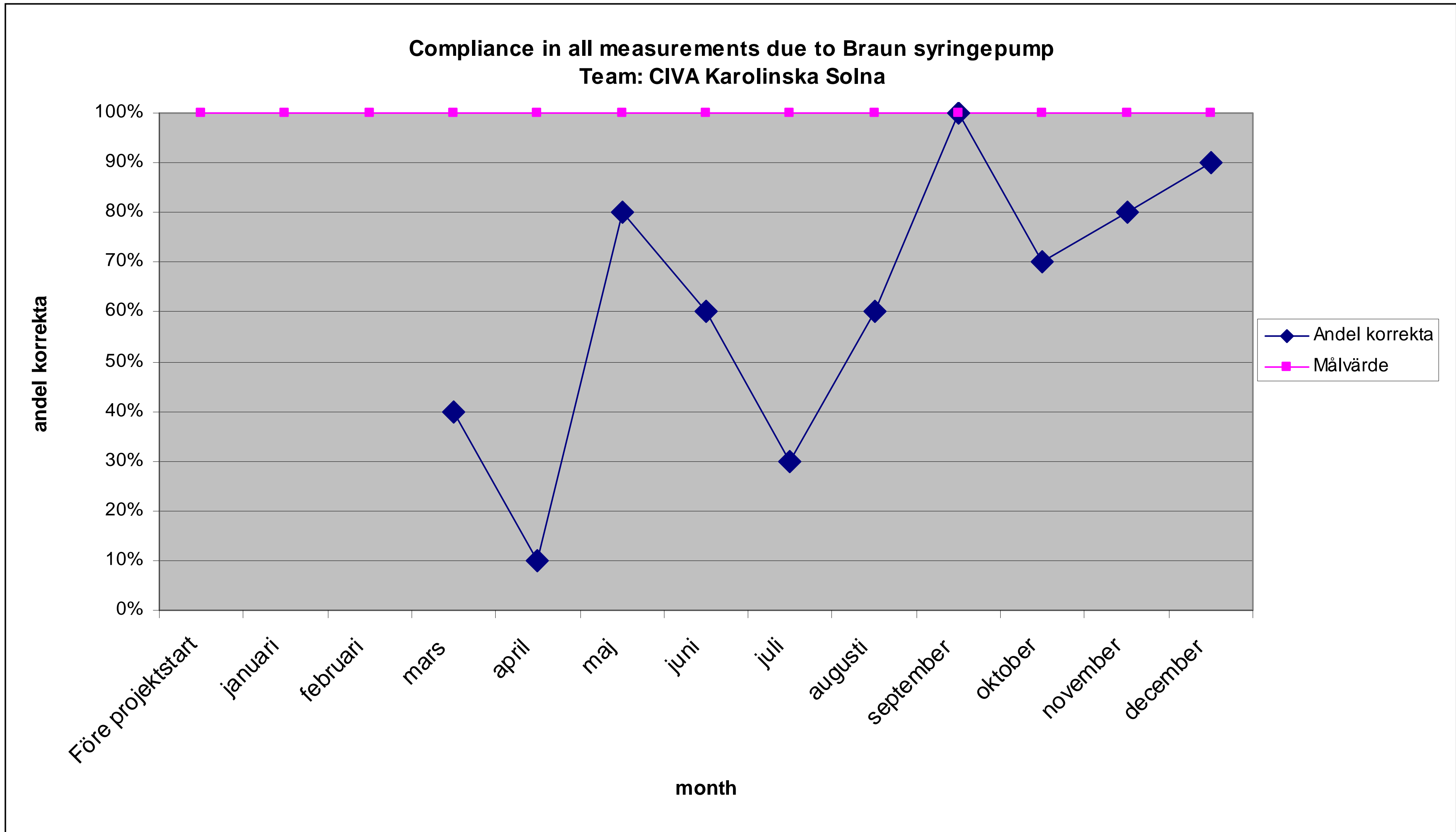
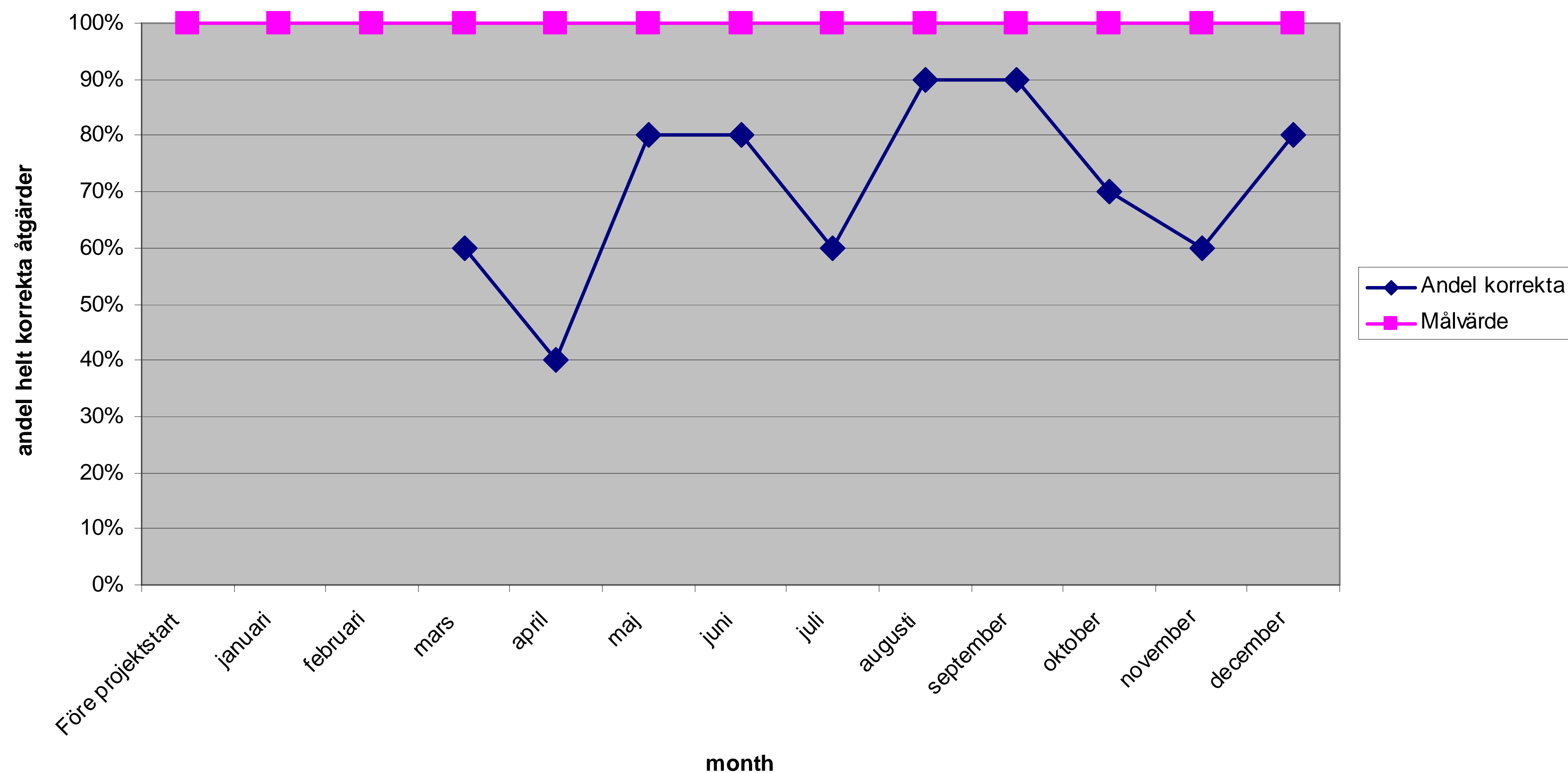

Compliance in all measurements due to Braun syringepump
Team: CIVA Karolinska Solna
andel korrekta
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Före projektstart
januari
februari
mars
april
maj
juni
juli
augusti
september
oktober
november
december
month
Andel korrekta
Målvärde

We saw a potential risk with nurse's interaction with technical equipment involved in drug administration. Hence, we performed measurements at the volume pumps each month.
Goal: 100% correct compliance

Variables for measure

- Drug protocols agrees with the label on infusion bag or bottle.
- Correct labelling of additives with date, time of day and signature.
- Correct preservation information on drug mixture (12 hours)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Other improvements due to the project

In 2010 we introduced a new routine:

Two nurses perform inspection of compliance of current drug prescriptions and programming of the syringe and volume pumps.

And revision of premade drug labels to improve the name of the drug to be visible in the display of medical the equipment.

One problem- bolus doses of drugs administered through drug pumps were never registered by nurse yet they were administered.

Barrier:

We introduced a specific protocol for registration of administered bolus doses in order to make them visible in the digital drug window in Clinisoft.

This protocol facilitates the validation of administered doses of drugs for pain relief and sedation.

For medication reconciliation

First what is medication reconciliation?

•It´s a process of identyfying the most accurate list of medication a patient is taking

•Requries comparing the patient´s list of current medications against the physian´s admission, transfer, and/or disharge orders

For medication reconciliation

•We have introduced access to pharmacy drug register for all doctors.

•We have introduced a new routine for drug prescription at registration and disharge from the unit as follow:

a. drugs registered in the patient medical journal TakeCare are put out during the care at intensive care unit.

b. the current medication is documented as notes in the the medicin journal at disharge from intensive care unit. At disharge, the intensivist also give verbal information to the doctor in charge of the patient at the ward.

c. a nurse at the intensive care unit go through the drug printout from Clinisoft with receiving nurse at the ward.

”Medication practise, both prescription and administration are a well known area for severe drug events” according to Socialstyrelsen, Sweden

We must learn to do rigth from the beginning

Thank you