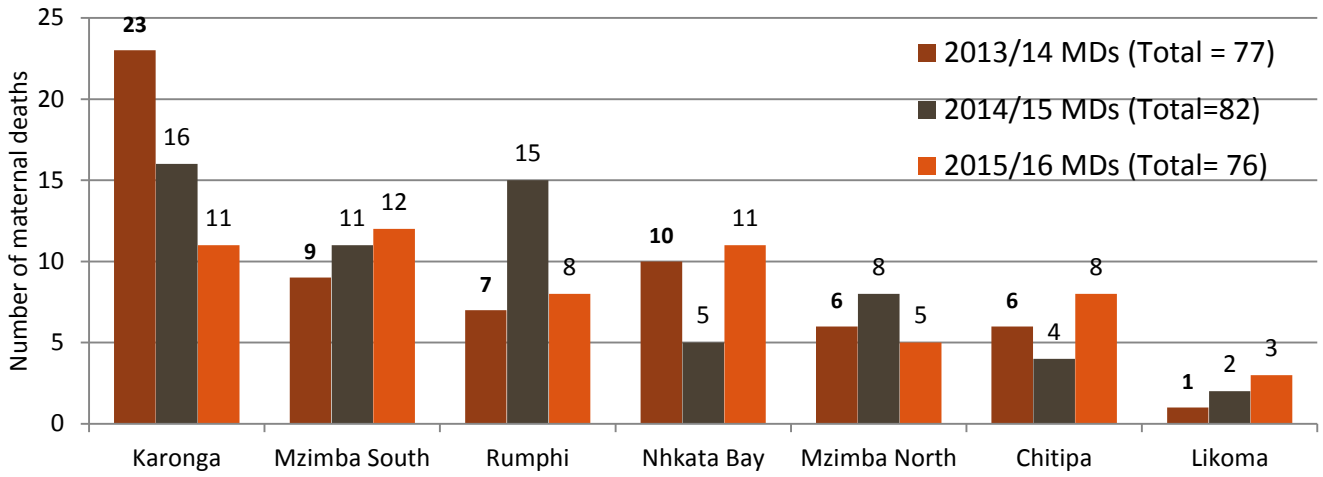
NORTHERN ZONE MALAWI MDSR REVIEW OVER THREE FINANCIAL YEARS 2013 - 2016

This summary presents a review of maternal death surveillance and response findings from three financial years (2013-14; 2014-15; 2015-16) from the Northern Health Zone, which comprises [1]:

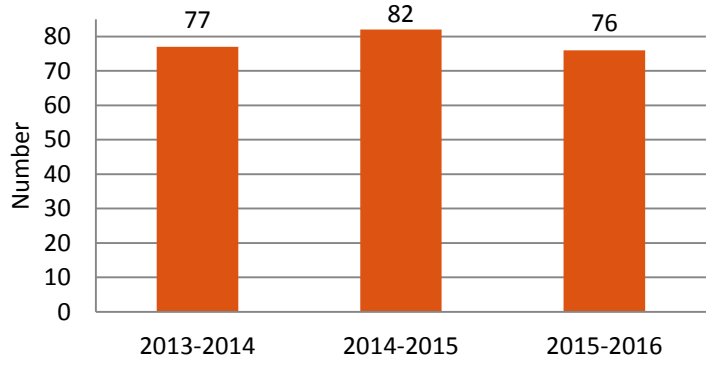
- 7 districts, with the most populated being Mzimba South (29% of the total zonal population) and Mzimba North (23%). Likona district is the least populated (<1%)
- 126 health facilities
- Projected population of 2,235,391 for 2017.

Maternal deaths (MDs) by district over 3 financial years in Northern Zone (Total = 235)



The district with the largest proportion of all maternal deaths in this three-year period in the northern zone is Karonga, which accounts for 21%, although only 15% of the population in the zone reside here. Mzimba North accounts for 23% of the population but only 14% of all maternal deaths occurred here.

Number of facility-based deaths over 3 financial years in Northern Zone (Total = 235)



There has been little change in the number of facility-based maternal deaths reported in the northern zone over the previous 3 financial years.

[1] Data provided by Dr O. Musopole, Zonal Health Manager at MDSR Zonal Planning Meeting, Mzuzu: Ilala Crest Lodge. 27-28 February 2017.

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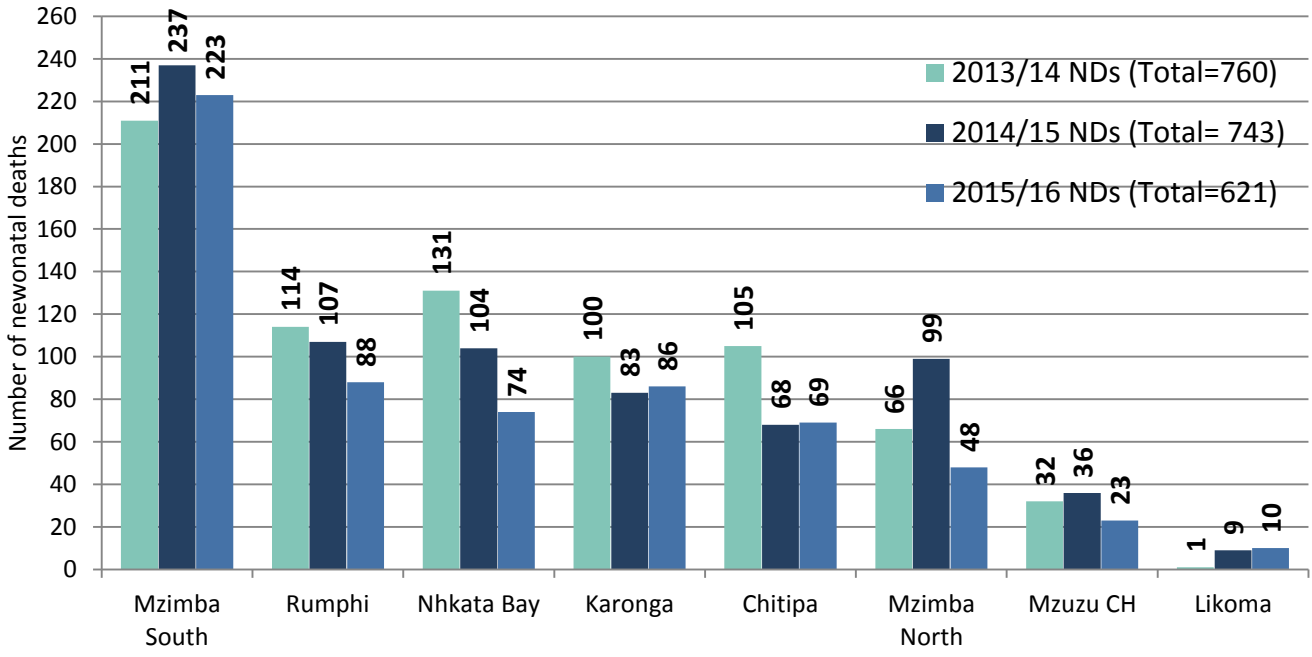
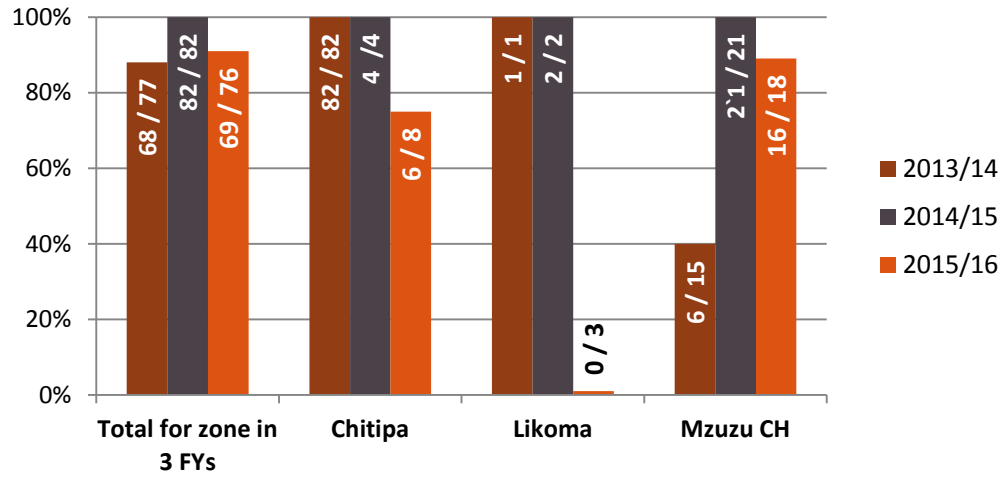
Associations between neonatal deaths and population size are not considered due to significant potential under-reporting, as shown in the next figure.

Neonatal deaths (NDs) by district over 3 financial years in Northern Zone (total = 2,124)



Five of the seven main hospitals audited all the maternal deaths recorded over the three-year period: Karonga, Rumphi, Mzimba South Mzimba North, Nkhata Bay and Mzuzu Central Hospital. However, 11 deaths were not audited. Likoma accounts for <1% of population and is the only district which satisfies the minimum staffing norms, but failed to audit any of the three maternal deaths that took place in FY 2015/16.

Proportion & number of MDS audited among all MDS reported by district cover 3 FYs



In Chitipa, 2 deaths were not reviewed in the last FY under review. In Mzuzu notable progress was made from 2013/14 (40%) to all MDs (100%) audited in the second FY but this dropped to 98% in the third FY.
Likoma did not audit any of the 3 maternal deaths that took place in the third FY.

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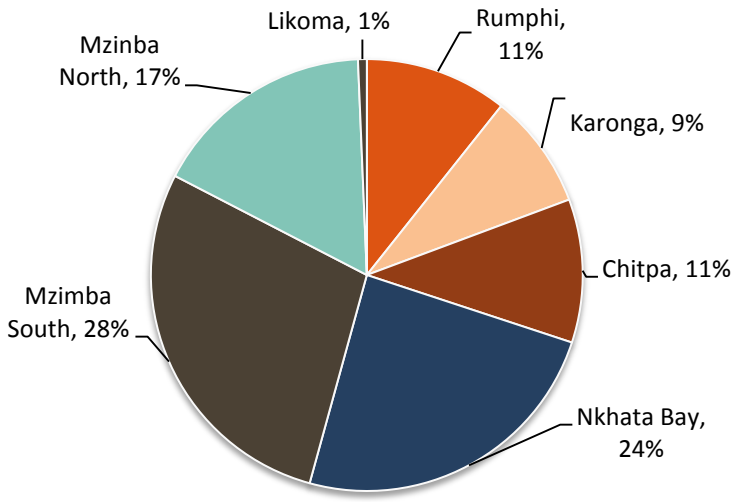
NORTHERN ZONE MALAWI MDSR REVIEW OVER SIX MONTHS, JULY – DECEMBER 2016

This section of the report starts by providing information on the total number of deliveries in the Northern Zone in the 6 month period under review. The report then presents a summary of MDSR findings from the 6 months period from July to December 2016 from among the seven districts in the northern health zone.

Total catchment population, number of deliveries conducted, number and % of deliveries attended by a skilled birth attendant (SBA) recorded in the northern zone, July – December 2016 (n=30,827)

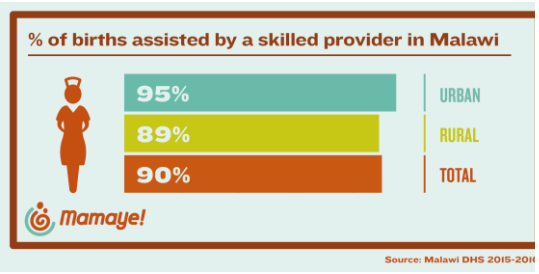
July – Dec 2016	Chitipa	Karonga	Likoma	Nkhata Bay	Mzimba South	Mzimba North	Rumphi	Northern Zone
Catchment population	222,769	348,110	10,464	269,069	663,122	507,568	214,289	2,235,391
Total number of deliveries conducted	3,311	2,659	202	7,463	8,730	5,165	3,297	30,827
Number of Deliveries by SBAs	3,177	2,484	201	6,973	8,261	4,814	3,095	29,005
% of deliveries by SBAs	96%	93%	100%	93%	95%	93%	94%	94%

Total number of deliveries recorded in 6 months in northern zone July – December 2016 (n=30,827)



In total, there were nearly 31,000 deliveries in the northern zone, almost a third of those (28%) were in Mzimba South, the most populated health sector district.

The rate of skilled birth attendance at delivery was high, a mean of 94% across all the district ranging from 93% to 100% (in Likoma). This is compared to the national mean SBA rate of 90% (MDHS 2015/16).



In total, there were 28 maternal deaths in this period, most (43%, *n* = 12) were from Mzimba, and just under half (46%) of all maternal deaths recorded have been audited. There were four indirect MDs, none of which were audited.

Maternal deaths (MDs) over 6 months July-December 2016 in Northern Zone (total = 28)

Fig.1: No. of MDs by district showing number of maternal Deaths by district in 6 months (audited / not audited)

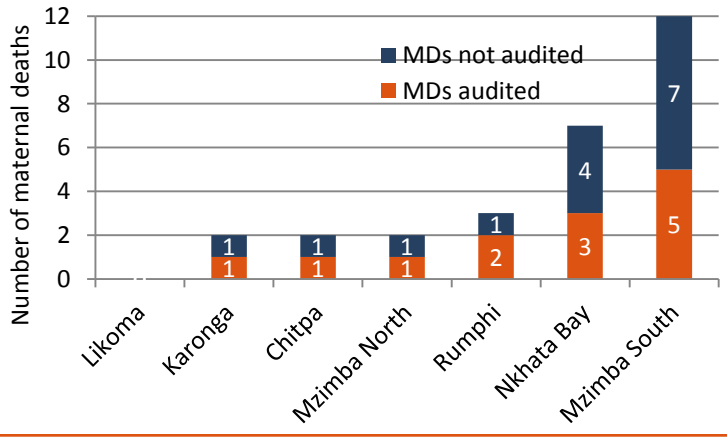
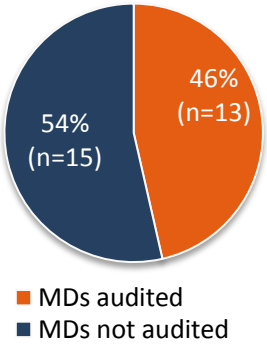
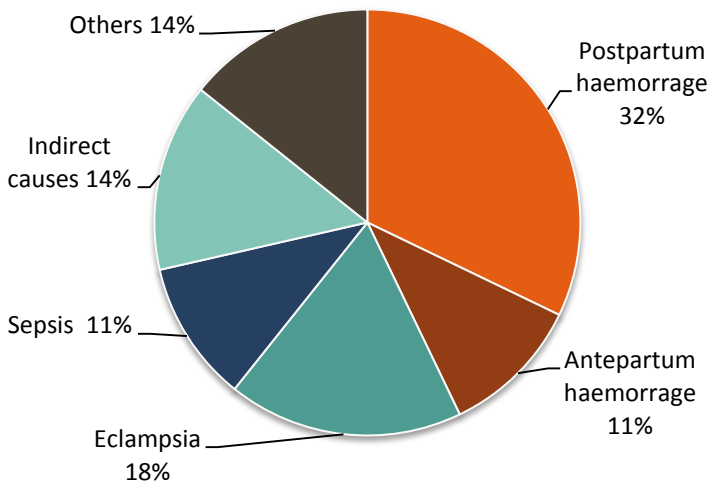


Fig. 2: Proportion of all MDs in 6 months in Northern Zone audited not audited



Direct causes of maternal deaths in 6 months in northern zone (n=28)



The leading direct cause of maternal deaths in the Northern zone over 6 months from July to December 2016 was obstetric haemorrhage, which was responsible for half (50%) of all the deaths (combining postpartum and antepartum haemorrhage).

Eclampsia accounted for 1 in every 5 maternal deaths and sepsis for 13% of all deaths.

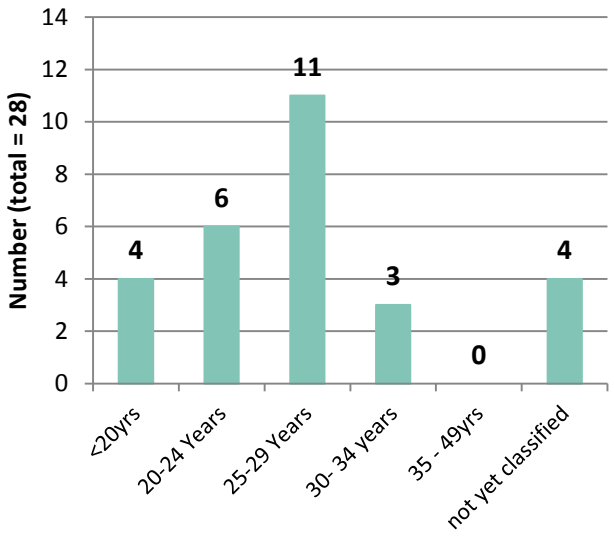
Four MDs were categorised as 'indirect deaths', and include pneumonia (n=1), anaemia (n=1) and 'other indirect' (n=2).

More investigation of what, precisely, 'other' causes of deaths were; reporting forms were filled inadequately to disaggregate these data.

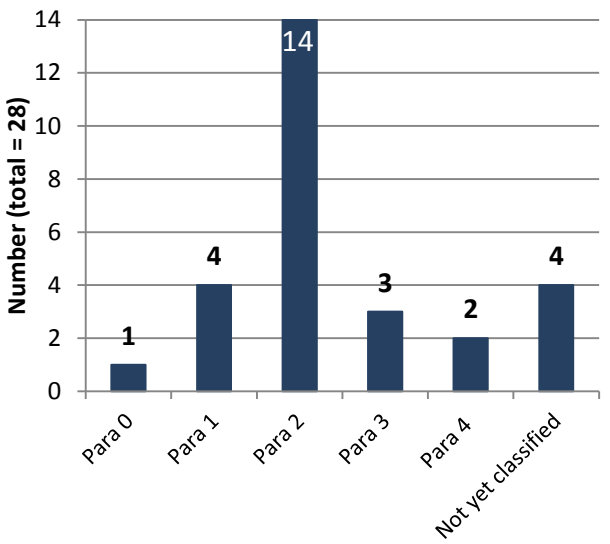
When examining age and parity, most maternal deaths occurred among women aged 20 – 29 years and among women with more than one previous pregnancy, as shown below. Most maternal deaths were among women aged 23 – 29 years (39%). Half (50%) of all MDs were among women of parity 2.

Note that the charts below show data as total numbers.

Number of maternal deaths in the northern zone by age group in 6 months from July – Dec 2016 (n = 28)



Number of maternal deaths In the northern zone by parity in 6 months from July – Dec 2016 (n = 28)



The chart below shows the number and type of obstetric complications among all deliveries taking place in a facility, including those that did not result in a maternal death.

The most commonly recorded complication was obstructed labour, accounting for 45% of all complications.

Obstetric haemorrhage occurred accounted for 14% (n = 483) of all complications. As 12 of the MDs were due to haemorrhage, this means that 461 cases of obstetric haemorrhage were successful managed.

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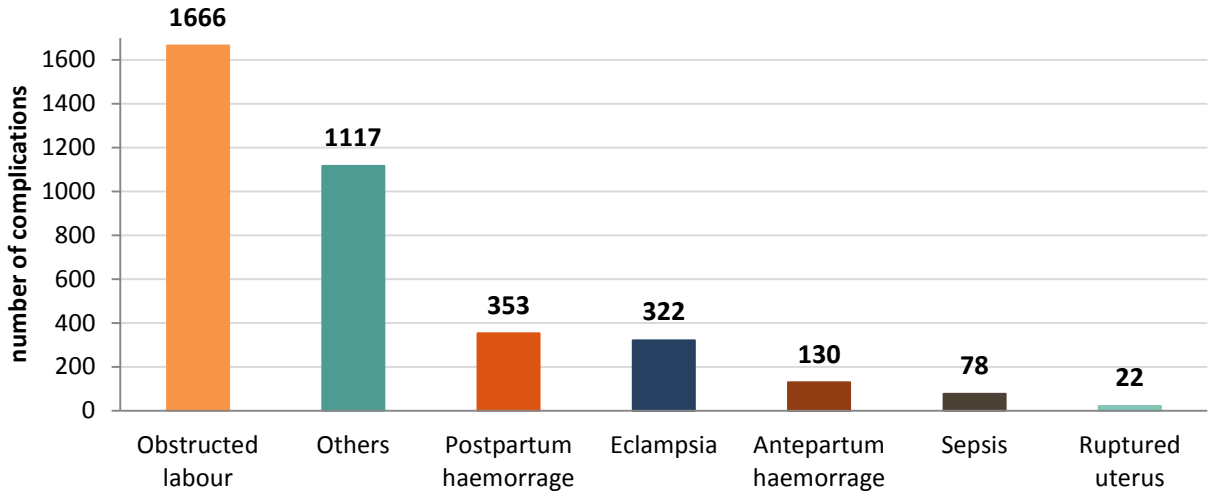
Number of common complications occurring among all deliveries in 6 months in northern zone among all deliveries in facilities



Based on review findings, factors associated with maternal deaths were categorised into three broad areas relating to: a) delays stemming from community factor; b) delays stemming from the patient or family; and c) challenges for the health workers. These are counted in the tables below.

Community / TBA Factors	
Delay in reporting to health facility	8
Delay in decision making	8
Use of traditional medicine / practices	8

Patient / Family Factors	
Delay in reporting to health facility	8
Delay in decision making	8
Use of traditional medicine / practices	8

Health Worker Factors	
Delay in deciding to refer	3
Initial assessment incomplete	12
Inadequate resuscitation	5
Wrong diagnosis	1
Delay in starting treatment	4
Inadequate monitoring	7
Prolonged abnormal observation without action	2
Lack of obstetric life-saving skills	16

The number of issues identified with failings in the health system demonstrate the need for skills building to ensure competence to identify and manage complications, and a more in depth review of associated factors would help understand other issues (eg. were initial assessments incomplete due to lack of skills or shortage of staff? Was resuscitation inadequate due to lack of skills or equipment?)

The table below shows some indicators that report on the progress towards meeting the standards set out in the National MDSR Guidelines. Notably, very few recommendations resulting from MDAs have been implemented. Data quality has been noted as a concern and there are plan to conduct a data validation exercise in 2017.

INDICATORS	Number (%)
Districts with MDSR committees	7/7 (100%)
Districts with zero reporting weekly	0
Suspected cases of MDs reported within 24 hrs.	23/28 (82%)
Suspected community MDs reported within 48 hrs	0
Facility MDs reviewed within 7 days	13/28 (46%)
Verbal autopsies conducted for pregnancy related deaths	0
MDA2 forms correctly and completely filled	18/28 (64%)
MDA2 forms submitted timely (within 7 days)	18/28 (64%)
Committee recommendations that have been implemented	4

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