

Future Deployable Medical Capabilities and Platforms for Navy Medicine

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its efforts with already-planned initiatives from the rest of the Navy. For example, the LPD-17 is a ship that is already being built and that has been studied as a potential medical platform. The HSV is a ship that is now in experimental stages as a troop carrier. It is just a conceptual step to adding medical capacity.

Working from left to right in the platform matrix, the four sea-based alternatives are the current Mercy-class hospital ship, which is our base case alternative, the LPD-17 variant, an LSD conversion option, and an HSV-32 wave-piercing catamaran. Table 10 describes land-based alternatives—the current 500-bed fleet hospital, the EMF (a smaller, more mobile land-base alternative), and a concept of employing the HSV as a means of transporting the land-based EMF.

L-class ships, construction and conversion to dedicated hospital ships

One potential source for new hospital ship(s) is conversion of older L-class ships (i.e., those that have lived their useful lives as warships) into dedicated hospital ships. This concept offers some advantages. First, the amphibious ships are designed to be personnel carriers, and as such already have built-in comfort facilities, such as berthing, mess, and toiletry, for large numbers of people. In addition, they have large cargo spaces that could be used for medical equipment storage. They already have the speed and mobility to keep up with an amphibious ready group (ARG). Perhaps most important, many of the L-class ships have multiple methods for bringing troops and casualties aboard.

In tables 11 and 12, we list the undisposed L-class ships that could become available for conversion (i.e., become 30 years old) in the next 25 years. Several writers have offered suggestions for which would make the best converted hospital ships. For example, in his widely cited critique of the Mercy-class hospital ships [16], CDR Pete Marghella recommended that we convert the available LSTs to hospital ships. He correctly points out that, compared to the Mercy class, the LSTs are smaller and quicker, enabling them to more easily deploy with the fleet, to dock at many more beaches, and to produce

a far smaller target signature. The LST's stern gate and RO/RO capability could better facilitate patient movement than the current hospital ships. Finally, without the FDO designation, the medical LST would be free to deploy in routine and crisis operations.

Table 11. Amphibious ships—descriptions and availability (dimensions in feet)

Ship type and number	Ship class	Size: (length x beam x draft)	Engine type	Max. speed and hp	Aircraft and LCAC stored	Activity status	Period available
LHA 1-5	Tarawa	820 x 106 x 27	2 steam turbines, 2 shafts	24 kt 70,000	9 CH-53s, 12 CH-46s, 6 AV-8B 1 LCAC	Active	2006 - 2010
LHD 1-4	Wasp	844 x 106 x 28	2 steam turbines, 2 shafts	20+ kt 70,000	42 CH-46s 5 AV-8B 3 LCAC	Active	2019 - 2024
LPD 4-6	Raleigh	570 x 84 x 23	2 steam turbines, 2 shafts	21 kt 24,000	2 CH-46/ or CH-53, or 2 AV-8B 1 LCAC	Active	1995 - 1996
LPD 7- 10, 12, and 13	Cleveland	570 x 84 x 23	2 steam turbines, 2 shafts	21 kt 24,000	Same as above	Active	1997 - 1999
LPD 14-15	Trenton	570 x 84 x 23	2 steam turbines, 2 shafts	21 kt 24,000	Same as above	Active	2001
LSD 36, 37, and 39	Anchorage	553 x 85 x 20	2 steam turbines, 2 shafts	21 kt 24,000	One small (100 x 85) helo pad 4 LCAC	Active	1999 - 2002
LSD 41-48	Whidbey Island	609 x 84 x 21	4 16-cyl. diesels, 2 shafts	20+ kt 33,000	212 x 84 deck with 2 helo pads 4 LCAC	Active	2015 - 2022
LSD 49-50	Harpers Ferry	609 x 84 x 21	4 16-cyl. Diesels, 2 shafts	20+ kt 33,000	Same as above	Active	2024 - 2025
LST 1182-1183, 1184, 1187, 1190, and 1191	Newport	522 x 70 x 19	6 Diesels, 2 shafts	20 kt 16,000	One v. small (70 x 60) helo pad No LCAC	Inactive; except <i>Frederick</i>	Currently available

Table 12. L-class ships availability^a report summary

Ship	Number
Available now	
LPDs Raleigh class	3
LPDs Cleveland class	6
LSTs USS <i>Frederick</i> (active reserve)	1
LSTs Newport class (inactive reserve)	5
LSDs Anchorage class	3
Available before 2015	
LHAs Tarawa class	5
LPDs Trenton class	2
Available 2015 - 2020	
LHDs USS <i>Wasp</i>	1
LSDs Whidbey Island class	6
Ships available 2021 - 2025	
LHDs Wasp class	3
LSDs Harpers Ferry class	2
LSDs Whidbey Island class	2

a. A ship is defined as "available" when it is ≥ 30 years old.

The LSTs have significant disadvantages as choices for conversion to hospital ships. First, all are over 30 years old; only USS *Frederick* is still active. LCDR Richard Guzman and LT Youssef Aboul-Enein, MSC, USN, pointed out that the LST's flat-bottom hull would not facilitate medical and surgical care while under way [32]. Guzman and Aboul-Enein also note that, at just over 500 x 70 feet, the LSTs may be too small to handle high casualty rates, which may require that several of them be converted to handle expected future conflicts.

Guzman and Aboul-Enein suggest that the larger Tarawa-class LHAs or Iwo Jima-class LPHs would be better choices for conversion to hospital ships. They highlight the ships' larger size, which would give them better seakeeping properties than the LSTs. Also, the Tarawa-class LHAs are all less than 25 years old now, and would have longer useful life spans as hospital ships.¹¹

11. Though the LHAs are less than 25 years old, all the Iwo Jima-class LPHs, except *Tripoli*, have been disposed of already. *Tripoli*, which is over 35 years old, has been deactivated and leased to the Army.