


Y.A.C.H.T.: Yes, A Challenging Tool to Perform a Ship Sanitation Exemption Inspection on Yacht [†]

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Abstract: The public health surveillance of yachts and pleasure boats is relevant to avoid and prevent the spread of infectious diseases. With the entry into force of the International Health Regulations 2005, the Ship Sanitation Exemption Certificate (SSEC) become an important tool to prevent the risk of the international spread of disease through international maritime travel. The WHO's existing international guidelines mainly refer to large ships, so the aim of this work was to create a concise checklist applicable to the yachting world. In order to facilitate and standardise the inspection procedures on board yachts, a summary checklist was therefore drawn up. A summary of mainly non compliance founded in the 2021 is also provided.

Keywords: public health; inspections; yacht; Ship Sanitation Exemption Certificate (SSEC)

During the COVID-19 health emergency, the impact of the yachting, commercial and private yachts was very important on maritime public health. About 2200 yachts over 30 metres in length plied the waters of the Mediterranean in the summer months of 2021. The International Council of Marine Industry Associations (ICOMIA) estimates that there will be 33 million boats worldwide by 2020.

The surveillance of maritime means of transport and also of yachts and pleasure boats is relevant to avoid and prevent the spread of infectious diseases from public health points of entry. With the entry into force of the International Health Regulations 2005 in June 2007, the Ship Sanitation Exemption Certificate also came into force. The Ship Sanitation Exemption Certificate (SSEC) is an important tool to prevent the risk of the international spread of disease through international maritime travel.

The competent public health authorities use this document, which is valid for six months, to identify and record all public health risk areas related to maritime transport, as well as any other control measures that need to be applied.

The WHO's existing international guidelines mainly refer to large ships, so the aim of this work was to create a concise checklist applicable to the yachting world. In order to facilitate and standardise the inspection procedures on board yachts, a summary checklist was therefore drawn up, extrapolating and processing information from the “European Handbook for Hygiene Standards and Surveillance of Communicable Diseases on Passenger Ships EU Shipsan Act Joint Action” and the WHO “Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates” [1].

This tool can be operationally applied for inspections on board yachts and pleasure boats. To this end, the method used included the selection of items of fundamental interest for (minimum) hygiene requirements and declined according to the on-board environment. The inspection team can also analyse the various items separately following a documentary assessment, preparatory and prodromal to the inspection itself.

The novelty concerns the methodology since a documentary check is foreseen prior to the on-board inspection: the documentation required for the issue of the exemption



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certificate is in fact submitted by e-mail in order to be evaluated and any additions requested. The advantages found are that the inspection is more targeted and the time needed to carry out the inspection is considerably reduced.

The documentation requested in advance consists of a series of documents, such as the sanitisation procedures and methods of the yacht, drawn up in Italian and English which must indicate the methodology used together with the technical data sheet of the products used, a copy of the medical log, a copy of the refrigerator and freezer temperature log and the galley cleaning log, a photographic report of the dry store and cold store and the galley, the on-board work safety plan for COVID-19, an emergency plan in the event of COVID-19 on board (an outbreak management plan), an information leaflet for COVID-19 prevention measures to be distributed to crews, certificates of the physical fitness of crews and finally microbiological and chemical analyses of the water including the parameter *Legionella pneumophila* (carried out on a date not prior to 180 days).

The required documentation also includes the certificate of exemption which is about to expire with possible remarks, the crew list, the air filter maintenance report, the recreational water monitoring plan, the certificate of medicine compliance, an updated medical guide, the garbage record book, the medication list, the certificate of achievement first aid or medical care, the food handling certificate, the management plan for the carrier control and the management plan for food safety, the radio stations to be contacted in case of an emergency during navigation (telemedical assistance) and finally the water safety plan.

The on-board inspection includes various items to be checked and controlled in the following environments: the galley, pantries and stores (dry store and cold store), the crew mess and a crew cabin, the guest area, in particular the guest cabin, the on-board medical facilities, the garbage management and the engine room.

During the year 2021, 126 public health inspections were carried out on board yachts and, of these, 60 are inspections with a non-compliance. The most common non-conformities found concerned water (see Table 1): in particular, the analyses showed non-compliant values for the *Legionella pneumophila* parameter (even higher than 1000 UFC/l) and the Heterotrophic Plate Count (HPC) values with colony counts at 22° (microorganisms such as *Pseudomonas*, *Flavobacterium*, *Aeromonas*) and 37°, indicators of possible recontamination along the distribution system and possibly an early sign of pollution). Once the corrective actions were effectively implemented and the parameters were within the norm, the Certificate could be issued. Other non-conformities were found in the shower trays of guests' cabins, in which mould was clearly present, as well as in the nozzles of the whirlpools and swimming pools, which were not adequately cleaned and were even clogged by products used for repairs (industrial glue). Even the galley was not free of discrepancies: food that had been rotten for months was found, preparations without any indication on the containers, the worktop completely peeling, freezers with refrigerator temperatures (despite the display) and walk-in refrigerators with food placed on the floor instead of raised at the minimum safety distance (15 cm).

Of non-negligible importance are also the medical facilities on board where situations are varied: some yachts (over 85 metres long) are equipped with two automatic defibrillators and have among the crew both a medical officer and a nurse in addition to the usual supply of medicines with an integrated digital management system for orders and expiry dates, while other yachts were either lacking certain medicines or they were present but had expired, despite the certificate of compliance in their possession being valid. In the crew cabins, when checking under the mattress, sometimes the hygienic conditions are poor as well as in the engine room, while rat guards, for example, are always installed on the mooring lines. During the on-board inspection, the bioluminometer is also used to instantly check the microbial contamination of a surface through a quick swab, the digital thermometer and the water testing kit to measure the pH of the water rather than free chlorine in a few minutes.

Table 1. Non-compliances detected on board. The number of total inspections is 126, referring to the year 2021.

Number of Inspections with Non-Compliance	Typology of Non-Compliance	Percentage of Total Non-Compliant Inspections
26	Water analyses	43.33
16	Galley and food	26.67
8	Medical equipment and medicines	13.33
4	Incomplete monitoring plans	6.67
4	Documentation not available on board	6.67
2	Poor general hygienic conditions	3.33
60 inspections out of 126 total (46.88%)		

In our experience, in the first year of the application of the checklist, an average reduction in inspection times of at least 30% were observed.

Given that the maritime traffic of commercial yachts represents an important vehicle for disease transmission, this tool allows inspections for the issuing of SSECs to be conducted more efficiently and in line with the reality of this type of vessel. The extension of the ShipSan programme to the yachting sector would be desirable in the future.

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