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Battle of the Atlantic: Military and Medical Role of Northern Ireland (After Pearl Harbor)

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INTRODUCTION

After Pearl Harbor[1] I[1] asked whether an American Catalina Pilot had really found the *Bismarck*. I was informed that he was Ensign L.B. Smith, U.S. Navy, stationed with 209 Squadron, R.A.F. Coastal Command at Lough Erne. He sighted the *Bismarck* 550 miles west of Land's End. Two other U.S. Navy Ensign pilots of R.A.F. Catalinas took over shadowing the *Bismarck* on 26 May 1941[2,3]. Much later I learned that Flight Lieutenant Waller of 502 (Ulster) Squadron (based in Limavady) flying a Whitley VII was sent to meet battleship *King George V* after she had helped sink the *Bismarck*. "*King George V* was said to be very short of fuel. We had seen two Heinkel 111 bombers as we approached *King George V* and we signaled by lamp to warn *King George V*. The message was allegedly not received by C in C Home Fleet"[4]. Later Waller, my future father-in-law, received an O.B.E. Military. When, sixteen years later, I went as a junior house officer at Bart's to ask former Wing Commander Waller if I could marry his only daughter, Tessa, he said, "No, your prospects are not good enough." On my return home, my father said, "I'll call up George and remind him of his prospects at Aldergrove and Limavady. You two are made for one another" [5].

EMERGENCY MEDICAL SERVICES PLANNING AND COORDINATION

The strategic role of Northern Ireland in the early years of World War II is reflected in the important role of its hospitals and health care institutions in serving both military and civilian personnel[6]. During the war, 1,900 rescued survivors of U-boat attacks on supply ships or escorts found their way to Londonderry[7] (Fig. 1). If injured or partially drowned, they were generally transferred to Royal Naval medical supervision under the jurisdiction of Sir Gordon Gordon-Taylor, Surgeon in Chief of the Royal Navy[9,10,11] (Fig. 2).

In 1938, prior to the outbreak of war, Northern Ireland's Ministry of Home Affairs sought the advice of the Emergency Committee of the local branch of the British Medical Association, to assure advance preparation for a war emergency and "particularly the possibility of the evacuation of hospitals in Great Britain and the consequent necessity for special arrangements for the care and treatment

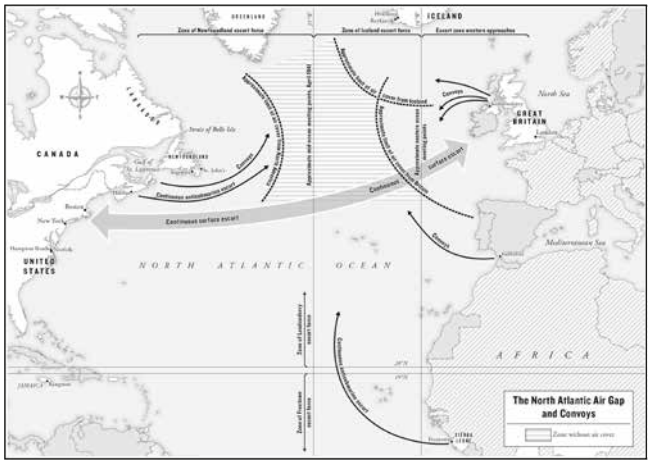

Fig 1. The Air Gap and Convoys[8], reproduced with permission of Prof. Paul Kennedy, ©David Lindroth and reproduced with their permission exclusively for this Medical History. In March 1943 Doenitz commanded 140 operational U-boats with 185 in training. The Allies, by contrast, suffered from inadequate naval protection, poor intelligence, non-existent or minimal air cover and no cover at night. By May 1943 the Allies were able to deploy in the mid-Atlantic 10-centimeter radar, Hedgehog grenades, aerial homing torpedoes and, above all, 2,500 mile-range B-24 Liberator bombers. "The B-24 Liberator was extraordinarily robust American-built…that first made the difference. Above it all was the continuous air cover for the convoys," concludes Professor Paul Kennedy of Yale University[8].

of patients, Service or otherwise, who might come to Northern Ireland"[12]. The Ministry suggested to the Emergency Committee compilation of a registry of medical practitioners and available hospital beds. Dr. F.M.B. Allen, Secretary of the Emergency Committee of the British Medical Association (Northern Ireland Branch), now the Northern Ireland Medical War Committee, was appointed by the Ministry in August 1939 as part-time hospital officer. Allen prepared an Emergency Hospital Scheme which classified all general hospitals in Northern Ireland with regard to casualties. The Scheme was primarily intended for treatment of air raid casualties, but it also was to include other ill and wounded

[1] All first-person references in this paper are to the first author.

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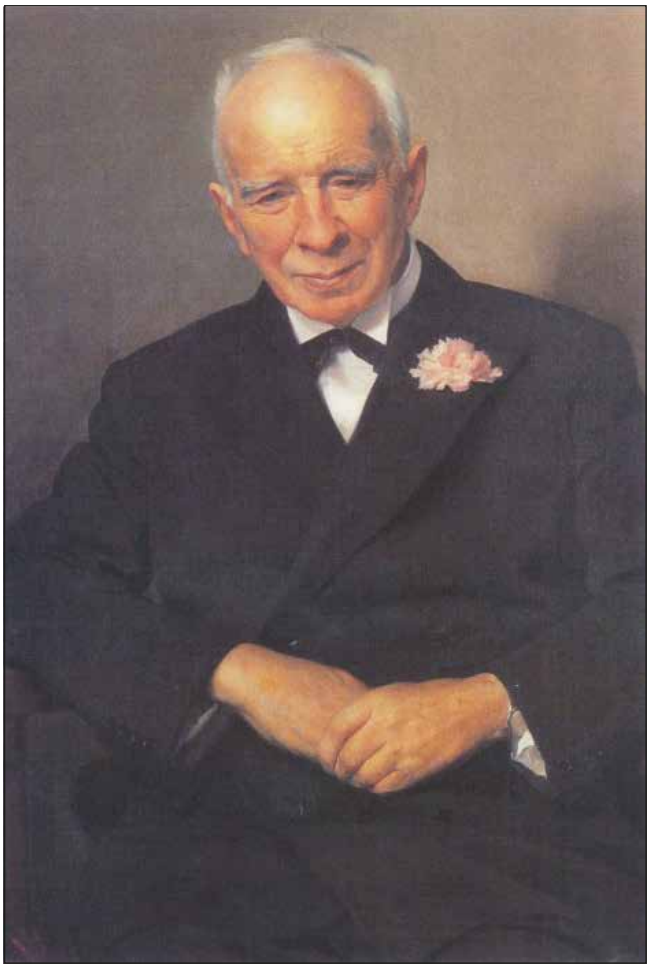

Fig 2. Sir Gordon Gordon-Taylor, CB, KBE, OBE. Portrait, oil on canvas, 91.5 cm x 71 cm, 1960, by Sir James Gunn, RA (1893-1964). Reproduced courtesy of the Royal Australasian College of Surgeons, with their permission, solely for this Medical History. During World War II as Chief Surgical Consultant to the Royal Navy, he became friendly with U.S. Navy Surgeon General Admiral Ross McIntire and with Fleet Admiral Ernest King[1]. Sir Gordon Gordon-Taylor was visiting Professor of Surgery at Harvard in 1941 and 1946 and helped his friend, Robert M. Zollinger, Senior, set up his academic Department of Surgery at Ohio State University[9,10,11]. Gordon -Taylor was examiner in Surgery in Belfast, Cambridge, Durham, Edinburgh, Leeds and London.

members of the British Armed Forces and their Allies[12]. Thus, Hospital Officer Allen acted as the link between the Armed Forces and civilian hospitals. On September 1, 1939 the Ministry issued an official Memorandum, outlining the Emergency Hospital Scheme, followed by a September 4, 1939 Circular requiring all Group I and II hospitals (Table 1A) to keep the Hospital Officer informed of available beds on a daily basis [13].

In May 1940 arrangements were made with the Northern Ireland Road Transport Board for conversion to ambulances of ten Dennis Lancet single-decker buses, which were first used in June 1940[13].

After the fall of France it was clear that a new department was

Table 1A.

Casualty Receiving Hospitals, Emergency Hospital Scheme, September 1939, Modified May 1940[13].

GROUP/ CLASS	HOSPITAL	LOCATION
GROUP I/ CLASS A	Mater Infirmorum Hospital	Crumlin Road,Belfast
	Royal Victoria Hospital	Belfast
	Belfast City Hospital	Lisburn Road, Belfast
GROUP I/ CLASS A_I	Craigavon Hospital	Strandtown, Belfast
	Belfast Children's Hospital	Falls Road, Belfast
GROUP II, CLASS B	Ards District Hospital	Newtownards
	Lisburn and Hillsborough District Hospital	Lisburn
	Bangor Cottage Hospital	Bangor
	Larne District Hospital	Larne
	Massereene District Hospital	Antrim
GROUP III/ CLASS C	Newry	Newry
	Coleraine	Coleraine
	Waterside General Hospital	Londonderry
	Dungannon	
	Dalriada District Hospital	Ballycastle
	Ballymena District Hospital	Ballymena
	Route District Hospital	Ballymoney
	Banbridge District Hospital	Banbridge
	Roe Valley District Hospital	Limavady
	Lurgan and Portadown District Hospital	Lurgan
	Armagh County Infirmary	Armagh
	Down County Infirmary	Downpatrick
	Londonderry City and County Hospital	Londonderry
	Fermanagh County Hospital	Enniskillen
	Tyrone County Hospital	Omagh

needed for civil defense in Northern Ireland, and the Ministry of Public Security was established in June 1940 with the Rt. Hon. J.C. MacDermott, K.C., M.P. as Minister. The branch of the Ministry of Home Affairs responsible for hospital services, and its Hospital Officer were then transferred to the Ministry of Public Security[13]. The Ministry subsequently divided Northern Ireland into four areas, with Dr. F.M.B. Allen, as Hospital Officer, in charge of Belfast and the surrounding areas. Three assistant part-time hospital officers were appointed: (1) Lieutenant Colonel A.H. M. Eaton, F.R.C.S.Ed., R.A.M.C. , Tyrone County Hospital, Omagh for the West area; (2) W.F. Evans, M.A., M.D., Lislea, Colraine,

Table 1B.

Hospitals Selected for Admission of Evacuees or Patients Evacuated from Casualty Receiving Hospitals to Make Room for Casualties, Emergency Hospital Scheme, Modified from May 1940[13]

**Established November 1941*[13].

***Destroyed in April 15-16, 1941 Air Attack*[14]

ORDER	HOSPITAL	LOCATION
1	Belfast Emergency Hospital*	Belfast
2	Ulster Hospital for Children and Women**	Belfast
3	Samaritan Hospital	Belfast
4	Royal Maternity Hospital	Belfast
5	Belfast Ophthalmic Hospital	Belfast
6	Benn Hospital	Belfast
7	Nervous Diseases Hospital	Belfast
8	Antrim County Hospital	
9	Smiley Cottage Hospital	Larne
10	Armagh Union Infirmary	Armagh
11	Downpatrick Infirmary	Downpatrick
12	Enniskillen Infirmary	Enniskillen
13	Magherafelt Infirmary	
14	Omagh Infirmary	
15	Castlederg Infirmary	
16	Clogher Infirmary	
17	Mourne District Hospital	Kilkeel
18	Strabane District Hospital	
19	Londonderry and North West Eye, Ear and Throat Hospital	Londonderry
20	Mary Ranken Maternity Home	Coleraine
21	Ballymena Cottage Hospital	
22	Cushendall Cottage Hospital	
23	Portrush Cottage Hospital	
24	Robinson Cottage Hospital	Ballymoney
25	Newry General Hospital	
26	Cowan Heron Cottage Hospital	Dromore
27	Coleraine Cottage Hospital	
28	Thorndale Home	Belfast
29	Rescue and Maternity Home	Belfast
30	Throne Convalescent Hospital	Belfast

Co. Londonderry for the North area; (3) N.E.H.P.Williams, M.B., B.Ch., Sandrys Place, Newry for the South. These assistant officers were charged with assisting Dr. Allen in the admission and transfer of casualties and the increasingly important liaison between the civil casualty services and the medical services of the Armed Forces (Table 1A, Table 1B)[13].

A dramatic increase in casualties resulted from the air attacks on Belfast on the nights of April 15-16 and May 4-5, 1941 and their sequelae. The Ulster Hospital for Children and Women and the Belfast Hospital for Diseases of the Skin were destroyed while the Mater Infirmorum Hospital and the Benn Eye, Ear and Throat Hospital remained in operation despite considerable damage [13]. Thereafter the Emergency Hospital Scheme was transferred to the Public Health Division of the Ministry of Home Affairs[13](Table 2).

TABLE 2.

Casualties Admitted to Northern Ireland Hospitals[13]
**Other cases defined as "casualty", e.g. "transferred sick"*

YEAR	AIR RAID	*OTHER	TOTAL
1940	--	--	260
1941	680	2,820*	3,500

In post-bombing recognition of the importance of blood transfusion and the treatment of shock, regional Resuscitation Officers were appointed: Professor of Pathology J.H. Biggart of Queen's University Belfast [15,16], and Dr. J.A.L. Johnston, Pathologist, Londonderry[17,18]. Later in 1941, the Joint War Organisation of the British Red Cross and St. John provided two mobile X-ray vans located at the Belfast Fever Hospital, to be under the supervision of Mr. R. M. Leman, chief radiographer of the Royal Victoria Hospital[13]. In addition, hospital accommodations were supplemented by the provision of pre-fabricated hospital hutments by the War Office to provide beds for 2,500 patients. In November of 1941 the Ministry established the 400 bed Belfast Emergency Hospital at the site of the Belfast Mental Hospital, from which about 500 patients were transferred to other facilities[18] (Table 1B). An Emergency Medical Services Surgeon was appointed, as well as a resident surgical officer and house surgeon, with nursing care provided by members of the Civil Nursing Reserve; all were under the supervision of the Resident Medical Superintendent of the Mental Hospital now acting as Superintendant. The well-equipped Emergency Hospital admitted as many as possible of civilian patients on the waiting lists for voluntary Belfast hospitals, as a large proportion of these patients were employed in essential war industries such as ship-building, aircraft production and engineering[18].

The Civil Defense Casualty Services in Northern Ireland were directed by the same authority as the Emergency Hospital Services [6]. In contrast to England and Wales, there was no separate Ministry of Health until 1944 when Northern Ireland's Ministry of Health and Local Government was established. Prior to that time, the Emergency Hospital Services and other emergency services were directed by Brigadier Beddows[19], in liaison with Hospital Officer Allen for the Public Health Division of the Ministry of Home Affairs[18]. Dr. F.M.B. Allen resigned on April 15, 1942, and was succeeded by W.A. Brown, M.D., D.P.H. [18].

In his Presidential Address to the Ulster Medical Society, 20 October 1960, Dr. J.A.L. Johnston, former Londonderry Resuscitation Officer and President of the Ulster Medical

Society, reported the only case of typhus he had seen in 1941: the vector had been a cat retrieved from a raft in the Atlantic after the sinking of the Bismarck[17] (Fig. 3). Weekly reports of infectious disease incidence attest to the fact that the war-time threat of a rise in contagious disease did not materialize in Northern Ireland[20]. Of the U.K. in general, the Epidemiological Notes of the *British Medical Journal* were able to report after the final weekly report for 1941, "We may conclude that the nation's health has been and remains satisfactory. In fact, it is better than many anticipated early in the war when considering the possible effects of such adverse conditions of life as herding in shelters, lack of ventilation due to black-out, and dispersal of large sections of the population" [21,22].

Fig 3. The Sinking of the Bismarck 27 May 1941, oil on canvas, by Charles E. Turner (1893-1965), 1941, dimensions 63.5 cm x 76.2 cm, collection item no. BHC0679. Reproduced with permission of the National Maritime Museum, Greenwich, London, exclusively for this Medical History.

The final acts in the May 27, 1941 sinking of the Bismarck were caused by three torpedoes from the Royal Navy cruiser Dorsetshire which closed to within a mile.

Beddows also did well as DDMS Northern Ireland from 1941 to 1944. Later, his high honour "Legion of Merit" of the United States, was published at the same time as that of his direct boss Lieutenant-General Sir Alexander Hood, G.B.E., K.C.B., M.D., F.R.C.S., F.R.C.P., K.H.P.[19,23,24]. Beddows' U.S. citation reads that he

> Distinguished himself by exceptionally meritorious conduct in the performance of outstanding services as Deputy Director of Medical Services for British Troops in Northern Ireland. Brigadier Beddows made all the initial arrangements for the reception of United States Troops in Northern Ireland. He continued to provide for their medical care until United States Army Hospitals could be established; and he caused to be transferred to the United States Army two of the best hospitals under his control. His continued assistance to our medical service has improved the care given to United States Troops sick and injured in Northern Ireland [23].

The 'best hospitals' were Musgrave Park and Waringfield[25]. Beddows graduated in Medicine. from the University of Birmingham in 1911[19].

POST PEARL HARBOR

Come Christmas, 1941, I was allowed to query the Americans now in their uniforms. The Americans were even allowed to marry in Ulster. Three weeks after Pearl Harbor, Charles Francis Jenkins married Miss Mary Ellen Gallagher in Saint Eugene's Cathedral, Londonderry. In August 1942 they returned on the *USS West Point*, the former *SS America*. They were assigned to the best quarters on Sun Deck. On October 2, 1942, their first child was born. They lived just south of Boston in Scituate, Massachusetts, and Charles became Supervisor at the nearby Hingham Shipyard repairing USN and RN warships[26].

I asked my brother's Godfather Major, later Sir Benjamin Rycroft[1,27,28,29] why the eye cases came to him and the Neurosurgical cases were flown to Oxford. "Neurosurgery is harder than the eye business. They are flown with catheters draining their spinal fluid." "Why?" "So they don't burst their brains." "Who thought that up?" "Cushing in Boston. He trained all the head doctors; Cairns at Oxford, Ross at Barts."

"How do the wounded get to Oxford?"

"Harrows become Sparrows and Dakotas help." I asked my father how Harrows became Sparrows. He replied, "When they fly patients" – Harrows were Handley Page HP54 bombers.

"Are they Yanks?" I asked. "Maybe, but it is always the RAF who flies them to Abingdon or Brize Norton if Abingdon has Thames fog."

The summary of allied Neurosurgery in World Wars I and II under the command of U.S. Navy Surgeon General Ross T. McIntire[1], traces the reduction in mortality from head injury. Harvey Cushing halved it from 37% to 20% and his pupil Sir Hugh Cairns halved it again in World War II[30]. Cairns was ably assisted by Calvert of Queen's Belfast[31]. The Cairns protocol for immobilization and transport in all its aspects, slightly amplified, remains a modern standard of care[32,33,34]. Cairns' insistence on the appropriate universal use of crash helmets also reduced fatalities[34].

PRESIDENTIAL RECOGNITION

During November 10-11, 1942, Mrs. Eleanor Roosevelt visited Northern Ireland and met with both civil and military leadership. On Armistice Day she visited the U.S. Naval Base at Londonderry and the Naval Field hospital in Creevagh, as well as the American Fifth General Army Hospital at Musgrave Park. She visited both British and American patients in military hospitals, and expressed sincere thanks on behalf of President Roosevelt and the American people for the warm welcome and excellent EMS medical care the Americans had received[7,35,36].

Over 18,000 Liberators were built between 1941 and the

end of 1944. Upon the direct orders of Commander-in-Chief Franklin D. Roosevelt and Prime Minister Churchill as Minister of Defense over a thousand B-24 Liberator bombers were diverted to the Battle of the Atlantic [37]. On 9 June 1941 three French-purchased, U.S. designed and built, unmodified Liberators (AM 913, 914 and 922) had been flown into Nutts Corner by Colonel McReynolds of the U.S. Army and Mr. Homer G. Berry of U.S. Consolidated Aircraft. The Liberators also saw combat service from Ballykelly, Limavady, Aldergrove[1], as well as from RAF Station Eglinton, which is now City of Derry Airport. Combat operations began on 20 September 1941 and the Northern Ireland-based Liberator vs. U-boat battles over the Mid-Atlantic began on 4 October 1941 (Fig. 1). These 2,500 mile-range bombers with improved radar and weapons were decisive in the spring of 1943.

In late May 1943 with Hitler's agreement, Admiral Doenitz withdrew his U-Boats from the North Atlantic due to heavy loss[8,38]. The superb organization of medical services in Ulster during World War II contributed greatly to victory in the Battle of the Atlantic. The extraordinary cooperation between civilian medical and surgical services and the British and United States Armed Forces, begun in 1939[1], played a crucial role.

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