Welcome

to the 12th RESIST newsletter from the Antimicrobial Resistance and Infection Control Division of HPSC (AMRIC). In this edition we focus on the new AMRIC 4 year plan, iNAP2 and new surgical antibiotic prophylaxis guidance. We also have lots of updates on antimicrobial resistance and IPC news. Thanks for your comments and inputs, if you have any suggestions on content or want further information please contact us on hcai.amrteam@hse.ie

Dr. Colm Henry, HSE Chief Clinical Officer; AMRIC 4 year plan

Antimicrobial resistance (AMR) has been recognised as one of the greatest potential threats to human and animal health over the last decade. In the last year, the implications of an infection for which we do not have effective treatment on human health have been clearly seen with the COVID-19 global pandemic. Antimicrobials are key to the practice of modern medicine and enable sophisticated medical interventions and treatments, including chemotherapy and organ transplants.

Ireland published its first National Action Plan on Antimicrobial Resistance 2017 – 2020, known as iNAP1, in October 2017. This marked the first in a number of collaborative One Health events. The "one health" approach to antimicrobial resistance recognised that with respect to this challenge, as with others health challenges people, animals, plants and their environment are connected and interdependent.

On November 18 2022, European Antibiotic Awareness Day, Ireland published its second One Health National Action Plan on Antimicrobial Resistance called iNAP2. iNAP2 provides for a cross-sectoral response to antimicrobial resistance, which has impacts every day on how we treat infection in Ireland. As with iNAP1, the aim of iNAP2 is to ensure, for as long as possible, the availability of effective antimicrobial treatment options for both human and animal populations.

To provide a seamless health sector transition from HSE work on iNAP1 to iNAP2, the HSE Antimicrobial Resistance and Infection Control team (AMRIC) has developed a plan for 2021-2025. This plan was developed following wide consultation across our health system.

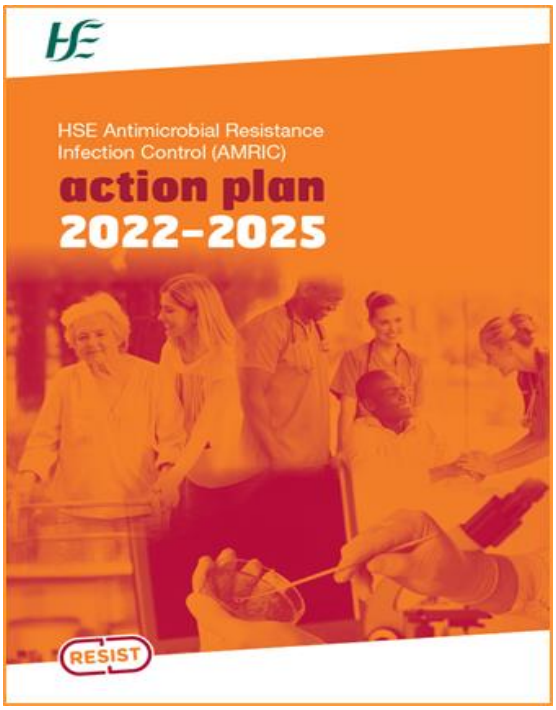
Dr. Colm Henry, HSE Chief Clinical Officer

This is an ambitious and very detailed plan but the key feature of this plan is that it includes **challenging outcome targets** (in addition to quality improvement programmes and process measures) for achievement by 2025.

Protecting antibiotics and making our services safer for our service users is the key driver for all of us working in healthcare. This new AMRIC plan will support and underpin the safe delivery of our health services and I would encourage you to review it and play your part in rolling it out.

I greatly welcome this new plan which sets ambitious targets for the HSE building on the gains that have been made through the hard work and commitment of healthcare teams in hospitals and in the community in recent years.

Guím rath agus bláth ar bhur saothar sa bhlianta seo chugainn.'



The HSE Booster programme is well under way with over 80s complete and over 70 and healthcare worker programmes moving quickly. NIAC has recently advised that the booster is also rolled out to additional groups and the HSE is progress in this as quickly as possible.

I want to emphasise the impact of the booster. We see a steadying of incidence rates in older people, and we need to encourage as much uptake as possible to protect people against infection.

I would encourage every staff member to take a booster as soon as it is offered to you to increase your protection against COVID-19. We know from evidence across other countries like Israel and the USA that the booster is reducing hospitalisation and death rates.

If you have not yet received your primary COVID-19 vaccine there is still an opportunity to get that. Please check the registration page for information on getting a vaccine.

We are at that time of year again where most people can take a step back and enjoy the festive period. For those working in the health services this has always been a busy period as winter places increasing pressure on our services as more people become ill.

It is hard to believe that we are facing into a second COVID-19 Christmas. I want to thank each and everyone one of you for the immense work and commitment that you have put in this year and last year. I wish you and your loved ones a peaceful Christmas and let us look forward to a brighter New Year.

RESIST

AMRIC Action Plan 2022 -2025

The last 20 years has seen a spectacular change in our understanding of how microorganisms work and how they change over time. The first full genetic sequence of one bacteria was described just 26 years ago.

That genetic sequence represented years of work. The technology available now allows laboratories around the world to read the full genetic sequence of tens of thousands of bacteria and virus every day. You can see the power of that technology in the ability to track the changes in the SARS-CoV-2 virus that causes COVID-19.

The genetics of bacteria can change as quickly as the genes of SARS-CoV-2 virus. That ability of bacteria to change so quickly is the story behind the problem of antibiotic resistance. The technology that tracks SARS-CoV-2 also allows labs to track the spread of antibiotic resistance.

We can see that the more antibiotics are used in the world the more common antibiotic resistance genes become and the faster they spread. This is because they help bacteria to survive. With that understanding, we know very well what we have to do to control antibiotic resistance. We need to use antibiotics less and use them better when we do use them.

Using antibiotics less and using them better may sound easy but it is not easy. We need to reduce use and improve use across the board in hospital and community and in animal and human healthcare.

We can track now how the resistant genes move back and over between people and animals. The "One Health" approach is the foundation of Irelands second National Action Plan on antibiotic resistance.

One Health means human and animal health care and the environmental sectors all working together for change. The HSE AMRIC Action plan reflects the HSE commitment to delivering on its share of the work over the next 4 years.

The plan is very detailed. The HSE AMRIC Oversight and AMRIC Implementation Teams will be working with everyone throughout the healthcare service to make this a success. The success of that plan depends on support of colleagues throughout the healthcare service to continue to deliver cleaner, safer and better care.

Reducing the incidence of infection, including healthcare associated infection, will mean less need for antibiotics. Better diagnostics will mean better targeting of antibiotics. Every healthcare work asking is this the best antibiotic? is this antibiotic doing any good today? could it be doing harm? will lead to better use of antibiotics.

Right now, there are often days when it is hard to think about anything but COVID-19. In spite of that all the work to control other infections and improve antibiotic use has held up very well and progressed. This is a measure of the commitment to this work.

This HSE plan looks to better days ahead when the worst of the pandemic is past and there is more time and energy to progress other challenges including control of AMR

Professor Martin Cormican HSE Clinical Lead for Infection Control and Antimicrobial Resistance

HSE 2019–2021 AMRIC IMPLEMENTATION PLAN

Overview of key achievements from the 2019 – 2021 AMRIC implementation plan

CPE

CPE surveillance testing

more than **25,000** tests per month Acute hospital services

WTE **37** Acute services allocated after CPE NPHET established

Resourcing

Development Funding 2018-2021 –

€28.55M

Funding for **300** WTE across Acute Hospital and Community Services

Education and Training

97,000 participants on eLearning

55 AMRIC educational webinars

11 eLearning Modules

300 publications and guidance (including new documents and subsequent updates)

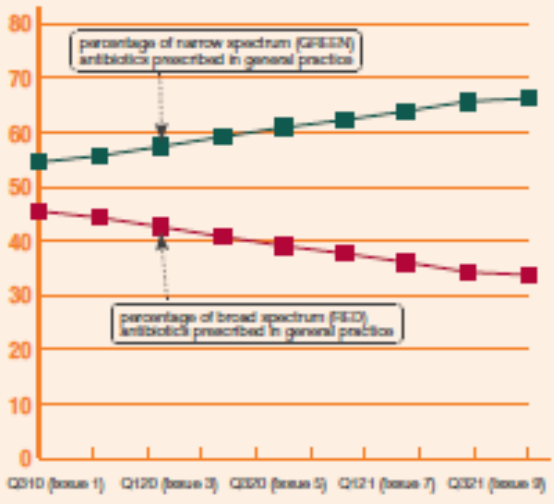
Communications Campaigns

- ✓ RESIST
- ✓ Undertheweather.ie
- ✓ European Antibiotic Awareness
- ✓ Hand Hygiene Week
- ✓ International Prevention Control Week
- ✓ Winter Campaign

AMS/IPC Projects

- ✓ Community and Acute IPC teams
- ✓ Infrastructural Deveopments **€5M**
- ✓ National *C.difficile* reference laboratory
- ✓ Support for additional equipment HSE microbiology reference laboratories
- ✓ Surgical site surveillance
- ✓ IVI Line teams
- ✓ Surgical prophylaxis
- ✓ Upgraded HPSC ICT Infrastructure
- ✓ HSE Older Persons LTCF's Antibiotic Prescribing Audit
- ✓ Antibioticprescribing.ie **400K+** website visits

GP Green/Red Antibiotic Prescribing



Department of Health and Department of Agriculture, Food and the Marine publish *Ireland's second One Health National Action Plan on Antimicrobial Resistance 2021 – 2025*

Ireland's second One Health National Action Plan on Antimicrobial Resistance 2021 – 2025, known as iNAP2, was published on 18th November 2021, coinciding with European Antibiotic Awareness Day and the first day of World Antibiotic Awareness Week. The plan was developed jointly by the Department of Health and the Department of Agriculture, Food and the Marine. In line with international best practice, it was developed using a multi-stakeholder approach across human, health, animal health and environment sectors. This is known as the One Health approach. iNAP2 has a number of actions across the three sectors, including 90 actions under human health and 15 One Health actions which have been agreed across the sectors.

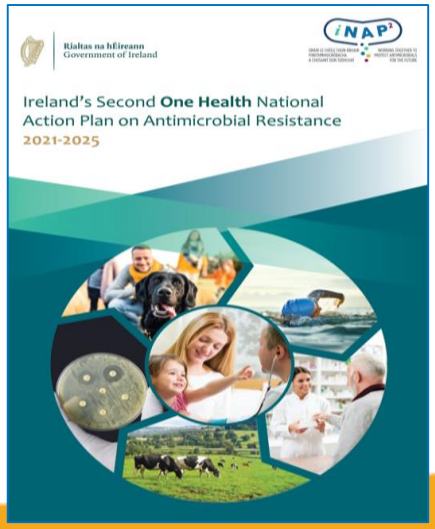
iNAP2 is the successor plan to Ireland's first National Action Plan on AMR 2017-2020 (iNAP1). Both plans were developed following the WHO Global Action Plan on Antimicrobial Resistance. The plan contains a range of strategic interventions and activities grouped under five strategic objectives:

1. Improving awareness and knowledge of AMR;
2. Enhancing surveillance of antibiotic resistance and antibiotic use;
3. Reducing the spread of infection and disease;
4. Optimizing the use of antibiotics in human and animal health; and
5. Promoting research and sustainable investment in new medicines, diagnostic tools, vaccines and other interventions.

iNAP2 includes learning from the CPE Public Health Emergency. Additionally, infection prevention and control remains a core objective of iNAP2. This is particularly important as we continue to respond to the COVID-19 Public Health Emergency. The findings from the One Health Country Monitoring Visit on AMR to Ireland are also addressed in the iNAP2 actions. This assessment by the European Commission and the European Centre for Disease Prevention and Control in October 2019, included input from the HSE AMRIC team, the HPSC and site visits to acute and community healthcare facilities.

The approach to iNAP2 was based on three Guiding Principles:

1. Patient-centred approach, founded on integrated care in line with Sláintecare;
2. Developing iNAP2 with a focus on people, including patients, service users, staff, stakeholders and the public;
3. Ensuring that learning from the COVID-19 Pandemic is incorporated, focusing on infection prevention and control as an enabler for safe care.



iNAP2 was developed with input from a wide range of stakeholders. In particular, the engagement of the HSE AMRIC team and the wider health and social care teams is acknowledged. The Department of Health also welcomes the publication of the *HSE 2022-2025 Antimicrobial Resistance and Infection Control (AMRIC) Action Plan* which is fully aligned to iNAP2 and was published on the same day. The Department will continue to work with the HSE AMRIC team to promote best practice in antimicrobial stewardship and infection prevention and control, as part of Ireland's response to AMR.

AMRIC grant project

A new localised RESIST communications grant system pilot was launched in Q4 2021 which was open to all HSE health services. A working group of AMRIC team members including communications, infectious diseases, microbiology and nursing, together with acute and community services was established. Work was completed on the development of an application form, communications programme and assessment process. 25 submissions were received from 23 acute services and 2 community based services.

The pilot programme initially sought to distribute 8 grants (4 x 2.5k and 4x5k). However the working group awarded 10 grants at a total cost of 36.5k. The grant funds were issued to projects that demonstrated a strength of aim, impact, innovation, evaluation and whether it could be replicated in other HSE services.

The funds were released at the end of November and the projects will be followed up in Q1 2022. Winning submissions are listed in the table below and we look forward to covering the reports from the grant winners throughout the year in the RESIST newsletter.

Theme	Site	Proposal
ICT	Letterkenny	Mobile App auditing tool for AMS
	St Luke's Kilkenny	ICT to support AMS Ward Rounds
	Kerry Integrated Care	ICT to support IPC Audit and AMS
	Limerick	Tablet device for MEGs audit
RESIT Branding	Mayo	Resist Branded Uniforms
	UHK	60 uniform tunics for staff with AMS logos / slogans
Information / Education	Connolly	E-Zine re surveillance
	Royal Victoria Eye and Ear Hospital	Education Video
	Joint submission Galway/Portiuncula Roscommon	Local education and promotional material across 3 sites to raise awareness
Other	Cavan	De-listing penicillin allergies

UnderTheWeather.ie

Most adults have 2 to 4 colds a year; children can easily get 6 to 10, so it is really important to look after yourself and your family this winter and to know how to treat colds, flus, ear-aches and tummy bugs effectively. Be confident that you can manage these common illnesses at home with advice from undertheweather.ie. Remember you can't tell from symptoms if you have a ordinary cold or COVID-19 so check and follow guidance on testing for COVID-19.

Undertheweather.ie describes each condition, tells you how long it should last, gives you information on what you can take to recover and when to seek advice from your GP or pharmacist. The site also includes a series of videos featuring GPs and pharmacists.

An important fact about colds and flus is that antibiotics do not work to cure the symptoms. When you get a cold, you will feel worst for the first 3 days. Within 4-7 days you will start to feel better, but children can take a little longer to feel well. And remember, a cough, if you have one, can last 3 weeks. This is completely normal and antibiotics will usually not make any difference. If you do have a cold or flu, listen to your body, rest, take plenty of fluids and use over the counter treatments.

Dr. Edel Doorley, a Dublin based GP and member of the HSE AMRIC Team says, "We all know how much a cold and flu can affect us and every week I see patients who are feeling pretty miserable and trying to get better. The bottom line is that it can take up to a week for a cold to completely clear and up to 3 weeks for a cough to go. Flu can come on very suddenly and it takes 3 – 5 days before you will feel better. But you can feel better if you follow the tips and advice set out on www.undertheweather.ie and keep away from antibiotics as they just don't work for colds and flus. Protect yourself, get your flu vaccine."

Here are some more extraordinary facts about colds and flus:

- A single cold or flu virus can have 16 million offspring within the course of a day, imagine the potential spread!
- More than 200 viruses are responsible for the cold. The most common are called human rhinoviruses (HRV), and they cause up to 40% of all colds.
- Tiny liquid particles scattered by a cough can travel at 80 kilometres per hour and those from a sneeze can travel (insert shudder here) at up to 160 kilometres per hour.
- A sneeze can spray 100,000 germs into the air
- Liquid particles can from a cough or sneeze can travel 1 to 2 metres or sometimes more. That's why keeping distance can help protect you from catching infection.

If you do have a cold or any other common illness, see www.undertheweather.ie - get advice and get better.

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CHO2 project
The Infection Prevention & Control/Antimicrobial Resistance and Infection Control Teams, Community Healthcare West celebrated IIPW with a series of new videos.

The fabulous Transition Year students, their teacher, Ms. Kelly, the Management and all the staff at Jesus & Mary Secondary School, Gortnor Abbey, Crossmolina, Co. Mayo have helped us highlight that Infection prevention is everyone's business. Please click on the video links to hear how the students view infection prevention and give us an understanding of how COVID-19 has affected their lives.

https://youtu.be/ymgd4W0vt18

https://youtu.be/uMoFVJ8zzFI

https://youtu.be/nFOAIKvJ6Ws

Our very own AMRIC team member Dr Eimear Brannigan, Deputy Clinical Lead marking European Antibiotic Awareness Day on a zoom call.

Louise Delaney
National Maternity Hospital

EUROPEAN ANTIBIOTIC AWARENESS DAY
A European Health Initiative

Thank you to everyone who supported European antibiotic awareness day. We had lots of tweets, sharing, interviews and local events.

The National Maternity Hospital marked Antimicrobial Awareness Week on the 19th November by holding and information stand outside the staff canteen. The stand was run by the antimicrobial pharmacist, in conjunction with infection control and the microbiology lab at the hospital.

The focus of the event was to raise awareness amongst staff at the hospital about the risks of antibiotic resistance and what staff can do to help prevent the spread of antibiotic resistance. There was a quiz for staff to complete to test their knowledge of antibiotic resistance. The lab at the hospital kindly produced mock agar plates showing antibiotic resistant bacteria to explain to staff what is meant by antibiotic resistance.

The event was a success and a great opportunity for staff at the hospital to discuss any questions they might have about antibiotics and antibiotic resistance.

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IPC e-learning programme; 3 new modules

The HSE Antimicrobial Resistance and Infection Control (AMRIC) team launched a new infection prevention and control online education programme in December 2020. From December 2020 to August 2021, the online education modules were accessed 189,011 times by 75,870 individual learners who went on to complete their modules and print their certificates. This figure was achieved despite the cyber-attack when the programme was inaccessible for a number of weeks. You can read some feedback from a staff member who completed some of the courses and how they helped to change their practice.

The AMRIC team has added 3 new courses to the eLearning suite. They are available now on HSeLanD, the courses support all health and social care staff in IPC and AMR. Learners are awarded 1 CEU from NMBI and 2 CPD credits from RCPI for each completed course in the AMRIC programme. The 3 new courses are:

Prevention and Management of Urinary Tract Infection

In this course, you'll learn how to reduce antibiotic-related harm and reduce the incidence of healthcare associated urinary tract infection, to manage urinary tract infections and reduce antibiotic-related harm.

Surgical Antibiotic Prophylaxis

This course supports you to provide every patient who needs surgical antibiotic prophylaxis, the right agent, the right dose, at the right time for the right duration.

Prevention of Peripheral and Central Venous Catheter Related Infections

This course supports you to safely insert, maintain, monitor and remove an indwelling intravascular device in line with infection prevention and control best practice.

Each course takes between 20 – 40 minutes to complete and includes assessments and *extend my learning pieces* for staff who want to undertake further learning or who want practical activities to help transfer the learning into their local area of work.

You can dip in and out of the courses at any time and can find them by following the AMRIC Resist logo on the HSeLanD homepage, by searching for 'IPC' in the search box or by visiting the Clinical Courses catalogue.

Putting learning into action

Karen Marriano, nurse and Infection Control Link Practitioner

I'm a Link Practitioner in Farranlea community nursing unit, Cork city. I found the course to be better than a face to face course as it was saving time, no travel required, very convenient and very easy to access and follow. It is not complicated to do the courses, the information can be complex but it is explained very simply using examples.

After doing the course I am much more aware of what I am doing compared to before I did the course. The learning has made me stop and think. The more you do them the more you are reminded of the best way of improving infection prevention and control.

I have definitely put my new knowledge into practice, most recently the module on urinary tract infections and using dip-sticks. We are moving away from the practice of using dip-sticks and we are following the new guidance. We are reducing our antibiotic prescribing for UTIs and have made changes to fluid intake for our residents. It has made me more aware of our role in antimicrobial stewardship and antibiotics use

The AMRIC online course is a great place to go if you have any doubts on doing infection control, it is very simple to use and good to have that resource to check. I really like that is always on, you can check in at any time I appreciate that AMRIC is its own "brand". The colour is bright and when I see and read AMRIC, I automatically know that I'm going to be dealing with concepts on IPC

Surgical antibiotic prophylaxis duration

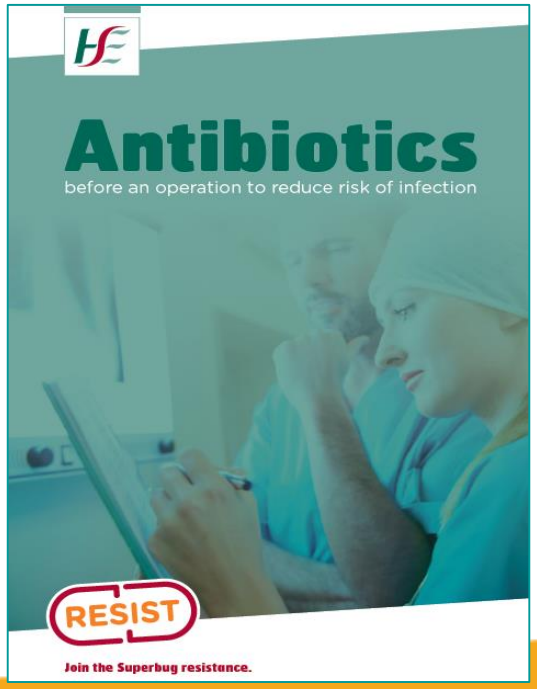
Surgical antibiotic prophylaxis is using antibiotics to reduce the risk of infections following surgery. Evidence shows that the majority of patients need just one dose of antibiotic prophylaxis. An Irish audit in September and October 2020 showed that prophylaxis exceeded a single dose in 62% of patients. For comparison, a 2017 European study performed in Scotland demonstrated that only 35% of patients received more than a single dose of antibiotic for prophylaxis.

Continuing an antibiotic beyond the recommended duration post-surgery does not further reduce surgical site infection. In fact, extended duration of surgical antibiotic prophylaxis is associated with increases in acute kidney injury and *Clostridioides difficile* infection.

Unnecessary antibiotic use is a major driver in the emergence of antimicrobial resistance as it helps infectious microorganisms that are resistant to antibiotics to colonise and multiply. A shift to more resistant microorganisms occurs quickly after someone starts on antibiotics. This means that if the person develops infection after surgery the infection may be harder to treat.

A position statement on duration of surgical antibiotic prophylaxis has recently been published by the HSE. This was developed by the HSE Antimicrobial Resistance and Infection Control Team (AMRIC), the HSE Antimicrobial Stewardship Advisory Group & the National Clinical Programme for Surgery (NCPS).

An extensive process of consultation means this document represents a consensus opinion of experts in this field in Ireland and is supported by all the key stakeholders.



Hospitals that perform surgery have received new posters (next page) and materials to raise awareness of the new position statement. Patient information leaflets (pictured right) are being produced and will be available to order from www.healthpromotion.ie from mid December. View the position statement and further resources at: bit.ly/3eGoCKw at www.antibioticprescribing.ie

Surgical Antibiotic Prophylaxis

THINK PROCEDURE, TIME AND DURATION

Prolonged surgical antibiotic prophylaxis does no good and can lead to poorer outcomes including:

- Acute kidney injury
- *Clostridioides difficile* infection

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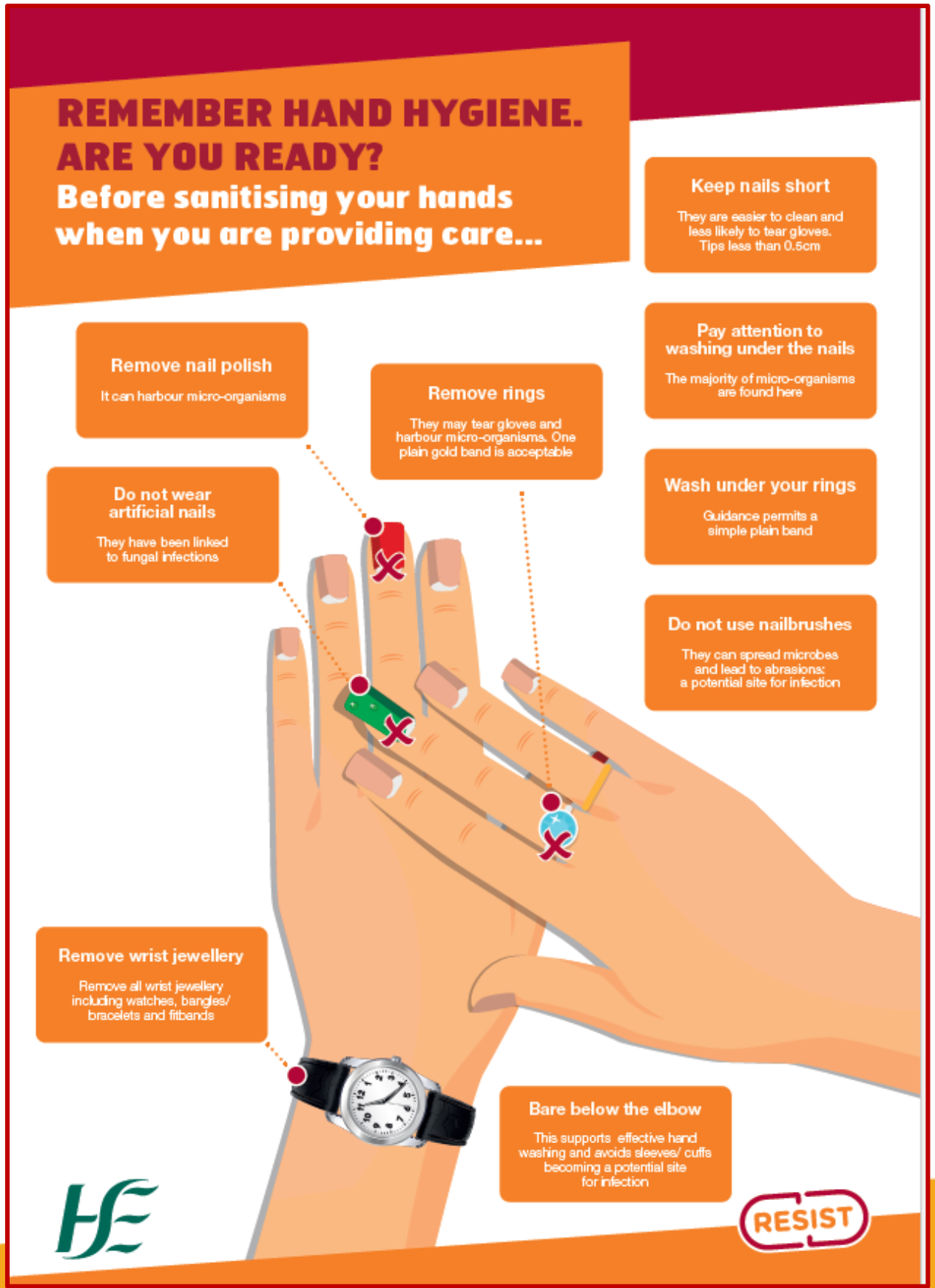
Version 1 October 2021 - Design & Printing Modern Printers Kilkenny 056 7721739

RCSI

New AMRIC posters and resources

There are a number of new and updated recourses including the posters and leaflets outlined in this edition. They are available to order on www.healthpromotion.ie



In the last edition of the RESIST newsletter we included the first Key Findings poster, this has now been updated to include all CHO areas. The poster has been issued and is also accessible on www.antibioticprescribing.ie

Conducted by CHO based Antimicrobial Pharmacists

ANTIMICROBIAL Point Prevalence Survey of HSE Older Persons Residential Care Facilities 2020/2021

4446
Number of persons surveyed
at 135 Facilites

KEY FINDINGS

1. Prevalence of antimicrobials

Approximately **1 in 8** persons on antimicrobials daily

LOOKBACK 30 DAYS

Approximately **1 in 4** persons received an antibiotic in the previous 30 days

Europe HALT 2016	Ireland HALT 2016	Ireland PPS 2020/21
5%	10%	12%

Comparison of prevalence with HALT* 2016 study

2. Infections treated with antimicrobials

UTI	RTI	SSTI	Other
51%	25%	16%	8%

3. Quality of prescribing

Green vs Red Antibiotics

65% Green (preferred) antibiotics prescribed

Adherence to Guidelines

Choice of agent	Dose	Duration of treatment
69%	72%	37%

Main themes for non-adherence:

- Use of unnecessarily broad spectrum agents
- Nitrofurantoin prescribed in renal impairment
- Choice of antibiotic not as per microbiology culture and sensitivity results

4. Prophylaxis

50% antimicrobials for prophylaxis of infection

PROPHYLAXIS >6 MONTHS 66%

KEY RECOMMENDATIONS

1. REVIEW PROPHYLAXIS >6 MONTHS — Every person on UTI prophylaxis in excess of six months should be reviewed with a view to deprescribing.
2. The practice of routine use of dipstick urinalysis for asymptomatic persons to support diagnosis of a urinary tract infection should cease.
3. Results — Electronic access to relevant laboratory results on-site required to support timely decision-making for optimal use of antimicrobials.
4. All staff should be aware of antibiotic guidelines at www.antibioticprescribing.ie.
5. Pneumococcal vaccination status should be determined, and offered if necessary, to all persons ≥65years.

* HALT = Healthcare Associated Infections and Antimicrobial Use in Long Term Care Facilities

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Version 2: December 2021